ANALYSIS OF ALTERNATIVE PRICING PLANS FOR COTTON

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CHAPTER I

THE PROBLEM AND OBJECTIVES

There is widespread and increasing dissatisfaction within all segments of the cotton industry with the two-price features of the present national cotton program. Since 1956 the export differential has ranged from six to eight and one-half cents per pound. This clearly has resulted in a substantially larger volume of exports than would have moved to foreign markets at the domestic price level. However, domestic mills have operated at a $30 to $42.50 per bale cost disadvantage compared with foreign mills and are facing increasingly intense competition from foreign manufactured cotton goods in both the United States and foreign markets. Moreover, the price of raw cotton to domestic mills is well above equivalent prices of manmade fibers, and cotton's competitive losses to these fibers in the domestic market is a matter of serious concern.

At the present time (Spring, 1963), vigorous efforts are being made to reach agreement among the various groups in the cotton industry, the Congress, and the Administration on new legislation for cotton and to secure its enactment. As one would expect, there is a wide divergence in opinion as to what constitutes an economically sound, administratively workable, and politically acceptable program for cotton. Apparently, however, there is agreement that new legislation is essential. For the most part, present debate centers around the relative merits of two broad

proposals: (1) a compensatory payment plan, and (2) a "so-called" trade incentive plan.

The essential feature of compensatory payment plans is to permit all cotton to move through normal commercial trade channels at competitive prices and to pay the individual producer a subsidy equal to the difference between the market price and the support or target price on some specified proportion of his total production. The basic feature of the trade incentive approach is to pay a subsidy on cotton consumed in domestic mills equal to the present export subsidy or some major proportion thereof. A fundamental objective of each proposal is to eliminate the two-price feature of the present program. Bills embodying the main elements of each of these broad proposals have been introduced into the Congress and are receiving active legislative consideration,[1] although there are wide areas of disagreement on specific provisions among the advocates of each approach.

In view of the foregoing, the purpose of this study was two-fold:

(1) To describe the current situation and delineate the major problems confronting the cotton industry.

(2) To analyze and compare the probable effects of (a) a compensatory payment plan, (b) a trade incentive plan, (c) the present two-price plan, and (d) a two-price plan under which the export subsidy is paid by producers.

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[1] S. 1190 introduced in the Senate by Senator Talmadge of Georgia represents one version of the compensatory payment approach. H.R. 6196 introduced in the House by Representative Cooley of North Carolina represents one version of the trade incentive or domestic subsidy approach.

CHAPTER II

THE PRESENT SITUATION AND RECENT DEVELOPMENTS IN THE COTTON INDUSTRY

The Present Statistical Situation

At the present time (Spring, 1963), there is a serious imbalance in the demand-supply position of United States cotton. The carry-over of all kinds of cotton in the United States is expected to be about 10.6 million bales on August 1, 1963. This is well below the record 14.5 million bales on August 1, 1956 but is the largest carry-over since 1957 and an increase of about 2.8 million bales over 1962.[1]

The increase in carry-over is a result of the largest crop since 1953 and the smallest (expected) disappearance since 1958. Disappearance in the 1962-63 marketing year is expected to be about 12.3 million bales. This is 1.6 million bales less than in the previous year and reflects a drop in both domestic consumption and exports. Domestic mill consumption is now expected to be about 8.3 million bales, compared with 9.0 million bales in 1961-62 and an average of 8.6 million bales during the past five years. Exports are expected to be about 4.0 million bales.[2]

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[1]The data given in this and the following two paragraphs are from United States Department of Agriculture, Economic Research Service, Cotton Situation, CS-205 (March, 1963).

[2]The most recent Cotton Situation, CS-206 (May, 1963), estimates that the carry-over on August 1, 1963 will be about 11.1 million bales. This reflects a downward revision in expected exports in 1962-63 from 4.0 to 3.5 million bales since the March issue of the Cotton Situation.

This compares with 4.9 million bales in 1961-62 and an average of 5.8 million bales for the previous six seasons during which the two-price plan has been in operation.

For the second year on record, the United States was on a net import basis for manufactured cotton products in calendar year 1962, when imports exceeded exports by 183,700 cotton equivalent bales. Imports of cotton products amounted to 644,600 cotton equivalent bales. This was a 23 percent increase over the previous record of 525,500 cotton equivalent bales in calendar 1960 and a 64 percent increase over the 393,100 cotton equivalent bales imported in calendar 1961. At the same time, exports of manufactured cotton products in calendar 1962 amounted to only 460,900 cotton equivalent bales, down from 498,000 and 486,000 in calendar 1961 and 1960, respectively.

Cotton is facing increasingly intense competition from manmade fibers in the domestic market. The seriousness of the situation is revealed in a recent report to the National Cotton Council of America by its Chief Economist, Dr. M. K. Horne, Jr.[3] Among other things, the report contains the following points: In the two-year period from December, 1960 to December, 1962 cotton had a straight competitive loss of more than 400,000 bales to rayon alone on the cotton type spindle. The major cause of this loss is attributed to an increase in rayon's net advantage in real cost to spinning mills from 6.3 cents per pound of cloth in September, 1959 to 14.9 cents in July, 1962.

In addition to the loss of markets to rayon, there has been a com-

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[3] M. K. Horne, Jr., The Economic Outlook for United States Cotton, A Report Before the Twenty-Fifth Annual Meeting of the National Cotton Council of America at El Paso, Texas, January 28, 1963.

petitive loss of 300,000 bales of cotton's markets to non-cellulosic staples during the same period on the cotton spinning system. Thus, in two years there has been a loss of 700,000 bales on the cotton spinning system alone. Moreover, the rate of loss is increasing, and 467,000 of the 700,000 bales is estimated to have taken place during the last year (December, 1961 to December, 1962).

In addition, there have been losses other than those on the cotton spinning system. It is estimated that in addition to these losses that the 700,000 bales lost on the cotton system has resulted in an aggregate loss to other fibers of one million bales on all systems for the two-year period from December, 1960 to December, 1962, or an aggregate loss to other fibers of more than 500,000 bales per year in each of the last two years and that the rate of loss is accelerating.

Recent Developments

Serious imbalance in the domestic cotton industry as manifested in excessive carry-over stocks is not of course a recent development. The carry-over was about 11.5 million running bales on August 1, 1938. It increased to 13.0 million bales on August 1, 1939 and remained above 10 million through 1945.[4] Below average production, sustained domestic mill demand, and increased exports in 1945 and 1946 combined to reduce the carry-over to about 2.5 million bales on August 1, 1947.

However, a sharp increase in production in the 1947-49 period resulting from rising acreage and yields, together with declining domestic

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[4]The data used throughout the remainder of this chapter, unless otherwise specified, are from United States Department of Agriculture, Economic Research Service, Statistics on Cotton and Related Data, 1925-1962, Statistical Bulletin 329, April, 1963.

mill consumption, resulted in an increase in the carry-over to about 6.8 million bales on August 1, 1950. Again, however, the growth in stocks was halted and reversed, this time by a marked upsurge in demand for domestic mill consumption and exports growing out of the Korean conflict coupled with a sharp drop in production from 1949 to 1950. Reimposition of acreage controls in 1950 resulted in a drop in harvested acres from 27.4 million in 1949 to 17.8 million in 1950. Yields were moderately lower also. As a result, production declined from 16.1 million bales in 1949 to 10.0 million bales in 1950, and carry-over stocks fell to 2.3 million bales on August 1, 1951.

The short crop in the United States in 1950 in the face of sharp increases in domestic and export demand led to a serious shortage of supplies throughout the world in the 1950-51 season. Controls were placed on United States exports and there was some rationing to domestic mills. The season average price to United States farmers advanced sharply from 28.6 cents in 1949 to an all-time high of 40.0 cents in 1950. Prices in many foreign markets were reported to be much higher than in the United States. These highly profitable prices and the abandonment of acreage controls in the United States provided a strong stimulus for expansion of acreage and production at home and abroad.

Continued large crops in the United States in the face of declining domestic and export demand caused stocks to increase each year from the low point in 1951 until they reached the all-time high of 14.5 million bales on August 1, 1956. Although acreage controls were reimposed in 1954, the reduced acreage was largely offset by record yields of 341 and 417 pounds per harvested acre in 1954 and 1955, respectively.

Exports declined from 5.7 million bales in 1951 to only 2.3 million

bales in 1955. This occurred at the same time that foreign mill consumption was growing steadily. Foreign mill consumption of cotton increased from 19.4 million bales in 1951 to 27.8 million bales in 1955. But foreign mills turned to other sources for raw cotton because, among other things, United States cotton prices were being supported at high levels compared with prices for comparable foreign growths. Other cotton exporting countries could hold their export price just slightly below the United States support price and move their cotton while the United States exported smaller and smaller quantities. Since producers in other exporting countries could receive a price just below the high United States support price, there was an incentive for foreign countries to expand output. Foreign governments were also encouraging increased production by various means, including price supports to producers, and for a variety of reasons. The United States support price simply provided an extra stimulus to expansion in foreign production, since United States prices tend to determine the world price level. Thus, it is not surprising that foreign production increased at an even more rapid rate than foreign consumption in the 1945-1955 period. Foreign production increased from 12.1 million bales in 1945 to 28 million in 1955 and then to 32.9 million in 1961.

The carry-over of cotton increased rapidly from 2.2 million bales in 1951 to 9.6 in 1954. To reduce this pile-up of stocks of cotton as well as several other agricultural commodities, Congress passed legislation designed to encourage the export and consumption of agricultural commodities. Public Law 480 was passed in 1954. Under this act, the United States would accept foreign currencies in order to stimulate the sale

of agricultural commodities to foreign countries.[5] Public Law 480 also authorized the use of excess agricultural commodities for famine relief and other assistance in foreign countries.[6] Emergency relief for distress and disaster areas of the United States was also made available. The quantity of cotton exported under Titles I, II, and IV of Public Law 480 has ranged from slightly over 0.1 million bales during its first year of operation (1954-55) to slightly over 1.4 million bales for 1956-57. For 1961-62, approximately 1.2 million bales were exported under Public Law 480.

Even with the use of such programs as Public Law 480, however, carry-over of American cotton continued to increase to the previously mentioned record high of 14.5 million bales on August 1, 1956. Much of this carry-over (9.9 million bales) was in CCC stocks and was thus becoming a burden to the United States government. The carry-over problem also existed for several other price supported agricultural commodities at this time. Congress reacted by passing the Agricultural Act of 1956. One of the objectives of this act was to "check" the production of excessive farm surpluses which depress farm income and constitutes uneconomic use of agricultural land.[7]

To accomplish the needed adjustment in production, two special Soil Bank programs, the Acreage Reserve and the Conservation Reserve, were established. This provision entitled farmers, who reduced their acreage

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[5]United States Statutes at Large, 83d Congress, 2d Session, 1954, Agricultural Trade Development and Assistance Act, Public Law 480, Vol. 68, Part 1, pp. 454-459.

[6]Ibid.

[7]United States Statutes at Large, 84th Congress, 2d Session, 1956, Agricultural Act, Public Law 540, Vol. 70, pp. 188-203.

below regular allotments, to receive government payments. The Acreage Reserve program was in effect for 1956-58. The program was initiated on June 8, after most of the crop had been planted, and only 1.1 million acres of cotton acreage were placed in the acreage reserve.[8]

In 1957, the number of acres of cotton placed in the acreage reserve increased to slightly over three million bales.[9] An analysis of the acreage reserve sign up by regions showed the largest relative sign up regions with the lowest yield per acre (Southeast) and the lowest relative sign up in regions with the highest yield per acre (West). Nearly five million acres were placed in the acreage reserve in 1958, which resulted in the lowest acreage in cultivation since 1876.[10] The Conservation Reserve program was in effect for 1956-61.

The primary objective of the Agricultural Act of 1956 was concerned with surplus disposal. On August 12, 1955, the Commodity Credit Corporation had announced that cotton held in CCC stocks would be made available for export at competitive world prices. This price would likely be lower than the United States domestic price. The selling of cotton in CCC stocks at competitive world prices was made possible by authority granted in Section 407 of the Agricultural Act of 1949.[11] Title II of the Agricultural Act of 1956 more specifically directed the CCC to make American cotton available for export at competitive world prices. The Act stated:

> In furtherance of the current policy of the Commodity Credit Corporation of offering surplus agricultural commodities for sale

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[8] Cotton Situation, CS-205 (November, 1957), pp. 25-26.

[9] Ibid.

[10] Cotton Situation, CS-177 (July, 1958), p. 5.

[11] Murray R. Benedict and Elizabeth K. Bauer, Farm Surpluses, University of California, Division of Agricultural Sciences, 1960, p. 53.

> for export at competitive world prices, the Commodity Credit Corporation is directed to use its existing powers and authorities immediately upon the enactment of the Act to encourage the export of cotton by offering to make cotton available at prices not in excess of the level of prices at which cottons of comparable qualities are being offered in substantial quantity by other exporting countries and, in any event, for the cotton marketing year beginning August 1, 1956, at prices not in excess of the minimum prices (plus carrying charges, beginning October 1, 1956, as established pursuant to Section 407 of the Agricultural Act of 1949) at which cottons of comparable qualities were sold under the export program announced by the United States Department of Agriculture on August 12, 1955. The Commodity Credit Corporation may accept bids in excess of the maximum prices specified herein but shall not reject bids at such maximum prices unless a higher bid is received for the same cotton. Cottons of qualities not comparable to those of cottons sold under the program announced on August 12, 1955, shall be offered at prices not in excess of the maximum prices prescribed hereunder for cottons of qualities comparable to those of cottons sold under such program, with appropriate adjustment for differences in quality. Such quantities of cotton shall be sold as will reestablish and maintain the fair historical share of the world market for United States cotton, said volume to be determined by the Secretary of Agriculture.[12]

Thus, for cotton, the act provided for a two-price plan designed to encourage exports. By means of an export subsidy, American cotton would be sold at a lower price on the foreign market than on the domestic market. This was an effort to gain back the United States' "fair" share of the export market. The export subsidy plan, as first carried out, was a continuation of the program announced August 12, 1955, in which cotton held in CCC stocks would be made available at competitive world prices.[13] However, instead of it being permissive to do this; the new legislation made it mandatory. For 1956-57, most of the cotton was sold in the export market at slightly over 25 cents per pound. This was approximately 6.6 cents below the 1956 support price. For 1957-58, the export program

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[12]United States Statutes at Large, 84th Congress, 2d Session, 1956, Agricultural Act, Public Law 540, Vol. 70, p. 199.

[13]The information and data in this and the following paragraph are from Cotton Situation, various issues throughout the years 1955-1963.

was substantially the same as the program for 1956-57.

The export program for 1958-59 included a Payment-In-Kind program. The PIK program was initiated to supplement the direct sales program of the CCC. Under the PIK program, the producer would continue to receive the full support price. The shipper would ship at world price, and would receive the difference between the world price and the domestic price in the form of PIK certificates. The PIK certificates were redeemable in cotton. Therefore, the shipper received his payment in the form of cotton instead of cash. PIK exports could come from commercial stocks. The PIK payment rate was set at 6.5 cents per pound for 1958-59. During the following years the PIK rate was eight cents for 1959-60, six cents for 1960-61, and 8.5 cents for 1961-62 and 1962-63. In addition, the United States Department of Agriculture announced that the CCC would initiate a cotton-sales-for-export program for the 1962-63 marketing year. Under this program, sales will be made periodically on a competitive bid basis. The export-sales program will supplement but not replace the PIK program.

With the use of the export subsidy, total exports increased from 2.3 million bales in 1955 to 7.9 million in 1956. An average of 5.9 million bales were exported for 1956-61. The carry-over problem was somewhat relieved as stocks declined from the 1956 record high of 14.5 million bales to 7.2 in 1961. In 1962, carry-over was up to 7.8 million bales and on August 1, 1963, carry-over is expected to be 11.1 million bales. Therefore, even though the carry-over problem was temporarily relieved by use of an export subsidy, the demand-supply imbalance still exists in the cotton industry.

However, while relieving the carry-over situation, the export

subsidy plan has created another problem. With the export subsidy, exporters can buy cotton at the world price, but domestic mills must still pay the higher domestic price. The difference between the world price and the United States domestic price is a price differential that tends to put American textile manufacturers at a disadvantage with foreign mills in world textile markets.

Data on the export and import of manufactured cotton products in raw cotton equivalents tend to bear out the fact that United States mills have been suffering from a pricing inequity. In 1955, before the export subsidy plan was initiated, the raw cotton equivalent of United States exports of domestic manufacturers was 547,500 bales and the raw cotton equivalent of United States imports was 181,200 bales. This is compared to 1960 when exports were down to 485,600 bales and exports were up to 525,500 bales. This was the first time in United States history that imports of manufactured cotton products had exceeded exports.

The competitive position of cotton with respect to manmade fibers has declined since the 1940's. The cotton equivalent of manmade fiber production increased from 1.4 million bales in 1940 to 5.6 million bales in 1955. Cotton's losses in the fiber market continued after 1956, as the domestic price continued to be supported at high levels. Cotton's position improved in 1959 and 1960 when the average price of cotton to domestic mills was reduced. This reduction in cotton prices was made possible by a "choice" program contained in the Agricultural Act of 1958.[14] The Choice A and B program was in effect for 1959 and 1960 and

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[14]United States Statutes at Large, 85th Congress, 2d Session, 1958, Agricultural Act, Public Law 85-835, Vol. 72, Part 1, pp. 988-989.

offered cotton producers the choice of planting within their regular acreage allotment and receiving the full support price (Choice A) or planting up to 40 percent in excess of their regular acreage allotment and receiving 15 percent of parity below the level of support for producers selecting Choice A (Choice B). As a result of the cotton produced under Choice B, the average price of cotton to domestic mills declined from a five-year average (1954-58) of 34.58 cents per pound for American Middling 1-inch at designated spot markets to 31.93 and 30.96 cents per pound for 1959 and 1960, respectively.

This reduction in price of cotton to mills also helped to reduce the price differential between the United States domestic price and the export price and, thereby, improved the competitive position of domestic mills relative to foreign mills. However, in 1961, the Choice A and B program was terminated and the price support level for the 1961 crop of upland cotton was set at a minimum of 33.04 cents per pound for Middling 1-inch at average location. This resulted in a substantial increase in the price of cotton to domestic mills as compared with the previous two years. For the 1960 crop, the support rate under Choice A had been 32.42 cents per pound and 26.63 cents per pound under Choice B. As a result, the price per pound for Middling 1-inch at designated spot market in 1961 was 33.67 cents compared with an average of 31.44 cents per pound for the previous two years or an increase of 2.23 cents per pound. This increase in price increased the differential between the domestic price and the export price. It also reduced the competitive position of cotton relative to manmade fibers.

CHAPTER III

ALTERNATIVE PRICING PLANS FOR COTTON

At the present time programs for cotton are being sought which would, among other things, (1) maintain grower incomes, (2) reduce costs to government, (3) make cotton competitive on the export market, and (4) eliminate or reduce the price disadvantage under which domestic mills are now operating relative to foreign mills and competing fibers on the domestic market. The conflict in these goals is clear. Since, above all else, any price program for cotton must be politically acceptable, the relative weights to be attached to the objectives will be established in the political arena and this will determine for the most part the general type of program undertaken. Any program actually adopted, however, will give some attention to each of the above goals. But other goals such as, "farmer freedom" are implicit and may be the deciding factor in the acceptance or rejection of any specific proposal.

As indicated in Chapter I current debate on some alternative to replace the present two-price program for cotton centers on some form of compensatory payment type plan and a domestic subsidy or trade incentive plan. A general discussion and comparative theoretical analysis of these two types of plans, the present two-price plan and a two-price plan under which the export subsidy is paid by producers is presented in this chapter. The following chapter presents some rough empirical estimates of the probable effects of these plans that have bearing on

the objectives stated above.

Two-Price Plans

During the 1920's, two-price plans were the most serious proposals considered to relieve the low income situation in agriculture. In 1922, George N. Peek and Hugh S. Johnson, of the Moline Plow Company, published a pamphlet entitled Equality for Agriculture.[1] Equality for agriculture was to be secured through a "fair exchange value" for farm products.[2] The fair exchange value was to be established by means of a two-price system. An ample portion of the crop was to be withheld and sold on the domestic market only as required to meet domestic demand at the fair exchange value. The surplus, or the amount by which supply of the product exceeded the amount demanded for domestic purposes at the fair exchange value, was to be sold abroad at world market prices. The loss that would result from selling the surplus at the lower world price was to be absorbed by the producers and spread evenly over the whole crop.

These ideas served as the basis for the two-price approach contained in the McNary-Haughen Bills that were considered through the years 1924 to 1928. Other modifications of two-price plans considered during the 1920's appeared in the Export-Debenture Plan and the Domestic Allotment Plan. None of these multiple pricing schemes considered in the 1920's ever became law. In August, 1933, however, a tax of 4.2 cents per

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[1]Murray R. Benedict, Farm Policies of the United States, 1790-1950 (New York, 1953), pp. 209-211.

[2]A "fair exchange value" was defined as a price which bears the same ratio to the current general price index as a ten-year prewar average price bears to the average price index for the same period.

pound was established on domestically consumed cotton.[3] Cotton exports were encouraged by exempting exports from the tax. Also, during the last half of 1939 an export subsidy of 1.5 cents or less per pound was used to encourage exports.[4] Export subsidies were again used to encourage exports at the end of the 1944 season and during the 1945 season.[5] The Agricultural Act of 1949 authorized the use of export subsidies, and on August 12, 1955 the CCC announced it would make cotton available for export at competitive world prices.[6] The export subsidy plan contained in the Agricultural Act of 1956 is the first two-price plan to become a dominant aspect of United States cotton policy. This program is in effect at the present time and will be discussed more fully below.

Theory of Two-Price Plans

The theory of two-price plans or multiple pricing is the theory of price discrimination. Price discrimination is the practice of a single seller charging different prices for a homogeneous commodity in different markets. A seller of a product possessing some degree of monopoly power may practice price discrimination by artifically restricting the quantity sold in particular markets while increasing the quantity sold in other markets. The result is price differentials in different markets which exceed the cost of transfer to different markets.

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[3]Murray R. Benedict and Oscar C. Stine, The Agricultural Commodity Programs (Baltimore, 1956), pp. 13-14.

[4]Ibid., p. 21.

[5]Ibid., p. 31.

[6]Murray R. Benedict and Elizabeth K. Bauer, Farm Surpluses (University of California, 1960), p. 53.

Objectives of Multiple Pricing. The usual objectives of the seller in practicing price discrimination are (1) to increase total returns, (2) to stabilize total returns, or (3) some combination of the two. A seller practicing multiple pricing can obtain total returns above what would be received under a single price if certain conditions, discussed in the next section, are fulfilled. If a given supply is divided into subparts for different markets, the price effect of supply fluctuations can be reduced and total returns may be stabilized, assuming fixed demands in all markets for the product.

Although these are the usual objectives of multiple pricing, there are other possible objectives. The objective of the two-price plan contained in the Agricultural Act of 1956 was to encourage exports of cotton by use of an export subsidy in an effort to gain back the United States' "fair" share of the export market for cotton. The export subsidy plan does not directly affect returns to domestic producers from a given crop because the producer receives the full support price on his entire output regardless of whether or not the export subsidy is in operation. However, since exports are larger than they otherwise would be, pressure on stocks and acreage allotments has been reduced and producers have benefited thereby.

Conditions Necessary for Multiple Pricing. Certain conditions are necessary to practice price discrimination. The conditions that are necessary will depend upon the objectives.

To practice multiple pricing, two or more markets are necessary. With respect to cotton, the market is divided into the domestic and foreign market. The domestic market is called the primary market and the foreign market is termed the secondary market. The market in which

price responds the most to quantity changes is the primary market and the market in which price responds the least to quantity changes is the secondary market. In addition, the markets must be kept separate, otherwise buyers will buy in the low priced market and re-sell in the high priced market. In the case of cotton, this separation is accomplished by restrictions on imports.

Another condition necessary to practice price discrimination is monopoly power. A seller must be able to control the supply of the commodity to prevent interference from competitors. In the case of two-price programs for cotton, legislation is the source of monopoly power.

At each price the elasticities of demand must differ among the markets in order for a seller to practice multiple pricing successfully if his goal is to increase total returns. Demands must differ among outlets so that decreasing sales in one outlet below what would be sold with free markets and increasing sales in the other will yield higher gross returns. However, the question of relative elasticities in the domestic and foreign markets is irrelevant for producer returns in the short run in the case of a two-price plan effectuated by an export subsidy paid by the government and where producers receive a single price on all units sold. The efficiency of the subsidy depends only on the elasticity of demand in the export market. The more elastic the export demand, the lower will be government costs in moving a given quantity into the export market by use of the export subsidy.

Present Two-Price Plan: Government Pays Subsidy

Title II of the Agricultural Act of 1956 directed the CCC to "... encourage the export of cotton by offering to make cotton avail-

able at prices not in excess of the level of prices at which cottons of comparable qualities are being offered in substantial quantity by other exporting countries. . . ."[7] The objective of the present program is to make prices of United States cotton competitive with foreign cotton in order to try to gain back the United States' share of the export market for cotton.

Description. Basically since 1956 the program has been one under which the shipper buys the cotton at domestic prices from any source, ships it abroad at world prices and draws the difference from the CCC. The difference between the domestic price and the world price is the export subsidy. The shipper receives his payment not in cash but in the form of Payment-In-Kind certificates. By receiving PIK certificates, this means the shipper must use the certificates to buy cotton from the CCC. Thus, the shipper is receiving payment in the form of cotton.

The general administrative provisions of the program and the rate of subsidy have changed from year to year. For the 1962-63 marketing year, exporters who register their sales of upland cotton under the program with the New Orleans Agricultural Stabilization and Conservation Service Commodity Office can earn payments in the form of certificates redeemable in cotton from Commodity Credit Corporation stocks, in repayment of loans, or under certain conditions in cash.[8] The cotton export may have been drawn either from commercial stocks, including stocks bought from the CCC through repayment of the loan. The rate of payment for 1962-63

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[7]United States Statutes at Large, 84th Congress, 2d Session, 1956, Agricultural Act, Public Law 540, Vol. 70, p. 199.

[8]The Cotton Trade Journal and Agricultural Reporter, Memphis, April 13, 1962, p. 1.

is 8.5 cents per pound. An export-sales program was initiated for the 1962-63 marketing year to supplement but not replace the PIK program. Under the new export-sales program, sales are made periodically by the CCC on a competitive bid basis.

Analysis. Some of the effects of the present program have been mentioned in the previous chapter. The purpose of this section is to discuss some of the probable theoretical effects of a two-price plan where the government pays the export subsidy.

In Figure 1, the left half of the diagram, to the left of the origin or 0, represents the export market and the right half, to the right of the origin, represents the domestic market. It will be assumed that the export demand (secondary market) is relatively more elastic than the domestic demand (primary market). In the diagram D_d and D_e represent the linear net on-farm demand schedules in the domestic and export markets, respectively. Hence, the price axis indicates domestic or export prices at the farm level. The demand schedules are defined to be demand for mill consumption only. Thus, they refer to a period of time sufficiently long so that fluctuations in inventories can be ignored, e.g., a period of three to five marketing seasons.

At a support price of P_s, the quantity demanded in the domestic market will be Q_d' and the quantity demanded in the export market will be Q_e'. If a quantity greater than $Q_d' + Q_e'$ is produced, the government must buy the surplus and it moves into carry-over stocks of cotton. If the quantity could be held at $Q_d' + Q_e'$ then the government would incur no costs other than administrative costs. The objective of the present program is to increase exports, reduce carry-over, and thereby permit larger acreage allotments than would be possible otherwise. By means of an

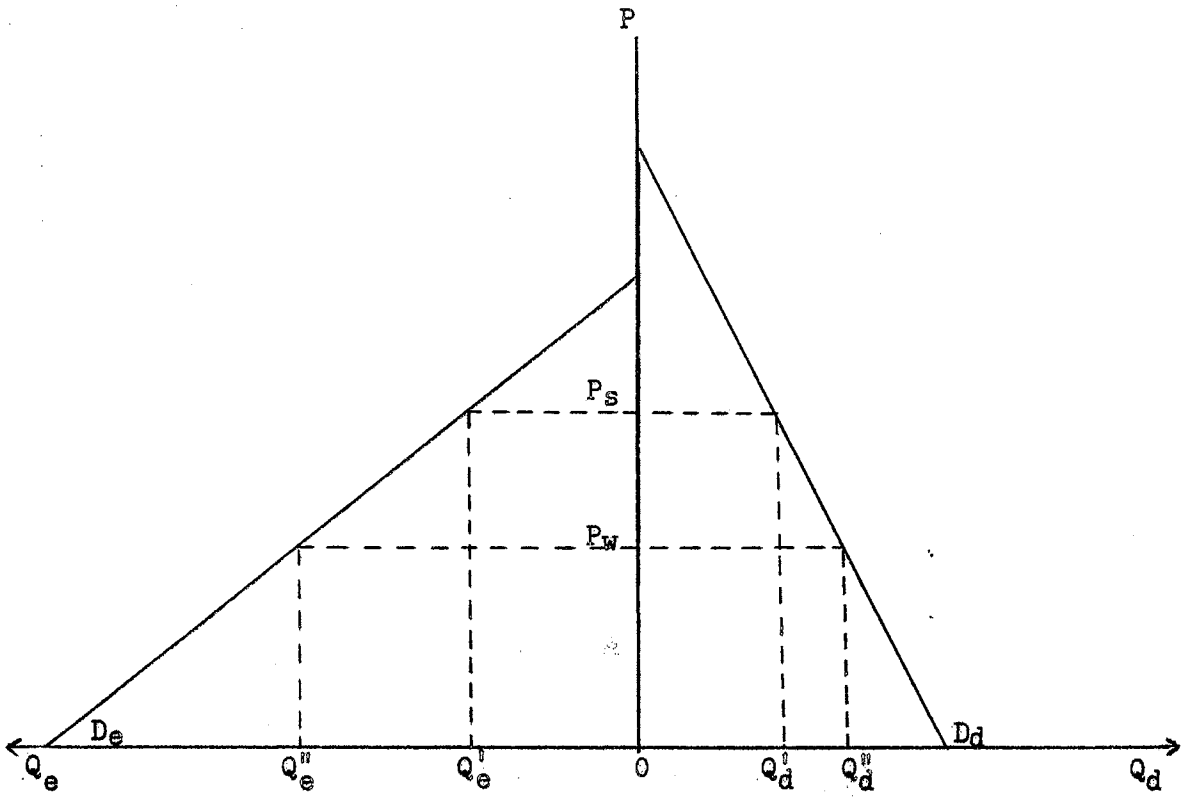

Figure 3.1. General Case: Equilibrium Quantities and Prices for United States Cotton in the Domestic and Export Markets for Alternative Pricing Plans.

export subsidy cotton is sold on the export market at world price, P_w. The cost of the export subsidy to the government is $P_s - P_w$ per pound exported when the domestic support price is P_s. The quantity exported increases by $Q''_e - Q'_e$. The quantity consumed in the domestic market remains at Q'_d. The returns to producers increase by $P_s (Q''_e - Q'_e)$ if it is assumed that only $Q'_e + Q'_d$ was being produced previous to enactment of this plan. The total cost to the government for the export subsidy is $Q''_e (P_s - P_w)$, assuming production was restricted to the quantity demanded.

Thus, from this model, predictions can be made as to the likely effects of such a program. Exports will increase but the amount by which they increase depends upon the price elasticity of demand in the export market. Because of the increase in exports, one of two important results of the program are likely in the short-run: (1) stocks will be reduced with a decrease in storage cost to the government, or (2) acreage allotments increased and producers' returns increased.

The cost to the government and the returns to producers will depend upon the price elasticity of demand in the export market. The returns to producers due to the export subsidy, $P_w (Q''_e - Q'_e)$, will outweigh the cost of the subsidy to the government, $Q''_e (P_s - P_w)$, if the elasticity of export demand is greater than unity in the price range of P_s to P_w.

As the program is continued over a number of years, the cost to the government depends upon supply response and the ability of the government in restricting production. If the support price is above the competitive level, there will be a tendency for production to increase. The supply response to a higher price depends upon the elasticity of supply. Increased production could possibly be handled if the secondary (export) market could absorb it. However, if output exceeds $Q''_e + Q'_d$, the govern-

ment would incur greater cost due to increasing stocks and/or increasing the amount of the export subsidy to lower the United States export price below P_w and thus move a greater quantity on the export market.

Consumers in the domestic market will pay higher prices for cotton products, and consumers in importing countries will gain as a result of the lower price in the export market. Producers in importing and competing export countries, or the governments of these countries if the government supports prices to producers, may suffer as a result of the United States selling a larger quantity on the export market at a lower price. Of course, as the United States improves its competitive position, other cotton exporting countries may be expected to take retaliatory actions to improve their competitive position.

With the domestic price of raw cotton lower than the export price, an equity problem is created if the program is practiced over a number of years. Domestic mills would be at a price disadvantage by the amount of the export subsidy. This would adversely affect their competitive position with foreign mills in international trade in products. Manufactured cotton products of foreign mills might well be imported into the United States without tariffs or other control measures. In addition, the continued high price in the domestic market would likely lead to increased substitution of synthetic fibers.

Alternative Two-Price Plan: Growers Pay Subsidy

This plan is similar to the Domestic Allotment Plan proposed in 1926. The Domestic Allotment Plan was based upon ideas by W. J. Spillman of the United States Department of Agriculture. Professor John D. Black of Harvard University further advanced the plan in 1929 in his Agricultural

Reform in the United States. Black says:

> The essential principle of the domestic allotment plan is paying producers a free trade price plus the tariff duty for that part of their crop which is consumed in the United States and this price without the tariff duty for the part of it that is exported, that is to be arranged by a system of allotments to individual producers of rights to sell the domestic part of the crop in the domestic market.[9]

Description. A two-price plan with producers paying the subsidy is essentially the same as the present two-price plan, except that the producers would now be paying the export subsidy instead of the government. Under this plan, producers would be issued allotments for that part of their crop which they could sell on the domestic market at the support price. This could be done by issuing certificates to cover the amount of cotton demanded for domestic use. The remainder of the crop would be sold in the export market at the lower world price. Supply could be restricted to domestic consumption at the target price plus exports at existing world price, or producers could be permitted to produce additional cotton to be sold at lower world prices.

Analysis. Assume that the support price of P_s in Figure 1 will be effective in the domestic market for this program. Certificates would be issued to cover the amount demanded at the support price in the domestic market, Q'_d. The remainder of the crop would be sold at world price. Output could be restricted to that quantity, Q''_e, that could be sold at the existing world price, P_w, or producers could be allowed to produce additional quantities for export.

The major differences between this program and the present export

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[9] J. D. Black, Agricultural Reform in the United States (New York, 1929), p. 271.

subsidy program is with respect to producers' returns and cost to the government. Producers' returns under this program as compared to the present program would decline by $Q''_e (P_s - P_w)$ and the cost to the government would decline by the same amount, assuming output had been restricted to $Q'_d + Q'_e$ under the present program. If producers had a choice between selling Q'_e at P_s or Q''_e at P_w, they would have to weigh additional income against the cost of the export subsidy. If the elasticity of export demand is greater than unity in the price range of P_s to P_w, then $P_w (Q''_e - Q'_e)$ would be greater than $Q''_e (P_s - P_w)$ and it would be profitable for producers to pay the export subsidy.

Unless allotments are also used to restrict the quantity marketed in the export market, supply response may result in a quantity greater than Q''_e being placed on the export market. This would cause P_w to fall, but the degree to which it would fall depends upon the elasticity of export demand. The increase in returns to producers would be greater than the cost of the subsidy as long as the marginal revenue in the export market was greater than unity. However, if producers acted rationally and could produce all they wanted to for export, the optimum value of exports would be that quantity that equated the price in the export market to the industry supply price. That is, the individual producer would expand production until marginal revenue from export sales was equal to his marginal cost of production.

Consumers in the domestic and foreign market and producers in importing and competing export countries are affected basically the same as under the present program. The inequity problem with respect to domestic mills would still exist. With the high support price in the domestic market, the competitive position of cotton relative to synthetic

fibers would likely decline as it has under the present program.

Compensatory Payment Plans

There are two basic features of compensatory payment plans: First, all cotton produced would move through normal commercial trade channels at competitive market prices. Second, producers would receive directly from the government a supplementary or compensatory payment per pound equal to the difference between market price and some predetermined support or target price on some specified proportion of their total marketings.[10]

Description of Specific Plans

In addition to these basic features, specific plans may contain many modifying provisions. Control on production or marketings may or may not be utilized. The compensatory payment may be made on all marketings or only on some specified proportion of total marketings or some specified quantity. In the latter case, the individual producer would receive a compensatory payment only on his allotment. Quantities in excess of allotments could be sold, but the grower would receive only the market price for this portion of his total sales.[11] A specific version of this plan for cotton would make compensatory payments applicable only to the quantity estimated to be demanded in the domestic

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[10]For a more detailed discussion of compensatory payments, see Chapter 9 in Theodore W. Schultz, Production and Welfare of Agriculture (New York, 1949), pp. 83-89, and Chapter 26 in Geoffrey S. Shepherd, Agricultural Price Policy (Ames, 1947), pp. 374-385.

[11]George L. Brandow, "A Modified Compensatory Price Program for Agriculture," Journal of Farm Economics, Vol. 37 (November, 1955), pp. 716-730.

market at the support level. Each producer would receive his prorata share of the domestic market on which he would receive the compensatory payment. Quantities in excess of the domestic quota would move into the export market at world prices. The quantity that could be produced for export might or might not be restricted.

A particular version of the compensatory payment approach was introduced in the Senate in late March, 1963 by Senator Talmadge of Georgia.[12] The primary objectives of this bill are as follows: (1) to maintain the income of cotton producers, (2) to permit cotton producers to grow and market cotton on a free enterprise basis, (3) to protect the welfare of consumers and of those engaged in the manufacturing of cotton textiles, and (4) to encourage the exportation of cotton. Undoubtedly, the primary motivation for such a bill was to eliminate the inequities of the current two-price plan and make cotton more competitive with manmade fibers in the domestic market.

The bill would eliminate acreage controls. A domestic allotment in terms of bales, rather than acres, based upon past history would be established. The bill provides a higher level of price support for cotton produced within the domestic allotment. The level of support on domestic cotton would be at three levels ranging from 70 to 90 percent of parity. For the first 15 bales and less, the support rate would be not less than 80 or more than 90 percent of parity price. From 15 to 30 bales, inclusive, the support rate would be not less than 75 or more than 80 percent of parity price. For more than 30 bales, the support rate

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[12]For further details see S. 1190 introduced in the Senate by Senator Talmadge of Georgia and The Cotton Trade Journal and Agricultural Reporter, March 29, 1962, p. 1.

would be not less than 70 percent or more than 80 percent of parity price. Price support on domestic allotment cotton could be made available through loans, purchases or other operations, including payments in cash or in kind to producers. Price supports for all cotton outside of the domestic allotment would be authorized at a level between 50 percent and 60 percent of parity.

During the transition period in which this act would be put into operation, the Secretary of Agriculture would be authorized and directed for the first year, ending July 31, 1964, to make payments-in-kind from CCC stocks to persons other than producers in amounts sufficient to remove the inequities of the two-price system to domestic mills.

The Cotton Digest reported in the June 8, 1963 issue that:

> The Talmadge bill is the slight favorite of the administration, and it is the favorite of much of the cotton trade. However, producers are opposed to it and all types of legislation like this that would pay them a direct compensatory payment. And the powerful American Farm Bureau, the most effective lobby in Washington today, is against compensatory payments.[13]

Other groups would disagree with certain other specific provisions of the bill. The failure of groups in the cotton industry to agree upon legislation will be stressed more when the Trade Incentive Plan is discussed later in this chapter.

Analysis

This analysis will be for compensatory payments in general, with the previously discussed modifications of compensatory payments compared and contrasted on various points of interest. Referring back to Figure 1, the support price remains at P_s. The export price will remain at P_w if

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[13]Cotton Digest, June 8, 1963, p. 5.

it is assumed that exports will be limited to Q''_e by export allotments or producer control, or that domestic supply price is equal to P_w, or that D_e is perfectly elastic which is inconsistent with the diagram. The quantity demanded at P_w in the export market is the same as under the two previously discussed two-price plans, Q''_e. The price to domestic mills becomes the world price, P_w, under the compensatory payment program. When compared with two-price plans, the price per unit of raw cotton falls by $P_s - P_w$ for domestic mills. At a price of P_w, domestic mills will demand Q''_d or an increase over two-price programs of $Q''_d - Q'_d$. If the supply of cotton in carry-over stocks was not sufficient to meet this increased demand, acreage allotments could be increased. The increase in quantity demanded in the domestic market as a result of the drop in price from P_s to P_w depends upon the price elasticity of demand in the domestic market. If demand had been relatively more elastic, a quantity greater than Q''_d would have been demanded.

This program accomplishes the objective of supporting producers' returns at the expense of the government. Compared to free market price, returns to producers are increased by $(Q''_d + Q''_e)(P_s - P_w)$, if the direct payment is made available on the quantity exported as well as the quantity sold on the domestic market. This is also the cost to the government. Thus, the cost of a compensatory payment program depends upon the level of the support price, the level of the competitive market price, and the quantity of the product marketed.

Assuming the compensatory payments are made on all sales, the high support price may encourage production to exceed the quantity demanded at P_w, unless production is effectively restricted to $Q''_d + Q''_e$. If production was not restricted to $Q''_d + Q''_e$, world price would fall and the cost

to the government would increase as the difference between P_s and P_w became greater and as the quantity on which direct payments were made increased. Without effective production controls this becomes an explosive situation. It is due to this expansion of output and the increased Treasury payments when production is not controlled that either acreage allotments or allotments in terms of bales are needed to make the program more successful. Here is where the advantage of the modified compensatory payment plan discussed by Brandow or the Talmadge Bill may be found, if direct payments are to be practiced over a number of years. Brandow's modified compensatory payment plan called for an acreage allotment in the domestic market. The Talmadge Bill would authorize a domestic allotment in terms of bales. The lower price in the export market would tend to dampen output response if growers act on the marginal principle. However, supply price for the indicated $Q''_e + Q''_d$ may be less than P_w. In this case output would increase and P_w would fall. A disadvantage of the modified compensatory payment plan and the Talmadge Bill would be the additional administrative cost associated with acreage and marketing allotments. In making cost comparisons of compensatory payment plans with other programs, it should be remembered that direct payments could be limited to the domestic market. This would greatly reduce government costs.

The Talmadge Bill would support prices in the domestic market to individual growers at various levels according to their output and the support price in the export market would be at a lower level. As discussed previously, small outputs would be supported at higher levels than larger outputs under the Talmadge Bill. This would tend to offset a usual characteristic of compensatory payments with respect to producers'

returns. That is, compensatory payment programs will help producers' income in proportion to the quantity marketed. Thus, the small farm unit would be helped very little under the usual compensatory payment program.

Consumers in all markets benefit from the lower price. The equity problem resulting from a higher price to domestic mills under the two-price plans is eliminated under compensatory payment or one-price plans. Domestic mills would now pay a price of P_w or the same as foreign mills and, therefore, would improve their competitive position with foreign mills. The lower price for raw cotton in the domestic market would also strengthen the competitive position of cotton relative to synthetic fibers.

The Trade Incentive Plan

In August of 1962, the Plains Cotton Growers proposed a modified compensatory payment plan called the Trade Incentive Plan.[14] The primary objectives of the Trade Incentive Plan are to (1) protect producers' income, (2) provide a competitive price to domestic mills and foreign mills, and (3) reduce cost to the government.

Description

Under the Trade Incentive Plan, the present law would be maintained with loans established at some specified percent of parity. In addition, the plan would establish a trade incentive or subsidy on all cotton utilized in domestic mills equal to the export subsidy or some major portion of it. It is proposed that the subsidy be made effective by

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[14] The Cotton Trade Journal & Agricultural Reporter, August 31, 1962, p. 1.

giving PIK certificates to cotton merchants equal to the difference between domestic and world prices. With the loan rate remaining at the domestic level, it is anticipated that the cotton buyer would pay farmers the full domestic price and then sell cotton to domestic and foreign mills at world prices, with the CCC making up the difference in PIK certificates negotiable and redeemable in any surplus commodity. Thus, the first objective of maintaining growers' incomes would be accomplished by maintaining the present loan rate on cotton, and the second objective would be accomplished by providing a competitive price to domestic mills because the trade incentive or subsidy would apply to cotton sold to domestic mills as well as foreign buyers. The trade incentive plan is simply a type of compensatory payment plan. However, there is no government payment to the farmer because the payment goes to the shipper or some other nonfarm cotton interest in the form of PIK certificates.

Since the government would be paying a subsidy on both domestic mill consumption and exports, the question arises as to how the third objective of reducing government cost would be accomplished. The reasoning of the Plain Cotton Growers Legislative Committee takes the following pattern: by use of trade incentives or subsidies which reduces price to a competitive level for domestic mills, the consumption of cotton could be stimulated so that the loan rate could be reduced as consumption and acreage increase. Thus, as the loan rate was gradually reduced as consumption and acreage increased, the subsidy or trade incentive could be reduced and, thus, the cost to the government would be reduced. Also, with the rapid rise in world population and rising standards of living in many countries, it is argued that world prices would also rise, so

that American cotton prices would not need to fall as low as it now appears necessary.

The Plain Cotton Growers Legislative Committee included as an addition to their Trade Incentive Plan a blended price feature which was originally proposed by the United States Department of Agriculture after the legislative subcommittee of the Advisory Committee on cotton submitted to the United States Department of Agriculture a "Blended Price Plan" in March of 1962.[15] The objective of the blend price approach is to give farmers a choice between acreage and price. The farmer could make one of two choices; (1) plant his regular acreage allotment with no marketing fee or (2) plant some percentage increase over his allotment with payment of a marketing fee to the CCC on production from his increased acres only. This would permit the individual farmer to grow more cotton but his average price would be lower. This is where the plan derives the name blended price plan. If the regular acreage allotment covered domestic consumption only, this plan would be essentially the same as the compensatory payment plan discussed above where the grower receives only the world price on exports.

A United States Department of Agriculture press release reporting the recommendations of the subcommittee gave the following example of how the blended price would work using a price of 32.47 cents per pound for Middling 1-inch on regular allotment and a subsidy of 8.5 cents per pound which would become the marketing fee.

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[15]The Cotton Trade Journal & Agricultural Reporter, March 9, 1962, p. 1.

Percentage of Increase Above Regular Farm Allotment	Average "Blended Price" Cents Per Pound
0	32.47
5	32.07
10	31.70
15	31.36
20	31.05
25	30.77
30	30.51

For example, with a five percent increase above regular farm allotment the blended price would be a weighted average price derived as follows:

$$\text{Average Price}_5 = \frac{5}{105}(32.47 - 8.5) + \frac{100}{105}(32.47) = 32.07$$

Previous to the Trade Incentive proposal, the American Cotton Shippers Association adopted a plan, in May, 1962, which included a one-price system, PIK payments, and acreage choice.[16] In October of 1962, the American Cotton Producers Associates adopted a program aiming at one price and favoring PIK payments.[17] One point in the resolution called for, "Beginning with the year of 1963-64 and thereafter, export sales and subsidy programs should be correlated with world prices throughout the entire year, thus keeping United States cotton price competitive in world markets."[18] While textile manufacturers agreed with the one-price proposal, many took issue with the variable subsidy proposal. They reasoned that a variable subsidy correlated with world price throughout the entire year would be a tremendous hindrance in planning ahead for the procurement of cotton for consumption both here and abroad. It is important to

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[16]The Cotton Trade Journal & Agricultural Reporter, October 5, 1962, p. 1.

[17]Ibid.

[18]Ibid.

note at this point that various groups are beginning to disagree on specific provisions.

Also in October of 1962, the American Textile Manufacturers Institute board of directors passed a resolution strongly urging elimination of the two-price system.[19] At about the same time the National Cotton Advisory Committee proposed that a "trade incentive" plan combined with an acreage choice program for growers be considered for the 1963 and subsequent crops.[20] They suggested that a payment-in-kind to the "last handler" be used to offset the export subsidy. The "last handler" would be the mills. They indicated that the indirect mill subsidy might be smaller than the export subsidy because of differences in freight costs to foreign mills and domestic mills. Three controversial provisions were mentioned in this proposal: (1) the acreage choice proposal, (2) who was to receive the payment-in-kind, and (3) the size of the domestic subsidy.

Later in October, F. H. Heidelberg, Executive Vice President, North Carolina Cotton Promotion Association, indicated that the "Trade Incentive Plan" was acceptable but an acreage choice provision was not.[21] In November of 1962, the Western Cotton Growers Association indicated their preference of a choice program for growers based upon the blended price plan.[22] Thus, the larger more efficient cotton farmers in the West were willing to sacrifice price for additional acreage, but the smaller less

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[19] The Cotton Trade Journal & Agricultural Reporter, October 12, 1962, p. 1.

[20] Ibid.

[21] The Cotton Trade Journal & Agricultural Reporter, October 19, 1962, p. 1.

[22] Ibid.

efficient cotton farmers in the Southeast prefer to maintain the present acreage allotment system with the full support price.

Also in November of 1962, the American Cotton Shippers Association began a campaign to convince the Department of Agriculture that payments should go to the first buyer rather than the last handler of cotton.[23] This group thought that only a payment-in-kind in the form of a negotiable certificate to the first buyer of cotton would assure a one-price system. The PIK certificate could be sold outright, or could follow the cotton until the certificate could be cashed or used in the purchase of commodities from CCC stocks.

On March 22, 1963, Chairman Harold D. Cooley of the House Agricultural Committee proposed a one-price plan in an address before the annual convention of the American Manufacturers Institute.[24] The Cooley plan was very similar to the Trade Incentive plan previously discussed. On the following day, the Executive Board of the American Cotton Producer Institute endorsed the one-price system proposed by Cooley. In addition, the group urged that a minimum support rate of 31.25 cents per pound be maintained, except as affected by reduced costs of production. The proposal was then submitted by Cooley to the Department of Agriculture for study. Further details of the Cooley proposal called for a bonus of 10 percent over the basic support price on the first 15 bales produced by all farmers.[25] After the United States Department of Agriculture

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[23]The Cotton Trade Journal & Agricultural Reporter, November 16, 1962, p. 1.

[24]The Cotton Trade Journal & Agricultural Reporter, March 29, 1963, p. 1.

[25]The Cotton Trade Journal & Agricultural Reporter, May 3, 1963, p. 1.

studied the plan, they suggested that this be raised to 20 percent on 30 bales. The overplanting provision in the Cooley plan would permit producers to exceed their allotments by 30 percent if they paid the government a penalty. The United States Department of Agriculture suggested that this be reduced to 20 percent.

Representatives of cotton producer associations immediately termed the United States Department of Agriculture bonus payment boost as unacceptable. Further disagreement occurred with respect to the level of the domestic payment-in-kind. Cooley's plan provided for domestic payment-in-kind certificates to be equivalent to the present export subsidy which is 8.5 cents per pound. The administration wanted the payment to be less than 8.5 cents per pound and wanted to give the Secretary of Agriculture discretion in selecting a level of payment.

On May 9, 1963, Representative Cooley introduced his bill providing for a domestic PIK plan, a stepped-up research program designed to lower cost of production, and bonus payments for small producers. The bill omitted any provision for an overplanting option. In late May of 1963, the House Agriculture Committee gave approval to the Cooley Bill after adding a choice provision and rejecting an amendment providing that a domestic subsidy be paid directly to producers.[26] Under the Cooley Bill reported out of committee, the Secretary of Agriculture would determine the level of payments-in-kind at his own discretion prior to August 1, 1964. After that date and until July 31, 1967, the Secretary would be directed to make payments-in-kind at a level sufficient to make cotton

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[26]The Cotton Trade Journal & Agricultural Reporter, May 24, 1963, p. 1, and H. R. 6196 introduced in the United States House of Representatives by Representative Cooley of North Carolina.

available to domestic mills at the same price American cotton is offered for export.

Small scale farmers would be aided by permitting a 10 percent higher price support on the first 15 bales produced on each farm above the supports in effect for the remainder of the crop. Producers could also sell up to 20 percent above their acreage allotments at world prices for the cotton grown on the extra acres if the Secretary finds that such additional production would not increase CCC stocks.

Thus, it becomes quite obvious that before a plan such as the Trade Incentive Plan can be expected to pass Congress it must be modified and changed in an effort to please various groups in the cotton industry. This has been the case with respect to the Cooley Bill, and the Trade Incentive Plan provided the basis for the Cooley Bill. Despite compromises in the Cooley Bill, all groups have not been satisfied and, therefore, it is questionable at this time whether the Cooley Bill will pass during this session of Congress. To summarize, it may be said that various groups in the cotton industry disagree on such specific provisions as: (1) the level of the domestic payment-in-kind (the full eight and one-half cents per pound or less to take into account differences in transportation costs for domestic and foreign mills), (2) whether the domestic payment-in-kind should be made to the last handler or the first handler, (3) the acreage choice program and at what percent producers should be permitted to exceed their regular allotments, (4) the support rate level and the bonus payment for a certain number of the first bales, (5) the use of direct payments to producers, and many others.

Analysis

The effects of a trade incentive plan obviously will vary with the specific provisions the plan contains. The analysis here will deal with the original Trade Incentive Plan proposed by the Plain Cotton Growers.

The effects of this program will be basically the same as the previously discussed compensatory payment program where the government made direct payment to producers. The effective market price for domestic and foreign mills is P_w and the support price remains at P_s. Now the producer is paid a price of P_s by cotton buyers on the quantity $Q_d'' + Q_e''$ and cotton buyers receive $(Q_d'' + Q_e'')(P_s - P_w)$ in PIK certificates.

In the long-run, producers would likely be taking a reduction in the price support level along with increases in acreage allotments under the Trade Incentive Plan. Thus, in terms of total returns it is difficult to say how producers will be affected in the long-run. However, one of the objectives of the Trade Incentive Plan was to maintain producers' returns. The support rate is not to be lowered unless increased mill consumption required increased acreage.

Domestic mills would certainly benefit from the Trade Incentive Plan. The price differential created by the present two-price plan would be eliminated as domestic mills would be able to buy at a lower world price. With a lower price in the domestic market, the competitive position of cotton would improve relative to synthetic fibers.

When compared with a loan support program, the consumer would also benefit from the Trade Incentive Plan if taxes the consumer must pay to the government for the cost of any compensatory payment type program are disregarded. The source of the benefit to domestic consumers is that domestic mills can buy raw cotton at a lower price and thus their

manufactured cotton products should sell at a somewhat lower price. If taxes are taken into account, the cost to consumers of a loan support program and a compensatory payment program is the same if the support price is available on the same quantity and at the same level under both programs. In the case of the loan support program, the cost comes from higher prices paid by consumers. In the case of the compensatory payment program, the cost comes from general revenue. In general the second case is more regressive since higher income groups pay more taxes.

The cost of this program is incurred by the government. Although the cost of this program might be considered large, it should be remembered that the plan called for a reduction in government cost by lowering the support rate as consumption increased and acreage allotments were increased. Thus, the immediate cost to the government should not discount the potential of the program over a period of years.

From this analysis, inferences can be made with respect to size of farm and regional shifts in production. If the support rate is lowered as mill consumption and acreage allotments are increased, it is quite reasonable to assume that more efficient larger scale operators would be at an advantage compared to the smaller less efficient producer. Many of the producers in the Southeast are small and relatively inefficient as compared to larger producers in the Texas Plains area and areas of Arizona and California. Thus, a program of this nature could well have the effect of shifting production from the Southeast to the Southwest and West. The degree of the shift would be difficult to predict, but a shift of any sizeable degree would have important economic as well as political implications.

CHAPTER IV

EMPIRICAL ANALYSIS OF ALTERNATIVE PLANS

In order to make quantitative estimates of the probable effects of the alternative pricing plans discussed in the preceding chapter, the net price-quantity relations, i.e., the demand functions, for both the domestic and export markets must be known. For this study, the method used to approximate price-quantity relations was similar to that used by Mehren and Curtis.[1]

Method of Analysis

The demand function for the domestic market was assumed to be of the form $Q_d = A_d P_d^{E_d}$, where Q_d is domestic consumption, P_d is the domestic price, and E_d is the price elasticity of demand in the domestic market. The demand function for the export market was assumed to be of the general form $Q_e = A_e P_e^{E_e}$, where Q_e is gross exports, P_e is the export price, and E_e is the elasticity of demand for United States exports with respect to the export price. Thus, the elasticity of demand in both markets is assumed to be constant within the price-quantity ranges under consideration.

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[1]George Mehren, "Comparative Costs of Agricultural Price Support in 1949," American Economic Review, Vol. XLI, No. 2, May, 1951, pp. 715-746; and Curtis C. Harris, Jr., "Eisenhower's Wheat Program: An Estimation of the Treasury Cost for 1959," Journal of Farm Economics, Vol. XLI, No. 4, November, 1959, pp. 815-820.

The demand equations can be approximated if one price-quantity coordinate and the elasticity of demand is known for each market. In order to make the demand functions most relevant to current conditions and to minimize the effects of shift variables on the position of the curves, the most recent price-quantity data were used to position the functions. The quantities used for domestic consumption and gross exports are the averages for the three years of 1959-61. A three year average was used in an attempt to minimize the effects of cycles in textile trade and fluctuations in raw cotton stocks that influence domestic consumption and exports in any given year. Thus, it is assumed that the demand schedules refer to a period of time sufficiently long so that fluctuations in inventories can be ignored.

In approximating the demand curves, prices at the farm level were used. The price in the domestic market was taken to be the estimated farm price for the average of the crop equivalent to the 1959-61 average price of Middling 1-inch cotton at the designated markets. Farm prices for the 1959-61 period could not be used directly because of the Choice A and B plan contained in the Agricultural Act of 1958. The Choice A and B program, in effect in 1959 and 1960, offered cotton growers the choice of planting within their regular acreage allotment and receiving the full support price or exceeding their regular allotment and receiving less than the full support price. This resulted in a distortion in the normal farm and spot market price relationship. Spot market prices for the 1954-57 period were given in terms of Middling 15/16-inch, and the farm price for the crop averaged about 1.5 cents per pound less than the spot market price of Middling 15/16-inch cotton during that period. Also, the price of Middling 15/16-inch was about 1.25 cents less than the

price of Middling 1-inch for the 1954-57 period. Therefore, the farm equivalent price of Middling 1-inch was computed by subtracting 2.75 cents from the 1959-61 spot market price for Middling 1-inch which averaged 32.21 cents per pound. The 1959-61 average export price for Middling 1-inch at spot markets was 24.75 cents per pound. This was adjusted to the farm level by subtracting 2.75 cents per pound.

Available estimates of the price elasticity of demand in the domestic market range from -0.86 obtained by Blakley[2] to -0.23 obtained by Lowenstein and Simon.[3] In another study, Lowenstein[4] obtained an estimate of -0.295, and Cromarty obtained approximately the same estimate or -0.30.[5] For use in this analysis, the elasticity of demand for domestic mill consumption was assumed to be -0.66. This is the least squares estimate obtained by Blakley and represents a compromise between the higher and lower estimates obtained by different people using different methods.[6]

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[2]Leo V. Blakley, Quantitative Relationships in the Cotton Economy with Implications for Economic Policy, Technical Bulletin T-95, Agricultural Experiment Station, Oklahoma State University, Stillwater, May, 1962, pp. 115-120.

[3]Frank Lowenstein and Martin S. Simon, "Analysis of Factors that Affect Mill Consumption of Cotton in the U. S.," Agricultural Economics Research, United States Department of Agriculture, Agricultural Marketing Research Service, Vol. 6, No. 4, October, 1954, pp. 101-110.

[4]Frank Lowenstein, "Factors Affecting the Domestic Mill Consumption of Cotton," Agricultural Economics Research, United States Department of Agriculture, Agricultural Marketing Service, Vol. 4, No. 2, April, 1952, pp. 44-51.

[5]W. A. Cromarty, "An Economic Model of the United States Agriculture," Journal of American Statistical Association, Vol. 54, September, 1959, pp. 556-574.

[6]H. E. Buckholy, G. G. Judge, and V. I. West, A Summary of Selected Estimated Behavior Relationships for Agricultural Products in the United States, Research Report AERR-57, Department of Agricultural Economics, Agricultural Experiment Station, University of Illinois, Urbana, October, 1962, pp. 115-120.

For use in this analysis, the elasticity of demand for exports was assumed to be -2.50. This is a compromise between Fowler's estimates of long-run elasticities of export demand for 1954, which ranged from -1.09 to -3.29.[7] Brandow reported an estimate of the elasticity of export demand of -3.66.[8] He obtained the estimate by fitting a logarithmic equation to two price-quantity coordinates: (1) average exports and average farm price for the three crop years 1954-56; and (2) a projection of exports by Lowenstein[9] for the three years centered on 1965 assuming that the export price remained unchanged from 1960. During the 1954-56 crop years, exports averaged 2.55 million bales and farm prices averaged 32.47 cents per pound. Lowenstein projected that if the support price of Middling 1-inch stayed at 23 cents per pound, equivalent to a farm price of about 25 cents, from 1960 on, cotton exports in the three years centered on 1965 would average about 6.5 million bales.

The domestic demand function, $Q_d = A_d P_d^{Ed}$, was approximated by using the following data:

Q_d = domestic consumption (1959-61 average) = 8,766 thousand bales

P_d = equivalent farm price for Middling 1-inch (1959-61 weighted average) = 29.46 cents per pound

E_d = price elasticity of demand in the domestic market = 0.66.

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[7]Marquis Lyndon Fowler, "An Economic-Statistical Analysis of the Foreign Demand for American Cotton," (unpub. Ph.D. dissertation, University of California, 1961), pp. 83-122.

[8]G. E. Brandow, Interrelations Among Demands for Farm Products and Implications for Control of Market Supply, Bulletin 680, Pennsylvania State University, Agricultural Experiment Station, University Park, August, 1961, p. 56.

[9]Frank Lowenstein, "Long Term Projections," Cotton Situation, United States Department of Agriculture, Economic Research Service, CS-191, November, 1960, pp. 21-24.

The resulting demand equation can be written as $\log Q_d = 4.91249 - 0.66 \log P_d$, or $Q_d = 81{,}750\ P_d^{-0.66}$.

The export demand function, $Q_e = A_e P_e^{E_e}$, was approximated by using the following data:

Q_e = gross exports (1959-61 average) = 6,388 thousand bales

P_e = farm price equivalent to the export price = 22.0 cents per pound

E_e = price elasticity of demand in the export market = -2.50.

The resulting demand equation can be written as $\log Q_e = 7.16141 - 2.50 \log P_e$, or $\log Q_e = 14{,}505{,}000\ P_e^{-2.50}$.

The demand equations are shown graphically in Figure 4.1. The export demand curve is plotted on the left half of the diagram and the demand curve for the domestic market is plotted on the right half of the diagram. The demand curves represent the net on-farm demand schedules in the domestic and export markets with a constant elasticity of -0.66 and -2.50, respectively. Thus, the price axis indicates domestic or export prices at the farm level. These demand curves are assumed to be demand for mill consumption only and apply to a period of time sufficiently long for inventory demand to be ignored.

The quantitative estimates of the probable effects of the alternative plans are based on two major assumptions: First, it is assumed that the demand functions specified above refer to average annual net price-quantity relationships over a period of about three years centered on the 1964 marketing year and not to a single year. This implies the further assumption that the demand curves will not shift perceptibly over the period under analysis because of changes in population, income or other determinants of demand. Second, it is assumed that the quantity produced

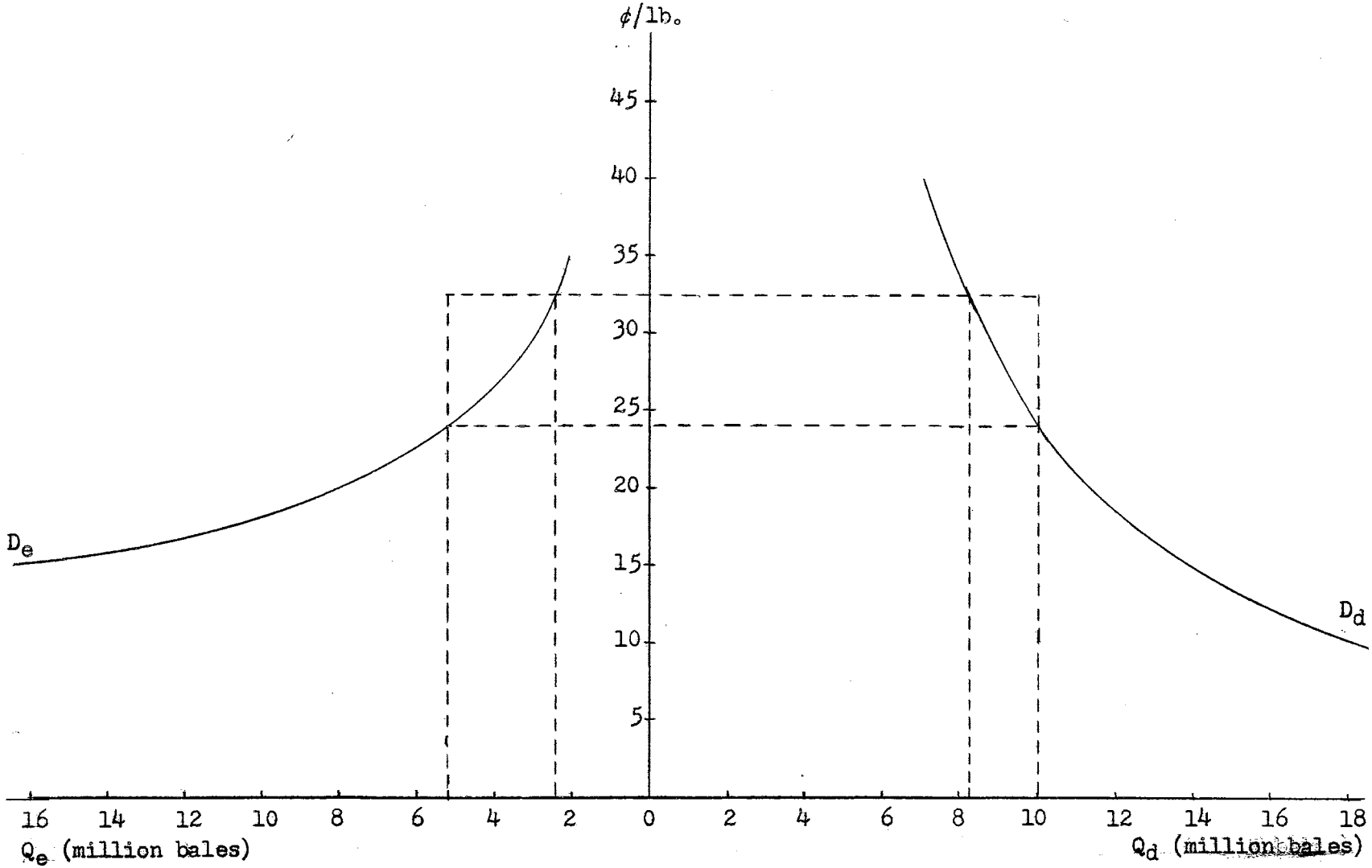

Figure 4.1. Equilibrium Quantities and Prices for United States Cotton in the Domestic and Export Markets for Alternative Pricing Plans.

is restricted to the quantity demanded at specified domestic and export prices.

In addition to these assumptions, the estimates refer to cotton lint only and they do not take into consideration administrative costs associated with the specified or collateral programs.

Present Two-Price Plan

The target or support price used in the analysis of the present program is the current loan rate at average location for Middling 1-inch cotton of 32.5 cents per pound. This is approximately equal to the average farm price for all qualities and the two are assumed to be equal in this analysis. The export subsidy is now 8.5 cents per pound. Under these assumptions, therefore, the export price adjusted to the farm level is 24.0 cents per pound.

Given these prices and the specified demand functions, domestic mill consumption would be 8.2 million bales and 5.2 million bales would be exported annually on the average. Thus estimated total disappearance under this program would be 13.4 million bales annually. Since the farm price is 32.5 cents per pound on total sales, gross returns to producers would be $2,177,500,000 assuming 500 pound gross weight bales.

Cost to the government on raw cotton exports would be $221,000,000. In addition, the export subsidy applies to the cotton equivalent on cotton textile exports. For the 1961-62 marketing year, payments under the cotton products export program were $18.0 million.[10]

The average yield in the five-year period of 1957-61 was 418 pounds

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[10] Cotton Situation, CS-203, November, 1962, p. 17.

per acre planted. If the average yield remains at the 1957-61 level for the period under consideration, an acreage allotment, equivalent to planted acres of 15,387,560 acres would be required to balance production with the estimated total disappearance of 13.4 million bales of 480 pounds of lint. This compares with the present minimum national allotment of 16,000,000 acres.

In the absence of the export subsidy and with the present loan level applying to both domestic and export sales, it is estimated that exports would average only 2.4 million bales, a decline of 2.8 million bales below the quantity exported under the present program. Domestic mill consumption would not be affected. Total disappearance would be only 10.6 million bales. If production were held in line with demand, an acreage allotment of only 12,172,248 acres would be required, and gross returns to growers would fall to $1,722,500,000. The cost of the export subsidy on raw cotton and cotton textile products would be eliminated.

Alternative Two-Price Plan: Grower Pays Subsidy

The target price in the domestic market is taken to be the loan rate for Middling 1-inch or 32.5 cents per pound. The export price will be equal to the world price or 24 cents per pound. Annual domestic mill consumption and exports will be the same as under the present two-price plan, 8.2 million bales and 5.2 million, respectively. The acreage allotment required to balance production with estimated disappearance would remain unchanged at 15.4 million acres.

The major difference in the program as compared to the present program is a reduction in gross returns to producers and a corresponding reduction in the cost to government on raw cotton exports. Presumably,

the government would continue to bear the costs of the cotton products export program. These differences occur because under this program producers pay the subsidy on exports rather than the government. Thus, producers' returns under this program decrease by $221,000,000 and government costs decrease by the same amount as compared to the present program. The only cost to the government for this program would be administrative cost and the subsidy on exports of cotton products.

Compensatory Payment Plan: Payment on Domestic Sales Only

The target price for producers for domestic mill consumption is the same as for the previous programs, however, the price to domestic mills is the competitive world price or 24 cents per pound. This is 8.5 cents lower than the price confronting domestic mills under the two previous programs. Since the export price remains unchanged, 5.2 million bales will be exported. With a lower price in the domestic market, domestic consumption increases by 1.8 million bales over the two previous programs. Thus, domestic consumption under this program is 10 million bales and total disappearance is 15.2 million bales.

With direct payments on domestic sales only, gross returns to producers would be $2,249,000,000. This is an increase of $71,500,000 over the present two-price plan and an increase of $293,000,000 over the alternative two-price plan. Cost to the government on the compensatory payments on domestic sales would be $425,000,000. This would also be the increase in government cost of this program as compared to the alternative two-price plan. Government cost would be greater under this plan than under the present two-price plan by $204,000,000. As compared to the present two-price plan, the additional cost to government of the

compensatory payment plan is greater than additional returns to producers by $132,500,000. The cotton products export program would not be needed under this one-price plan.

A larger acreage allotment would be needed with this plan than with the two-price plans in order to meet the increase in domestic demand resulting from the lower price to domestic mills. Using the 1957-61 average yield of 418 pounds per acre planted, an acreage allotment of 17,454,545 would be needed. This represents an increase of slightly over two million acres needed over the two-price plans.

Trade Incentive Plan

This program is essentially the same as the compensatory payment plan, except that payments would be made on all sales and to someone other than producers. The price paid to farmers for all cotton would be 32.5 cents per pound, while domestic mills and exporters would pay only 24.0 cents per pound. The government would make up the difference by making payments of 8.5 cents per pound to someone other than producers. Domestic consumption and exports will be the same as under the previous plan.

The major differences in this program as compared to the compensatory payment plan where payments are made only on domestic sales are with respect to gross returns to producers and government costs. Gross returns to producers would be $2,470,000,000. This is an increase over the previous compensatory payment plan of $221,000,000. This is also the increase in government costs as compared to the same program. Government cost under the trade incentive plan would be $425,000,000 greater than with the present two-price plan, while gross returns to producers would

increase only $292,000,000.

The required acreage allotment would be the same as under the previous program, or 17,454,545 million acres.

CHAPTER V

SUMMARY AND CONCLUSIONS

The objective of this study was two-fold: (1) to describe the current situation and delineate the major problems confronting the cotton industry; and (2) to analyze and compare the probable effects of (a) a compensatory payment plan, (b) a trade incentive plan, (c) the present two-price plan, and (d) a two-price plan under which the export subsidy is paid by producers.

At the present time there is a serious imbalance in the United States cotton industry. The carry-over of all kinds of cotton is expected to be about 11.1 million bales on August 1, 1963. This will be the largest carry-over since 1957. The increase in carry-over is a result of the largest crop since 1953 and the smallest (expected) disappearance since 1958, with both domestic mill consumption and exports below their average for the past five years.

Since 1956 cotton exports have been encouraged by a six to eight and one-half cents per pound subsidy. Due to this export subsidy, domestic mills have operated at a $30 to $42.50 per bale cost disadvantage compared with foreign mills and are facing increasingly intense competition from foreign cotton goods. For the second year on record, the United States was on a net import basis for manufactured cotton products in calendar year 1962, when imports exceeded exports by 183,700 cotton equivalent bales. In addition, the price of raw cotton to domestic mills

is well above equivalent prices of manmade fibers. Cotton's competitive losses to these fibers includes a straight loss of more than 400,000 bales to rayon on the cotton type spindle in the two-year period from December, 1960 to December, 1962 and a loss of 300,000 bales of cotton's markets to noncellulosic staples during the same period on the cotton spinning system. Moreover, the rate of loss is increasing.

Because of the current demand-supply imbalance and cotton's competitive losses to foreign cotton goods and manmade fibers, there is widespread and increasing dissatisfaction within all segments of the cotton industry with the two-price feature of the present cotton program. There appears to be general agreement among the various groups in the cotton industry, the Congress, and the Administration that new legislation is essential. However, there is much disagreement among these groups as to the specific provisions of a program that would be acceptable. Present debate generally centers around the relative merits of two broad proposals: (1) a compensatory payment plan, and (2) a trade incentive plan.

The comparative estimated effects of the four possible pricing plans for cotton analyzed in this study are summarized in Table 5.1. The domestic price under the present and alternative two-price plan is 32.5 cents per pound. The export price under these two plans is 8.5 cents less or 24.0 cents per pound. Under the compensatory payment and trade incentive plan, the domestic and export price are both 24 cents per pound. Thus the equity problem resulting from a higher price to domestic mills than foreign mills under the two-price plans is eliminated under the compensatory payment and trade incentive plans. The lower price for raw cotton in the domestic market under these two plans would

TABLE 5.1

COMPARATIVE ESTIMATED EFFECTS OF POSSIBLE PRICING PLANS FOR COTTON

Program	Domestic Price	Export Price	Domestic Consumption	Exports	Total Consumption	Gross Returns to Producers	Government Cost	Cost to Growers	Acreage Allotment
	cents per pound	cents per pound	million bales	million bales	million bales	billion dollars	million dollars	million dollars	thousand acres
Present Two-Price Plan: Government Pays Subsidy	32.5	24.0	8.2	5.2	13.4	2.2	221	--	15,388
Alternative Two-Price Plan: Growers Pay Subsidy	32.5	24.0	8.2	5.2	13.4	2.0	--	221	15,388
Compensatory Payment Plan: Payment on Domestic Sales Only	24.0	24.0	10.0	5.2	15.2	2.3	425	--	17,454
Trade Incentive Plan	24.0	24.0	10.0	5.2	15.2	2.5	646	--	17,454

also strengthen the competitive position of cotton relative to manmade fibers.

Total consumption of raw cotton is 13.4 million bales under the two-price plans. Total consumption increases to 15.2 million bales under the compensatory payment and trade incentive plans. This 1.8 million bale increase under these two programs is due to the lower price to domestic mills.

Gross returns to producers are smallest under the two-price plan where producers pay the subsidy. Gross returns to producers range from approximately two billion dollars under the alternative two-price plan to 2.5 billion under the trade incentive plan. Government costs are also lowest under the alternative two-price plan and highest under the trade incentive plan, ranging from only administrative costs under the alternative two-price plan to 646 million dollars under the trade incentive plan. Compared to the present two-price plan, the additional cost to government of either the compensatory payment plan or the trade incentive plan is greater than additional returns to producers. However, the primary objective of the compensatory payment and trade incentive plans is to make cotton available to domestic mills at the competitive world price and at the same time maintain producer income.

If production is to be held in balance with disappearance, the required national acreage allotment would be about 15.4 million acres under the two-price plan and about 17.5 million acres under the compensatory payment and trade incentive plans. This assumes that planted acreage is equal to alloted acres and that the 1957-61 average yield of 418 pounds per planted acre remains unchanged. Actually there has been a pronounced upward trend in yields in recent years and planted

acres have represented only about 90 percent of alloted acres. These national acreage allotments estimated to be required to balance production and disappearance under the various programs compare with the 1963 upland acreage allotment of about 16.3 million acres.

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