THE DECLINE OF WORLD AGRICULTURAL PRICES AND THE U. S. EXPORT PROGRAMS IN THE FIFTIES

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ABSTRACT

THE DECLINE OF WORLD AGRICULTURAL PRICES
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The problem of this thesis was to determine, if possible, a relationship between the aggressive United States agricultural export programs and the decline of world agricultural export-import prices in the fifties.

Annual price and export-unit value and trade data have been employed. Most information is in the readily comparable form used by FAO, that is U.S. dollars and metric tons. To visualize price movements during the decade, semi-logarithmic scale graphs are presented. Other information, including the U.S. proportions of world trade in pre-subsidy and subsidy periods, and the apparent degree of U.S. agricultural export subsidization is presented in tables.

The United States exports well over 25 percent of the world trade in many agricultural commodities, cereals, oils, fats, oil-seeds, cotton, and dry milk. What is more important, the country's proportion of trade in subsidized exports increased substantially after subsidization. In fact, virtually all of the country's growth in agricultural exports in the period 1952/53-59/60 was due to government export assistance of one kind or another. The initiation of U.S. export programs on an extensive scale coincided with

reductions in the nation's portion of world trade in most commodities about 1953. Because of the rather high proportion of world trade in many commodities, it seems tenable to conclude that the country has been in a position to exercise price leadership. This is true for the commodities for which it is a leading exporter as well as for competing commodities in world markets. This does not mean that U.S. export policies are the sole cause of world agricultural export-import price declines in the fifties.

Indeed, severe price declines have occurred for commodities not exported by the United States. Price declines, overproduction, and surplus problems do seem to be closely related. Subsidizing exports has been one means of disposing of U.S. agricultural surpluses, but surplus disposal is not the only goal of the country's export programs. Sharing abundant harvests has been a task of considerable magnitude, and the welfare impacts are many but beyond the scope of this thesis.

Raw material prices declined after 1950-51; next were cereals and dairy goods in about 1952-54; then beverages in 1954-55; soft oils and fats, some fruits and meats, and tobacco began to show price weakness or price declines after 1957.

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CHAPTER I

INTRODUCTION

After World War II, and particularly during the 1950's, the prices of agricultural commodities in world trade moved markedly downward. For many commodities these price movements are chiefly a function of production-consumption adjustments. With production recovery in Europe and elsewhere in the early fifties, United States agricultural exports experienced some sharp cut-backs, even though its agricultural output continued to grow. Consequently, an aggressive government export program was begun to increase the country's portion of world trade, and, thus, to help stay the growth of surpluses. The aggressive nature of the United States agricultural export programs focuses attention on the question of how they affected the trend of world agricultural prices during the fifties. This question is the problem area of this thesis.

More specifically, the objectives of this thesis are to determine, if possible, the effect of various United States agricultural export subsidization activities on world export-import agricultural commodity prices during the fifties. The following hypothesis is the major one tested:

For several internationally-traded agricultural commodities experiencing definite and generally continuous downward price trends during the fifties, the United States percentage of world trade and its degree of export subsidization were usually high, especially after 1953 or 1954.

The second chapter is an elaboration of various aspects of the problem area. The conceptual discussion is divided into three parts: concern with welfare-affecting phenomena in world agricultural trade; production adjustments; uncertainty reduction; and price stabilization.

The third chapter is a discussion of economic forces responsible for short-term and decade-long price changes. Emphasis is given to events of the fifties. The forces discussed are: changes in commodity quality, currency purchasing power, ocean shipping rates, and industrial activity; substitution effects; production-consumption divergences; and surplus disposal activities.

The fourth chapter includes a description of decade-long (1950's) world export-import price movements for the studied commodities. The commodity groups include: raw materials (cotton, wool, raw jute, and natural rubber), cereals, beverages and tobacco, dairy products, oilseeds, oils and fats, and fruits and meats. Price indices for many of these groups reflect individual commodity price movements reasonably well over the long-run because of commodity competition. Forest products are excluded. Effort has been made to include some effects of Sino-Soviet trade.

The fifth chapter involves associating United States Government export programs and the downtrend of world agricultural export-import prices in the fifties. Emphasis is given to those commodities for which the United States is an important exporter. Several tendency relationships are presented, interrelating the following aspects of the U.S. trade picture: degree of U.S. export subsidization, U.S. percentage of world trade, and change in the U.S. percentage of world trade between the pre-subsidy and

subsidy period. Also, another relationship is examined: when the U.S. proportion of world trade is high, is there a tendency for a commodity to have experienced more substantial price falls during the 1950's? Finally, a comparison is made of real international purchasing power movements between the period 1920-38 to 1959-60 and the period 1952-53 to 1959-60. This indicates whether the changes in purchasing power over the longer period are consistent with or in contradiction to the changes occurring during the PL 480 period of aggressive U.S. export policies.

The sixth and final chapter is reserved for a summary and conclusions.

The several appendices to this thesis contain detailed information on FAO trade-unit-value movements; proportions of world exports originating from the U.S.; and a summary of data used to classify U.S. agricultural exports according to the degree of subsidization.

Data Selection

The descriptive data for this thesis are taken largely from United Nations (UN) and Food and Agriculture Organization (FAO) publications. The reasons for this are ready availability of the publications and presentation of information in easily comparable units for all commodities.

One problem of this paper was the selection of a measure of price trends over the fifties. The FAO publishes indices for certain commodity groups, but it is necessary to supplement these indices with price relatives for single commodities. Also, FAO real purchasing power indices proved useful. Most of the data used in this thesis to establish price trends during the fifties are FAO unit values of commodities; these are based on a sampling of world trade. Up to about 1957 the unit value series

was based on import unit values, but then a shift occurred to the export unit values; trends of the two series are quite similar generally, but adjustments are necessary in making comparisons using the two series.

FAO also publishes specific market prices. These are for a given grade, given market place, and possibly given terms of sale, and are not as indicative of the total world trade situation as the FAO unit value series. Nevertheless, specific market prices and FAO-computed indices of specific market prices proved to be a useful supplement to the unit value series used in this thesis.

Generally, FAO publishes unit values of world trade and specific market prices in terms of U.S. dollars and metric tons. Annual and quarterly unit values are published, while specific market prices are for months and years.

Explanatory Note

To facilitate table and footnote preparation, certain symbols and abbreviations have been used in this thesis. Abbreviated publication titles appear in the first footnote of their mention. The symbols are generally consistent with those adopted by FAO and differ from those used by U.S. government agencies.

1949/50: one marketing or fiscal year beginning in calendar year 1949 and ending in 1950.

1949-51: pertaining to a period, including end years.

Variation: 1949/50-1951/52, a period of three marketing years.

One metric ton equals 1,000 kilograms, or 2204.62 pounds, and is approximately equal to one long ton (1.01605 metric ton). FAO has published a special list of conversion factors in

addition to one-page tables in certain yearbooks; this special publication includes many national conversion rates.[1]

Metric kiloton: alternative way of saying thousand metric tons.

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[1] FAO, Technical Conversion Factors for Agricultural Commodities (Rome, 1960).

CHAPTER II

PUBLIC AND SEMI-PUBLIC POLICIES AFFECTING EXPORT PRICES

The downtrend of world agricultural prices and the effects of United States export subsidies are related to several topic areas. While there are many ways to relate these discussion areas, three conceptual categories are considered: (1) welfare-affecting phenomena in world trade, (2) production adjustments, and (3) uncertainty reduction and price stabilization.

Welfare-Affecting Phenomena in World Trade

Export-import prices of agricultural commodities have been subject to fluctuations and declining levels in post-war years, but these movements are less pronounced than those of the interwar years. Concern with the welfare effects of these price movements, surpluses, and economic development has been expressed in various quarters: professional meetings and journals, producer meetings, meetings and publications sponsored by various national and international organizations.

Consideration will be given in this section to measurements of price movements, namely the terms of trade; surpluses; economic development and the world price downtrends.

Agriculture and the Terms of Trade

Several different terms of trade measures have been proposed in the body of economic literature. They compare prices or quantities of goods, usually in the fashion of an index. Somehow a relationship is established between what is received (imports) for what is given up (exports). Both

inputs and outputs have been related in various fashions. Commodity groups, single commodities, and all commodities in trade are used in various combinations in terms of trade comparisons.

There is a body of literature dealing with the terms of trade for raw-material exporting economies. In essence, multi-country, long-run comparisons which include effects of transportation improvements and improvements in the quality of manufactured goods do not necessarily show worsening in the terms of trade for raw material exporting countries.[1]

Prices and terms of trade comparisons may show agriculture's position worsening, while its income is actually improving, comments Morgan with regard to the marked instability of agricultural export-import prices in the period since 1910-20.[2]

If the terms of trade comparisons between agricultural and manufactured goods are limited in usefulness, would the single factoral terms of trade be better? Morgan believes not, for indices of factor costs are not readily available, except possibly for labor costs. However, he believes the single commodity terms of trade to be useful.[3] This appears to be the comparison of the price (or price index) of one commodity to an index of import prices for a single country. FAO employed a variant of this concept in developing its real purchasing power index for various single commodities moving in world trade.

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[1]Theodore Morgan, "Long Run Terms of Trade Between Agriculture and Manufacturing," Economic Development and Cultural Change, October 1959, pp. 1-23.

[2]Ibid., cites R. E. Baldwin, "Secular Movements in the Terms of Trade," American Economic Review-Papers and Proceedings, May 1955, 45: 259-60.

[3]Ibid.

The FAO real purchasing power index for one commodity is defined as follows:

$$\text{Real Purchasing Power Index Value for the Good} = \frac{\text{ave. annual import unit value, given year, given good.} \;/\; \text{simple average of import unit values, given good, 1920-38.}}{\text{index of import unit values of all goods moving in world trade, 1920-38=100, given year.}}$$

FAO used this index as opposed to an agricultural:manufactured goods terms of trade index in discussing purchasing power of single agricultural commodities.[1] Comments on this index are presented in Chapter V of this thesis.

Surpluses[2]

Surpluses of agricultural goods have become a world wide problem in recent years, with the advent of coffee stocks in exporting countries and dairy stocks in Europe. However, the bulk of government stores are still located in North America.

Once surpluses are created or threaten to occur, political action is often used to transfer and/or delay the economic consequences. Subsidizing the export of domestic surpluses transfers part of the consequences from domestic to international markets. Export subsidization is a difficult task, if the handling agency is making some effort not to upset international relations. Farnsworth suggests that U.S. agencies have kept international

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[1] UN, FAO, "Some Factors Influencing the Growth of International Trade in Agricultural Products," S of F & A--1956 (The State of Food and Agriculture--1956, Rome, FAO, 1956), pp. 61-99.

[2] Surpluses are considered to exist whenever supplies exceed utilization, the latter including some sort of carryover.

relations in mind by exercising care in the selection of recipient countries for concessional terms shipments.[1] Nevertheless, there is evidence to indicate the primary goal of U.S. "trade assistance" programs is the disposal of government stocks, at least in the minds of Capitol Hill policy makers. It is only fair to say that other governments have engaged in so-called trade assistance programs (really export assistance programs). However, the overshadowing importance of the U.S. as a leading exporter of many agricultural goods means that disposal activities of other governments are much less significant in their effects on world trade.

Economic Development and World Price Downtrends

Surplus disposal activities of developed countries may be directed to offset non-related losses of foreign exchange when prices of commodities shipped from less-developed countries fall.[2] This is not always feasible and is a relatively new phenomena. Several proposals have been advanced to partially compensate less-developed countries in particular, for reduction in foreign exchange earnings can thwart development plans.[3]

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[1]Helen Farmsworth comments that care has been exercised in the selection of what she calls "surplus dumping grounds," thus minimizing the effect on world markets. See her article, "American Wheat Exports, Policies and Prospects," Food Research Institute Studies (Stanford University), May 1960, I: 2: 221-281.

[2]Theodore James Goering, "United States Agricultural Surplus Disposal in Colombia" (unpublished Ph.D. dissertation, Agric. Econ. Dept., Michigan State University, 1961).

[3]UN, International Compensation for Fluctuations in Commodity Trade (New York, UN, 1961).

Production Adjustments

Aggregate world production and consumption are not in balance for many agricultural commodities, as evidenced by surpluses and price trends. The difficulty seems to arise from imperfect knowledge, uncertainty, irreversible substitution processes, the nature of resource structures, production technologies, and the decision-commitment process. Production adjustments involve output levels, output mixes, and their alteration; the United States government programs have usually attempted to control output levels and mixes via limitations on the use of one input, land. In short, government action has not been very successful in bringing production into balance with current market utilization.

Economically Fixed Assets

The fixed asset concept offers an explanation of why agricultural production does not adjust downward when commodity prices fall; why in fact output may even increase. On the basis of price and profit expectations, a manager may decide to acquire and structure resources from the market in a form and place peculiar to his geographic location. However, once these resources are procured and structured in this peculiar form they may command a considerably lower price should the manager decide to sell them. And as long as commodity prices keep the marginal returns from these inputs between their acquisition and salvage price they are said to be economically fixed in production.

It is entirely conceivable that variable inputs (that is, those not ecnomically fixed in production) may be acquired and used in increasing amounts in an effort to increase returns to economically fixed assets,

even though output prices may be falling. This concept applies to tree crops even though the trees had not borne their first harvest--the trees would be taken out of production only if the manager expected to lose more than he would gain.[1]

Uncertainty Reduction and Price Stabilization

Uncertainty exists when economic expectations are not realized, and is largely a matter of imperfect knowledge. It is difficult to adjust production when firms have economically fixed assets and when there are many small firms in many nations. Non-government and government actions on national and international scale have been used to offset uncertainties and to partially control production.

Non-government Actions

While non-government actions by producer and resource-owner groups do not appear to be as widespread for agricultural goods as for non-agricultural goods, they are worthy of mention. Cartel control of several activities affords: the possibility of risk combination; the availability of legal, research and other services within the management framework; and some degree of production control. Also, larger economic entities may have more influence in molding "favorable" action on the part of governments and other groups.

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[1]The fixed asset concept has been developed by Glenn L. Johnson. See, for example, his article, "The State of Agricultural Supply Analysis," Journal of Farm Economics, May 1960, XLII: 2: 435-452.

National Government Actions

National governments have inaugurated or permitted various actions to support producer income and control output. Under these auspices agencies acquire and sell commodities, assist in marketing, assist and restrict international and interregional trade, often arousing international tensions. It is well to realize the world impact of certain types of "domestic" legislation.[1]

Witt comments that trade restriction has become a part of United States trade policy largely by way of exceptions granted to agriculture over the last 25 years. These exceptions run counter to the policy of freer trade envisioned in the Reciprocal Trade Agreements Act, the General Agreement on Trades and Tariffs and elsewhere.[2] "Domestic industry protection" is usually legislated without much concern for general consumer interests. "The present complex of programs and policies has quieted the voices of many of those strongly proposing freer trade in order to lower costs."[3]

Trade restriction is used by many countries importing agricultural commodities to protect domestic producers. Among the devices are: import quotas, tariffs, cumbersome and arbitrary customs procedures, restricted use of foreign exchange, required use of domestic goods and

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[1] UN, FAO, An Enquiry into the Problems of Agricultural Price Stabilization and Support Policies (Rome, 1960).

[2] Lawrence Witt, "Trade and Agriculture Policy," The Annals of the American Academy of Political and Social Science, September 1960, vol. 331, pp. 1-7.

[3] Ibid.

services, and formal or informal understandings. The trend as early as 1930 was towards indirect techniques of trade restriction.[1]

Trade assistance is less commonly discussed, although it was a topic in Congress before the turn of the century.[2] Trade assistance devices used for agricultural commodities by the United States include Export-Import Bank loans and export payments (both were authorized and used about 1935). Later additions to the trade assistance package include CCC credit sales, barter, foreign currency sales, long-term contracts, export payments in kind (an alternative sometimes used in place of payments in cash), and grants or donations.

Trade assistance and trade restriction legislation are only part of the government efforts to benefit producer groups,[3] and such activities are by no means limited to the United States.[4]

International Action

Various inter-government bodies, League of Nations and United Nations bodies have considered agricultural problems in the world economy. Apart from activities which are aimed at helping governments establish

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[1]See U.S., Congress, Senate, World Trade Barriers in Relation to American Agriculture, Senate Document 70 (73d Congress, 1st session, June 1933).

[2]Based on comments drafted for a forthcoming bulletin by Jimmye Hillman of Arizona State University and Lawrence Witt of Michigan State University.

[3]See U.S., Congress, Joint Economic Committee, Subsidy and Subsidy-like Programs of the U.S. Government (86th Congress, 2d session, 1960).

[4]U.S., Congress, House, Committee on Agriculture, Farm Programs of Foreign Governments (87th Congress, 2d session, February 15, 1962).

policy, some UN committees are charged with the formation of international agreements. Before mentioning specific agreements, it may be well to note that these international political actions are directed to reduce the income and welfare effects of uncertain and/or unforeseen changes in export prices. They do this by controlling marketing and production--without bringing all of the activity under the centralized control of a single management group, as is done in economic mergers and cartelization. The most successful international agreements have had but a few participant countries, and encompassed a dominant share of world production and exports. J. S. Davis believes that international commodity agreements may be most useful if reshaped as needed to avoid rigid ideas and practices that preclude economic adjustment.[1]

International commodity agreement had their beginning about 1900 with the Sugar Agreement. Later agreements involved rubber (Stevenson Plan and its successors), and tea, of which the latter maintained remarkably high prices in the world depression of the thirties. This success may be attributed to the production concentration in the Commonwealth countries of Ceylon and the Indian subcontinent, absence of surpluses, and the tacit agreement-approval and low price elasticity of tea in the United Kingdom. The International Wheat Agreement (IWA) following World War II involves both producer-exporter and importer countries, but the early withdrawal of the United Kingdom suggests that even producer-consumer agreements do not guarantee marketing harmony. Under the threat of surpluses exceeding those of interwar years, coffee-exporting countries began merging under the umbrella of another agreement in the late fifties.

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[1] J. S. Davis, International Commodity Agreements (New York, The Committee on International Economic Policy, 1947), pp. 18-22.

Four proposals have been advanced as means of reducing price-fall uncertainties, and they are alternatives to commodity agreements. These proposals are: (1) compensation for changes in foreign exchange earnings, (2) compensations for changes in terms of trade (for one or several commodities), (3) diversification of the export-dependent economy, and (4) international stockpiling. Each of these proposals has its advantages and disadvantages which are of no concern here.

CHAPTER III

FORCES INDUCING PRICE CHANGES IN WORLD MARKETS

Many forces act on international commodity transactions, sometimes in unison and at other times in opposition, but all with greater or lesser subtleness. The forces inducing price changes of agricultural commodities in world markets in the fifties appear to be: changes in quality, currency purchasing power, and shipping rates; lack of stock control; industrial activity variations; substitution effects; production-consumption divergences; and surplus disposal activities. These forces will be discussed in the order mentioned.

Commodity Quality Variations

Auction and other market prices often vary with the quality as well as the quantity of the commodity being sold. Usually prices of different qualities of a given commodity move together, although differing supply-demand conditions may cause contrary movements.

Currency Purchasing Power Variations

Devaluation of sterling and other non-dollar currencies in 1949 explains some of the dip in 1949 or 1950 prices for goods moving into or outside the dollar area. Balance of payment difficulties (dollar shortages) caused some countries to buy at apparently higher prices from non-dollar sources. For example, Europe was buying corn from Argentina in the early 1950's. Marked price rises occurred because of short Argentine supplies. However, U.S. corn supplies were twice the European annual trade level, and the prices were lower (comparison based on official currency exchange rates).[1]

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[1] FAO, S of F & A--1955, pp. 158-159.

Ocean Shipping Rate Variations

Post-war ocean shipping rates peaked in 1951 and again in 1956, contributing to import (c.i.f.) price rises of some goods. Rate slumps at other times in the decade dampened the effect of some export (f.o.b.) price rises. Following a 1950 slump, ocean freight rate indices reached a decade peak in 1951 because of the Korean War, and fell to a plateau (well above decade average rates) in 1952. Probably under the impetus of the 1955 economic recovery in industrial countries, rate indices rose above the 1953-54 lows and peaked again with the Suez Canal crisis in 1956.[1]

The 1956 shipping rate effect was relatively mild and limited to those tropical crops directly affected by the Canal's closing. It affected agricultural commodity prices more than non-agricultural commodity prices, for the Canal is a relatively more crucial route for rubber, jute, tea, wool and copra than for petroleum. Speculative buying on the 1950-51 scale, and government stockpiling did not add force to shipping-rate effects on commodity prices.[2] Nevertheless, rates for dry goods were near the 1951 rate in 1956.[3]

Lack of Stock Control

Until recently world commodity stocks and carryovers consisted of temperate zone goods and were located primarily in the United States: coffee and cocoa assumed the "surplus" role along with tobacco, dairy

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[1] UN, table of rate indices, International Financial Statistics, July 1960, XIII: 7: 33; and September 1961, XIV: 9: 35.

[2] FAO, "Quarterly Notes on Commodity Markets," MBAES, March 1957, VI: 3: 18.

[3] FAO, table of freight rates, MBAES, October 1960, IX: 10: 63-64.

products, cereals, cotton, linseed (and linseed oil), and sugar. Rising butter stocks in Europe and coffee stocks in producer countries have shifted the burden somewhat away from the North American continent, although the United States and Canada still hold about two-thirds of the world's agricultural surpluses in value terms.[1]

Whenever production and consumption are imbalanced, regardless of direction or reason, it is likely that monetary commodity prices will change. The price trends of temperate zone commodities, for which the United States is a major exporter, have been less erratic than price trends for tropical crops, judging by a comparison of cereal, tobacco, and cotton prices with coffee, cocoa, jute and rubber prices.[2]

Industrial Activity Variations

World manufacturing activity (centered primarily in Western Europe, North America and Japan) and export-import prices of agricultural commodities (particularly raw materials) are related somewhat in their cycles.

The raw material group experienced price cycles of greater amplitude than either the foods and feed or beverages and tobacco groups in the period 1913-1955 (omitting 1914-19 and 1939-46).[3] Among the raw materials is rubber, and its price peaks relate fairly well to booms in world manufacturing activity, particularly in the auto industry; peaks occurred in both in

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[1] FAO, S of F & A--1961, pp. 25-27.

[2] FAO, S of F & A--1960, p. 46; 1961 issue, p. 40. Price graphs.

[3] FAO, S of F & A--1955, p. 107.

1913, 1920, 1923, 1926, 1937, 1951, 1955 and 1960 (omitting the two World War periods).[1] Surely, other forces are instrumental in the upward and downward price movements, but the relationship between peaks and troughs of world manufacturing activity and rubber prices remains.

The effect of industrial activity on prices of cotton, wool, jute and other raw materials is less pronounced than for rubber. Textile industry activity affects wool prices more than cotton prices, but either effect is relatively mild. Shipping, farm, and other activities affect prices of jute and other long fibers used for sacking, rope, and twine.[2]

Substitution Effects

In international trade there are three principal aspects of substitution: (1) rising production of traded commodities in importing countries; (2) end-product changes (implying changing consumer acceptance); and (3) new production areas entering world trade (as exporters). Commodity price movements reflect as well as induce substitution effects.

1. Import substitution resulting from rising and encouraged domestic production:
    a. Apples and pears for oranges in Western Europe.
    b. Jute-like product substitution in the Sino-Soviet Block and Far Eastern countries for imported jute.
    c. Rice in Asian countries--importers becoming self-sufficient to some extent.

2. End-Product changes (implying consumer acceptance):
    a. Margarine for butter.
    b. Detergents for soap, meaning a substitution of petroleum oils and chemical building materials for animal and vegetable oils and fats, excepting in the Sino-Soviet Block which is achieving higher production through the use of traditional materials.
    c. More use of non-oil base paints, eliminating some need for drying and other technical oils of vegetable origin.
    d. Fresh fruits for dried fruits.

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[1] Comments for years up to 1955 refer to real purchasing power of rubber, see FAO, S of F & A--1956, pp. 62, 72, 77, 87. Comments for later years refer to export unit values; for 1947-60, see FAO, S of F & A--1960, p. 46, and the 1961 issue, pp. 40 and 173.

[2] FAO, S of F & A--1956, pp. 87 and 95.

e. Frozen citrus for fresh, especially in the North American (Canadian-U.S.) market, but to a lesser extent in Europe.
f. Man-made fibers (rayon and other synthetics) for wool, cotton and silk.
g. Synthetic for long-vegetable fibers in rope.
h. Paper for jute and cotton sacking.
i. Synthetic rubber for natural rubber.
j. Filter-tips in cigarettes and economies in tobacco use, meaning lower tobacco requirements per cigarette.

3. Changing centers of production:
a. Increased importance of Robusta coffees which are used in instant coffees and produced in Africa.
b. Post-war debut of the U.S. as an important oil and oilseed exporter by way of soybeans and cottonseed.
c. Decreased importance of the Far East as an exporter of oil and oilseeds.

Production-Consumption Divergences

Commodity prices generally reached post-war peaks in 1947 or 1948 when shortages were most acute. Similar price patterns occurred after both world wars as a prelude to general downtrends which assumed cataclysmic proportions in 1929-33, unlike those more gentle downtrends of the comparable period 1953-60. Although there was no Korean War counterpart in the 1920's, the two periods had comparable "M" (upside down letter W) price patterns for many commodities, implying a similar sort of production-consumption adjustment.[1] Each commodity group achieved a price peak in the fifties, and then production-consumption adjustments caused prices to decline. The chronological order of these downtrends is: raw materials; (2) dairy products and cereals; (3) beverages; (4) some fats and oils, and some fruits.

Surplus Disposal Activities

A major world-price influence from mid-decade onward has been the U.S. export disposal program. These aspects will be considered: surplus

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[1] FAO, S of F & A--1955, pp. 105-111.

growth, dominance of government assistance, nature and history of government assistance, commodities emphasized, and degree of subsidization.

Surplus Growth

Under its various price supporting activities, the CCC acquired stocks at a rapid rate during the fifties; export disposal programs helped to slow the growth of stocks. The total value of stocks doubled every two years between 1952 and 1956, and stabilized around eight billion dollars from 1956 to 1960.[1] Needless to say, this caused concern in many quarters and was part of the reason for the adoption of a more aggressive export program in the mid-fifties.

Commodity storage costs grew from a decade low (1951/52) of $73 million to a decade high (1959/60) of $522 million.[2]

Dominance of Government Assistance

The importance of government assistance in exporting U.S. agricultural commodities is suggested by the virtual stability of unassisted commercial exports in the period 1952/53-59/60. Apparently, assistance caused the growth in total exports. Furthermore, assisted exports grew from about one-third to nearly two-thirds of the total, approaching the high rate of assistance of the forties. Some reports stress the growth of dollar sales, but this growth has been based mainly on government assistance in the fifties. Table 1 shows the percentage of exports receiving government assistance for the period 1941/42-59/60. For the years 1952/53 onward, a breakdown is available between special-program and assisted-commercial exports. Often

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[1]U.S., Congress, House, Subcommittee on Department of Agriculture Appropriations, Hearings for the 1962 Appropriations (abbreviated as 1962 Hearings) (87th Congress, 1st Session, 1961), part 1, p. 205.

[2]U.S., Congress, House, Subcommittee on Department of Agriculture Appropriations, 1962 Hearings (87th Congress, 1st Session, 1961), part 1, p. 707.

Table 1.--Value of U.S. agricultural exports by category, concessional terms, assisted commercial, and unassisted commercial, 1941/42 to 1959/60.

Fiscal year	Value of U.S. Exports in Billions of Current Dollars					
	Special programs (e.g., PL 480, MSA)	Assisted commercial	Both kinds of assisted exports		Unassisted commercial	Total U.S. Agri. Exports
			Value	% of Total		
1941/42-44/45	...	...	.7-1.6	72-82	.3 - .6	1.0-2.3
1945/46-49/50	...	...	1.9-2.3	54-70	.9 -1.6	2.9-3.8
1950/51	...	...	1.2	36	2.2	3.4
1951/52	...	...	.9	22	3.2	4.1
1952/53	.4	.6	1.0	36	1.8	2.8
1953/54	.6	.3	.9	31	1.9	2.9
1954/55	.8	.4	1.2	39	1.9	3.1
1955/56	1.4	.5	1.8	53	1.6	3.5
1956/57	1.9	1.1	3.0	64	1.7	4.7
1957/58	1.2	1.2	2.4	60	1.6	4.0
1958/59	1.3	.8	2.1	57	1.6	3.7
1959/60	1.2	1.3	2.5	55	1.9	4.5

Sources: 1941/42 to 1951/52, see Lawrence Witt, Potentials of New Markets for Agricultural Products (Preliminary draft), (Michigan State University, October 15, 1960), p. 50. For 1952/53 to 1959/60, see 1962 Hearings, part 2, p. 29.

both assisted and unassisted commercial exports are lumped together, with or without a footnote explaining that exports outside of special programs (namely, PL 480, MSA, or Section 416) receive government assistance.

History of Government Assistance

Loans and Credit Sales: The United States government began disbursing public funds to help export agricultural commodities as early as 1935 when Export Import Bank loans were first authorized. CCC credit sales are similar to Export Import Bank loans and were first used in 1956. Neither is very important in terms of gross shipments relative to other forms of assisted shipments. Both are said to involve no "net cost" to the government. The recently authorized long term dollar sales (Title IV, PL 480, 1959) are similar, but are loans to the importing government, rather than to the exporting firm.[1]

Export Payments: Export payments or subsidies to bridge the gap between domestic and world prices were first authorized under Section 32 of the 1935 Agricultural Adjustment Act. Such payments totaled $311 million through 1960/61. They were used primarily for wheat and cotton through 1946/47. Rather substantial payments were made on a variety of goods in the late forties and early fifties, including eggs and poultry, tobacco, peanuts and products. Cotton and wheat received relatively small

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[1] U.S. Dept. of Agric., Foreign Agric. Service, U.S. Agricultural Exports Under Government Programs, Fiscal Years 1954/55 through 1958/59, FATP 16-60 (abbreviated as FATP 16-60), June 30, 1960.

amounts. Since the 1949 authorization of so-called "world price sales"[1] under Section 407 of the Agricultural Act, export payments under Section 32 have been confined mainly to fruits (about $50 million) and grains (about $30 million). Use of Section 32 funds for fruitsstopped after 1956/57; instead, fruits are exported under PL 480 and may be exported under Section 407.

The only use of Section 32 funds since 1956/57 has been for wheat in 1959/60; such uses are apparent each time the International Wheat Agreement was pending ratification (that is, about 1953, 1956 and 1959).

Assisted commercial exports, accounting for over one-fourth of the U.S. agricultural exports in recent years, have apparently been subsidized under Section 407. The Secretary of Agriculture was specifically directed to announce world price sales of cotton in 1956 legislation.[2]

Barter: Originally authorized in 1948, barter involves the eventual exchange of agricultural for "strategic" and other stockpile items. Prior to curtailment in 1957, commodities were released to exporters and provided an interest-free source of working capital until the stockpile goods were delivered at some future date. Rather small until inclusion in PL 480,

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[1] "World price sales" refer generally to agricultural exports subsidized under Section 407, beginning about 1952/53 (see Appendix A). CCC stocks may be released for export at "world prices," that is, negotiated or other prices for which a certain amount of commodity can be moved. Also, exporters may receive payments in cash or payments in kind (PIC or PIK) for acquiring the commodity from commercial channels, rather than from CCC stores. The difference between Section 407 and Section 32 exports is not entirely clear in operational terms, except that the latter may be based on "Section 32 funds" which amount to 30 percent of customs receipts. Both may be based on direct appropriations.

[2] Benedict and Bauer, op. cit., pp. 53-54.

barter was strongly opposed by competing exporters in world markets as transactions multiplied in 1954-57. Nevertheless, it was favored by Western-mining state legislators and certain members of the House Agricultural Committee (notably Chairman Cooley).

IWA: The International Wheat Agreement provides for the exchange of wheat between exporting and importing countries within agreed-upon price ranges. The United States subsidized about one-half of its 1949/50-55/56 wheat exports under the auspices of the agreement;[2] most of the rest of U.S. wheat exports received other forms of export assistance.[3]

Donations and Grants: Economic and civilian supply grants were the basis of large portions of U.S. agricultural exports during the forties. Donations proper under PL 480 are of the government-to-government variety under Title II and are arranged through voluntary relief agencies under Title III. Title III contains a section that is essentially an extension of the earlier Section 416.

Foreign Currency Sales: One of the latest government export programs, foreign currency sales, was authorized in 1953 under MSA Section 550 which became Section 402 with the 1954 revision. A second authorization, Title I

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[1]Sources: The New York Times: May 10, 1957, 37:4. May 11, 1957, 31: 2. May 6, 1958, 11:1 and 20:2. December 25, 1957, 42:7. July 22, 1958, 19:1. November 14, 1958, 1:3 and 5:5. November 15, 1958, 12:1. August 20, 1959, 12:4. August 21, 1959, 1:3 and 9:6.

The Economist. (London, weekly): May 25, 1957, 183: 698. November 29, 1958, 187: 797. June 13, 1959, 191: 1035-7.

[2]U.S., Congress, Senate, Committee on Foreign Relations, Hearings on the International Wheat Agreement of 1956 (84th Congress, 2d Session, 1956), p. 12.

[3]Farnsworth, loc. cit.

of PL 480, overshadowed MSA shipments in value by 1956. Congress has outlined rules governing the expenditure of the foreign currency receipts; they have been spent for U.S. and foreign uses. Some 21 percent of the 1954/55-61/62 PL 480 foreign currency shipments were essentially grants, inasmuch as foreign currency receipts were granted to the commodity-recipient government to this extent.[1] Although commodity shipments under MSA Section 402 are usually thought of as foreign currency sales, portions are actually direct grants.[2] Foreign currency transactions are negotiated within the range of world prices for the commodity, and this becomes the reported value.[3] For various reasons, T. W. Schultz has advanced that this "reported value" (or the even higher CCC cost) overstates the

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[1] U.S., Congress, House, Fifteenth Semiannual Report on Activities Carried on Under Public Law 480, House Document 385 (a Presidential Message)(87th Congress, 2d session, 1962, p. 72. Market value of the agreements including ocean transportation amounted to $7.6 billion for the period July 1, 1954 to December 31, 1961. Currency usage is as follows: common defense, 5.8 percent; grants for economic development, 21.0 percent; loans to private enterprise, 6.0 percent; loans to foreign governments, 42.6 percent; U.S. uses, 24.6 percent; total, 100.0 percent.

[2] See FATP 16-60, p. 6.

[3] Foreign currency sales are negotiated at approximate world price ranges. Dollar appropriations cover this value of the goods shipped plus certain amounts of shipping charges, and various handling costs encountered by CCC. The commodity-recipient country deposits an amount of its currency in an account held by the U.S. government; this amount of foreign currency covers the world price of the goods plus certain shipping costs. The expenditure decisions for this account are decided at the time of the original negotiation in rough terms. To give an over-all picture of the extent of these accounts, their value is reported in dollars at official exchange ratios. However, such foreign currency accounts may not be so readily converted to dollars. For one thing, the countries that qualify for foreign currency sales must have limited amounts of dollar reserves to qualify for such shipments. It is quite possible that the country might prefer to use its limited amounts of dollars for goods other than food. On the other hand, the United States is not free to spend these foreign currencies for its own use entirely; about 60 percent of such currencies are loaned or granted to the commodity-recipient government. Considerable discussion has arisen in the profession and elsewhere regarding the spending and U.S. responsibility associated with these currency accounts.

the United States contribution to economic development of the commodity-recipient countries. One reason is that the world price range might be much lower for some commodities, if all United States stocks were released for sale. Another is that dollar prices of sales to less developed countries would have to be far below world price ranges to achieve present sales volume.[1]

Commodities Emphasized

Cereals, cotton, oils, fats, oilseeds, and dairy products have constituted the bulk of the MSA-PL 480 shipments (for the years 1954/55-58/59), listed in order of decreasing importance. These commodities constitute 90 percent of the PL 480-MSA program. The lion's share has gone to cereals (especially wheat) and secondly to cotton in the foreign currency and barter aspects. The government-to-government donations (Title II, famine and emergency relief) emphasized cereals and dairy products. The donations program (Section 416, via private relief agencies) emphasized dairy goods and secondly cereals.[2]

Even before the inauguration of PL 480, donations were an important means of exporting U.S. dairy products, beginning in about 1950.[3]

In fiscal 1953/54, the year in which MSA foreign currency sales began, CCC inventories of certain cereals and linseed and oil were offered for export at "world prices." The program was extended to the major cereals, wheat, maize and rice in 1954/55, the first year of PL 480 operations.

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[1]See FATP 16-60, p. 6.

[2]FATP 16-60.

[3]Murry R. Benedict and Elizabeth K. Bauer, Farm Surpluses: U.S. Burden or World Asset? (University of California, Berkeley, 1960), p. 57.

Cotton was not offered until 1955/6;[1] in the latter half of the year, such sales became mandatory for cotton by Congressional directive.

Degree of Subsidization

The degree of subsidization is used in Chapter V to classify U.S. agricultural exports. Several indications on the degree of subsidization are available. One criteria is the number of years in the fifties during which CCC stocks were offered for export. As previously mentioned, these sales began generally in 1953/54 (although some sales occurred earlier) and have continued. A second criteria of the degree of subsidization is the level of export payments as a percentage of the export price. These percentages are shown for a few goods in Appendix A; for dairy goods they are quite high (40-70 percent), somewhat less for cotton (20-30 percent) cereals and other goods (9-53 percent), with the record level going to tung oil (75 percent). A third and very useful criteria of the degree of subsidization is the percentage of the commodity moving as PL 480-MSA exports; note that this percentage is often over 50 percent for grains and dairy products.

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[1] 1962 Hearings, part 1, p. 22.

As already mentioned, large portions of the U.S. wheat exports have moved under the jurisdiction of the International Wheat Agreement. Export payments on these exports, computed as a percentage of the export price, tend to increase as the price of wheat goes down.[1]

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[1]Sources gave export payments in cents per bushel. These were converted to dollars per metric ton and compared to approximate FAO export unit values for marketing years 1949/50-59/60.

FAO export unit values, see graph, S of F & A--1960, p. 46; table, S of F & A--1961, p. 172.

Export payments (in chronological order) for years 1949/50 through 1959/60 were (in cents per bushel, where 36.744 bushels equals one metric ton): 55¢, 67¢, 65.5¢, 56.3¢, 44.0¢, 74.9¢, 69.7¢, (1957/58 not available), 55 to 60¢, and 59.1¢.

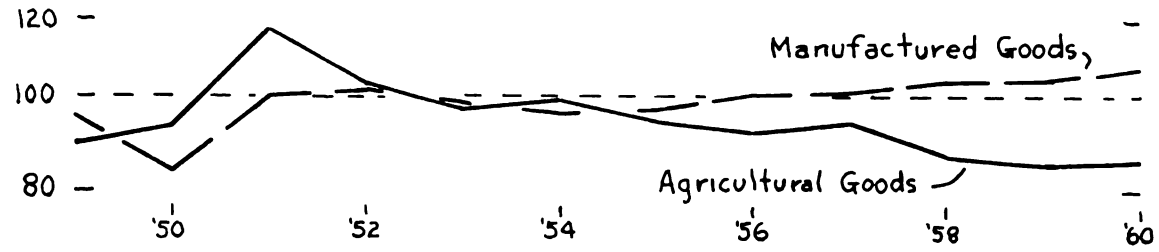
Sources of export payments: 1949/50-55/56, U.S., Congress, Senate, Foreign Relations Committee, Hearings on the International Wheat Agreement of 1956 (84th Congress, 2d Session), p. 12. For 1956/57 and 1958/59, see U.S., Congress, Senate, Senate Document 704 (86th Congress, 1st Session, 1959). For 1959/60, Section 32 export payments pending IWA ratification, see 1962 Hearings, part 2, p. 29.

CHAPTER IV

DECADE-LONG PRICE MOVEMENTS

World agricultural price movements (as measured by export unit values) declined during the fifties, contrasting with the modest rise for manufactured goods. This is shown on the accompanying graph.

Figure 1.--Movement of FAO unit values, all non-forest agricultural products and manufactured goods, indices 1952-53 average = 100, semi-logarithmic scale, 1949 to 1960



Source of data: S of F & A--1961, p. 174.

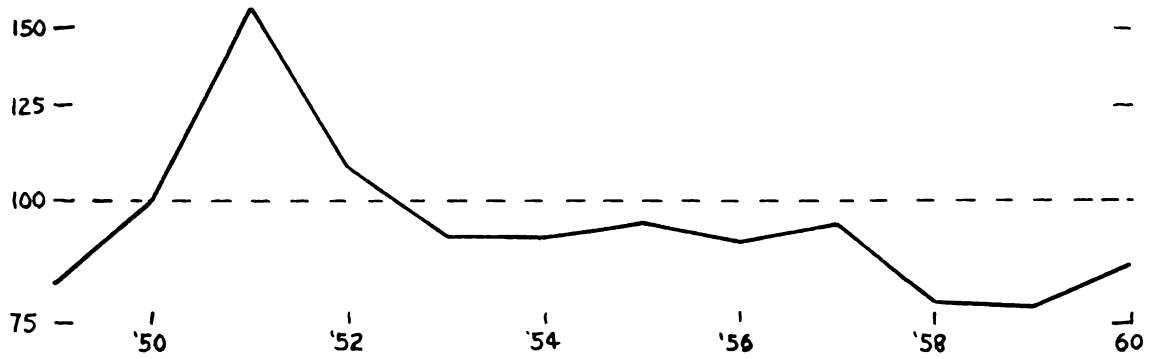
In terms of single commodities and commodity groups, agricultural prices are more complex, of course; these movements will be discussed in this chapter.

Raw Materials

The major internationally traded agricultural raw materials include cotton, natural rubber, wool, jute, and sisal, listed in order of declining value of world trade (see Appendix C). As mentioned earlier, prices of these commodities are quite variable, especially in times of war, and business-cycle movements. This is demonstrated by the price rise of 1951 when market effects of the Korean Conflict were paramount. Figure 2 shows the movement of FAO export unit values from 1949 to 1960. The curve could

reasonably represent wool or cotton price movements. However, natural rubber, sisal and jute prices have risen since about mid-decade.

Figure 2.--Agricultural raw materials, movement of FAO unit value index (1952-53 = 100), semi-logarithmic scale, 1949-60.



Source of original data: S of F & A--1961, p. 174.

Cotton

Since the 1954 textile industry boom, world cotton prices trended downward almost without interruption until 1960. The closing of the Suez Canal may have caused the brief 1957 upturn. The marketing year 1959/60 was the fourth consecutive year of world stock reduction, which along with the reduction of the U.S. export subsidy from 8¢ to 6¢ per pound may account for the rise in FAO export unit values in 1960.[1]

The initial effects of the U.S. export subsidies are noticeable in monthly price data of early 1956. Even Egyptian Karnak[2] prices fell briefly

[1] FAO Commodity Review--1961, pp. 76-79. Subsidies have been increased recently.

[2] Egyptian Karnak is the foremost long-staple cotton in world trade and is not necessarily in direct competition with the shorter staple cottons such as those which compose the bulk of U.S. exports.

in early 1956 before the closing of the Suez.[1] These subsidies effectively increased U.S. proportions of world cotton trade. Mandatory export subsidies were legislated in 1956,[2] and the very high U.S. exports of 1957 were exceeded only by those of 1960. In 1960 the U.S. exported 60.2 percent of the world's cotton trade, the actual quantity being three times the decade-low quantity of 1955.[3]

Wool

Wool prices trended cylically downward in the fifties. Better husbandry practices caused a relative increase in the production of finer and higher grade wools. At the same time coarser and lower grade wools enjoyed more favorable consumption patterns. Hence, the price decline over the decade was more pronounced for the finer grade wools.[4]

Among the major wool-using nations, only the U.S. and the U.K. decreased mill intake between 1949-50 and 1957-58, but the rate of increase for all users was lower for wool than for other fibers. At the same time synthetic fiber usage has increased substantially in all countries. Rayon experienced the largest mill-output increase, but this is due to activity in Europe and Japan since the U.S. decreased rayon mill output. However, rayon is probably more in competition with cotton, while synthetic fibers compete with wool.[5] Mill consumption information is shown in Table 2.

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[1]See table of prices, 1950-60 in MBAES, October 1960, IX: 10: 21-22.

[2]Benedict and Bauer, op. cit., pp. 53-54.

[3]See Appendix D.

[4]See FAO, "Wool Prices in the Fifties, MBAES, April 1960, IX: 4: 14-16.

[5]Rayon is a synthetic or man-made fiber but is considered separately from other such fibers in most discussions.

Table 2.--Fiber mill consumption in major wool-using nations, changes as percentages and quantities (metric kilotons), 1949-50 to 1957-58

Country	Wool	Synthetics	Rayon	Cotton	Four Fibers
U.S.	-88 -37%	+181 +379%	-23 - 4%	-125 - 6%	-56 - 2%
U.K.	-19 - 8%	+ 28 +862%	+30 +21%	-139 - 31%	-100 - 12%
Japan	+67 +534%	+ 42 +2,260%	+296 +344%	+337 +154%	+742 +233%
All Major Users*	+8	+317	+504	+237	+1,067

Source of original data: UN, FAO, Economics Division, Per Caput Fiber Consumption Levels--1948-58, Commodity Bulletin Series Number 31 (Rome, 1960).

*All major using countries include Japan, the United Kingdom, the United States, and the European Economic Community (France, Western Germany, Italy, Belgium, Netherlands, and Luxembourg).

Substitution of man-made fibers for wool in the United States is probably encouraged by wool prices which may be kept within the synthetic fiber price range by the wool tariff. On the other hand, wool prices in the United Kingdom (and probably in other wool-using nations) are below the synthetic fiber price range. Significantly, wool experienced constant fiber-use proportions, and wool textile output increased in wool-using countries other than the United States. Wool textile output decreased in the U.S., and the proportion of wool in textiles decreased.[1]

[1] Ibid.

Raw Jute

Jute is included as an example of the long-vegetable fibers. Among the long-vegetable fibers are flax and hemp which are used mainly in household goods. Jute, sisal and henequin are used for bagging and twine. Abaca and sisal are rope fibers.[1]

The price decline of 1951-53 for jute may be explained by: (1) the displacement of jute by paper in bagging end-uses, especially in the U.S.; (2) development of inland and port bulk-handling facilities for many commodities; (3) relatively slow over-all trade expansion for goods still employing jute sacking; (4) modest growth of floor-covering end-uses. Rising consumption in the less developed countries helped stabilize prices after 1953. Consumption expansions from 1948-50 to 1957-58 were almost equally apportioned among three country groups: Far Eastern, Centrally-planned (Russia, Mainland China, and Eastern European countries), and all other countries.[2]

Natural Rubber

As mentioned in Chapter III, industrial activity appears to be a significant force in the determination of natural rubber prices. Apart from industrial activity, production deficits and substantial Sino-Soviet purchases contributed to the price rises of the late fifties. At the same time, releases from U.S. and U.K. government stockpiles helped offset further price rises. On the other hand, U.S. and other government stockpiling

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[1] FAO, "Long Vegetable Fibers--Production and Price Situation," MBAES, January 1957, VI: 1: 11-13.

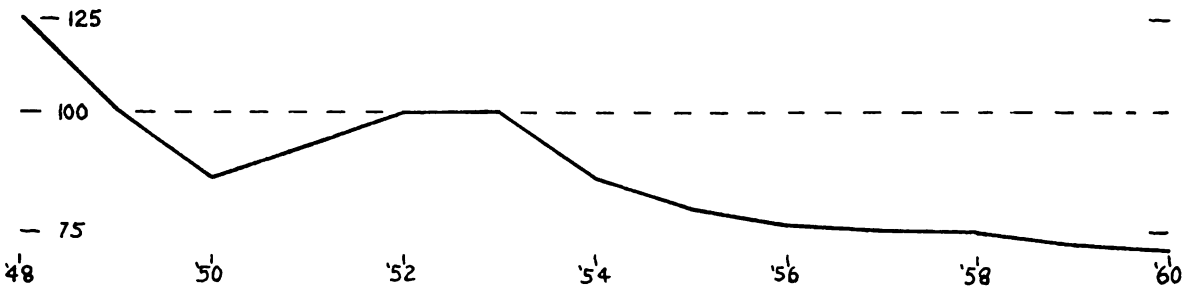
[2] FAO, "Trends in World Demand for Jute Manufactures," MBAES, December 1960 and January 1961, IX: 12:1-11 and X: 1: 1-10. Also, FAO, Jute--A Survey of Markets, Manufacturing and Production, FAO Commodity Bulletin Series number 28 (Rome, 1957), pp. 2-3.

contributed to the price rises in the Korean conflict era. Low mid-decade prices may be associated with lack of government purchases, slumps in industrial activity, and competition from synthetic rubber.[1]

Cereals

Post-war cereal prices are quite similar in their movements and may be characterized by the FAO cereals index, as shown in Figure 3.

Figure 3.--FAO export unit value index for cereals (1952-53 equals 100), semi-logarithmic scale, 1948 to 1960.



Sources of original data: 1947 to 1957, S of F & A--1959, p. 35; 1958 to 1960, S of F & A--1961, p. 172.

Several factors appear to be relevant in the post-war movement of grain prices: shortages and European non-dollar-area source preferences in early years; temporary production recovery in 1949 and 1950, as opposed to more permanent recovery after 1954; and last, but by no means least, subsidized United States cereal exports beginning in the 1948/49 marketing year, and becoming more extensive in the mid-fifties, as CCC inventory sales and concessional-terms shipments entered world markets. Let us discuss these market features in more detail.

[1] S of F & A--1956, pp. 39-40. S of F & A--1959, p. 89. FAO Commodity Review--1961, p. 93.

The cereal price index achieved a post-war peak in 1948 when shortages were most acute. U.S. export payments were given on cereals in all post-war years except 1946/47 and 1947/48. Dollar-saving motives on the part of European importers caused some non-dollar area source preferences; consequently, non-dollar area grain prices rose above dollar area grain prices until about 1953.

The lower cereal prices of 1949-51 may be associated with temporary world production recovery, non-dollar currency devaluations, and the reintroduction of U.S. export subsidies.

The cereal price rises of 1952-53 may be a delayed reaction to the Korean conflict, if the 1950-51 raw materials price peak is an indication of when the Korean conflict had its maximum effect. Unlike wheat prices, rice prices achieved a post-war peak in 1952-53, spurring production and self-sufficiency efforts on the part of Asian importing nations. Corn prices rose to 1947-49 levels. Relatively lower barley prices may help explain why barley trade exceeded corn trade up to about 1956-57; corn achieved its prewar world trade level only by 1960, as prices fell relative to barley.

The rice story is more complex than that of corn, although relatively high purchasing power affords an explanation of low trade for both grains. While maize purchasing power has fallen to levels of other grains, rice purchasing power is still relatively high with respect to levels for other grains and with respect to its own prewar levels. This may be one reason why maize trade recovered prewar levels, while rice trade is still below prewar levels. Asian grain imports consisted entirely of rice in prewar

years, but imports are now about 25 percent rice. Greater dependence on domestic rather than imported rice supplies may be one reason for this, and U.S. concessional-terms shipments (largely of non-rice grains) are another. In the late fifties, Asia displaced Europe as the chief recipient of PL 480-MSA shipments.

Except for rice, the United States is a leading exporter of cereals. This dominance plus the tendency for surpluses to develop, and the use of export subsidies (as a means of surplus disposal) help explain the decline of grain, except rice, purchasing power to 1920-38 or lower levels by the late fifties.[1]

Beverages and Tobacco

Beverages and tobacco, agricultural raw materials, and cereals are the largest agricultural commodity groups in terms of world trade value. Coffee trade, even at low 1959 international prices, is larger than that for any other agricultural commodity, although wheat, rubber, cotton and wool trade are also in the near-two-billion-dollar league.[2] The index

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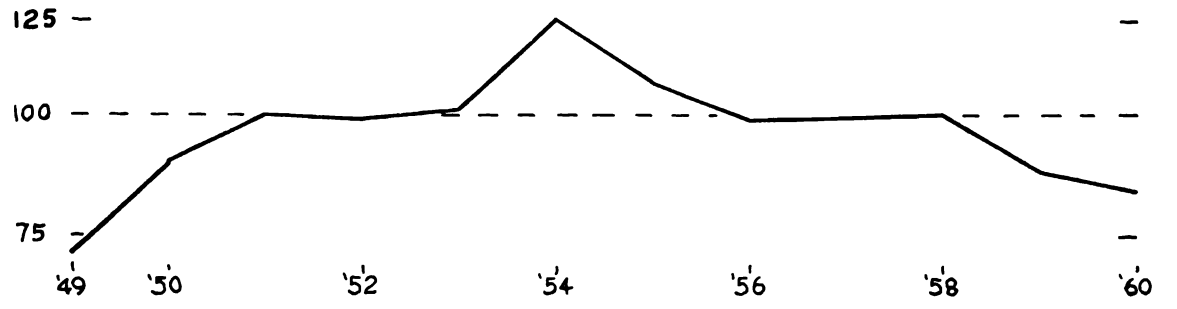
[1] Comments on purchasing power apply to wheat, corn, rice and barley. Other comments include sorghums, oats, and rye.

See Appendix D for U.S. proportions of world trade. Appendix E shows recent purchasing power levels and the source of prewar import unit values. For 1947-61 FAO export unit values, see S of F & A--1961, p. 172. For a comment on commodity markets, see FAO, "A Ten Year Review and Short-term Outlook by Commodities," S of F & A--1955, pp. 149-63 (section on cereals). Also, see comments in more recent issues of the S of F & A, as well as in the FAO Commodity Review--1961.

[2] See 1958 and 1959 FAO-computed values of world trade, FAO Trade Yearbook--1960 (Rome, 1961), vol. XIV, pp. 3-4.

of beverages and tobacco export unit values (see Figure 4) peaked in 1954 as coffee, cocoa and tea achieved record level purchasing power.[1] Later erosion of coffee prices outweighed the general strength of tobacco and tea prices, and the recovery of cocoa and wine prices.[2]

Figure 4.--FAO Export unit value index for beverages and tobacco (1952-53 average = 100), semi-logarithmic scale, 1949 to 1960.



Source of original data: 1949 to 1957 values, see S of F & A--1959, p. 35; 1958 to 1960 values, see S of F & A--1961, p. 172.

The outstanding feature of the late decade beverage-tobacco situation is the abundance of coffee supplies which rival or surpass those of the thirties. Stocks equaled world trade at the close of the decade, as they had in 1934-38 (comparison of five year average trade and stocks), meaning total supplies twice the world trade level.[3] This growth began about mid-decade, and some producer countries organized an International Coffee

[1] See table of purchasing power values, S of F & A--1956, p. 72.

[2] See table of FAO unit values, S of F & A--1961, p. 173.

[3] Statistical tables of production, stocks and trade; marketing or calendar years, 1934-38 through 1960/61 or 1960. See S of F & A--1955, p. 188. S of F & A--1958, pp. 199-200. S of F & A--1961, p. 25. MBAES, June 1961 and November 1961, X: 6: 32 and X: 11: 25.

Agreement as early as 1957. Other Latin producers joined, and lastly the African producers in 1960.[1]

There are three types and prices of coffee in international markets. The mild or high-grown coffees are grown in mountainous areas of Africa and Latin America; these Arabica coffees are exemplified by Colombian Manizales. Tree-ripened Arabica is grown primarily in Brazil; it is exemplified by the dominant Brazilian Santos. Thirdly, there are the Robusta coffees which are lowest in price and come mainly from Africa. Geographically, the African crop experienced proportionately larger growth, but the Latin American crop retains the largest share of world production by far.[2]

December 1958 saw the equality of Robusta and Brazilian coffee prices. Subsequent falls restored the 1954-57 price differentials; Arabicas remained virtually stable in 1959 and 1960.[3]

Coffee, tobacco and cocoa are facing technological innovations that reduce the farm weight of product going to commodity unit consumed. Between 1949 and 1960 the amount of farm-weight coffee going into the soluble (or instant) form increased from 2 percent to 19 percent of the annual crop. Soluble coffees afford a greater number of cups of beverage per pound of

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[1]Agreements: Mexican Agreement, 1957, 7 countries; Latin American Agreement, 1958, 15 countries; International Coffee Agreement, 1959, 17 countries; 1960, more countries signed ICA; African agreement, 1960. See FAO, "Coffee: Recent Developments," MBAES, November 1959, VIII: 11: 14-16.

[2]See FAO, "Coffee: Recent Developments," MBAES, March 1961, X: 3: 14-17.

[3]Table of 1950-60 annual average prices, MBAES, June 1961, X: 6: 51. Graph of late-decade monthly prices, MBAES, October 1961, X: 10: 41.

farm-weight coffee, helping to explain the decline in United States per capita consumption.[1] Cocoa price peaks have induced research, input substitution for chocolate in confections, and retail package-size reduction.[2] Besides production overexpansion and the entrance of new exporting areas into world markets, tobacco price weakness since mid-decade (prices did not actually fall until 1959) may be attributed to the declining farm-weight of tobacco going to each cigarette. New blending and flavoring processes; reduced wastage through powdering, rolling and shredding of formerly discarded stem material; and the use of filter tips are innovations that reduce the farm weight of tobacco going to each cigarette.[3]

Tea, the traditional British drink, is being consumed to a greater extent in exporting and other low-income countries; hence, the vexing increase of tea supplies has not yet caused tea price falls. The increased tea popularity in low income countries (of Asia and Africa mainly) may be explained by tea's low purchasing power.[4] Ironically, tea price rises of the decade left tea with an international purchasing power about equal

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[1] FAO, "Coffee: Recent Developments," MBAES, March 1961, X:3:14-17.

[2] FAO, S of F & A--1957, pp. 62-63.

[3] FAO, S of F & A--1955, pp. 195-197.

[4] Tea retentions (production minus trade) as a percentage of world tea production grew from 15 percent in 1934-38 to 26 percent in 1948-52, and to 42 percent in 1960. This is a three-fold increase from 1934-38 to 1960, percentage-wise. Actual retentions in quantity terms grew from 0.07 metric kilotons in 1934-38 to 0.15 in 1948-52, and to 0.41 in 1960, a six-fold increase.

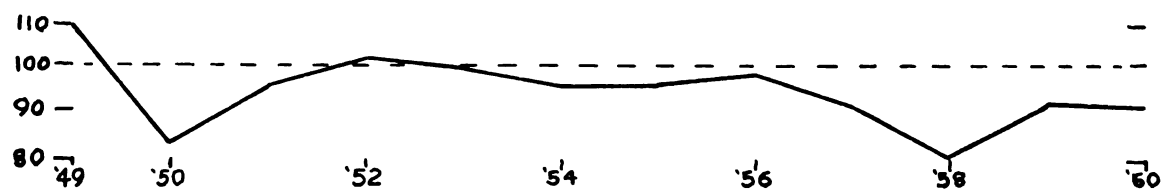
Sources of original data: world trade and production, 1934-38 and 1948-52, S of F & A--1958, pp. 199-201. World production for 1960, MBAES, November 1961, X: 1: 24. World exports for 1960, MBAES, June 1961, X: 6: 33.

to the interwar average (1920-38), while cocoa and coffee now command much higher purchasing power, despite price falls during the decade.[1]

Dairy Products

The general shape of the FAO index of dairy product export unit values in the fifties, as shown in Figure 5, reflects the general nature of commodity price movements. However, the uptrend of cheese prices since 1954 masks the relative weakness of butter and (in shell) egg prices. Also, the marked stability of powdered milk prices since the peak of 1952-53 is not evident.

Figure 5.--FAO export unit value index for dairy products (including in-shell eggs), 1952-53 average = 100, semi-logarithmic scale, 1949 to 1960.



Source of original data: 1949 to 1957, see S of F & A--1959, p. 35, 1958 to 1960, see S of F & A--1961, p. 172.

The dairy index dip of 1958, primarily indicative of a fall in butter prices, reflects an international "dairy crisis" among developed countries. New Zealand's butter prices in the United Kingdom fell to two-thirds the 1957 level, and she requested that sales from unestablished sellers be restricted. Restriction does not seem to have occurred,

[1] See Table 4, and Appendix E.

perhaps because of the drought-caused fall in European dairy production in 1959.[1]

Both exporting and importing countries maintain chronically oversized dairy industries admist dwindling markets for butter. Butter consumption has been 40-50 percent of prewar levels in some developed countries.[2] One factor appears to be the substitution of margarine for butter. That is, world margarine production has doubled during the decade, each year's output surpassing that of the previous year, except in 1958 when butter prices were low, while butter production has been fairly stable.[3] Another factor is the use of vegetable oils in place of butter fat to form a reconstituted milk.[4]

An interesting sidelight in the milk-product complex is the support of skim milk prices in the United States, apparently to the point of surplus accumulation and shipment to low-income countries. Yet, the U.S. imports casein which is an alternative outlet for milk solids when casein-skim milk prices so dictate in other developed countries.[5]

Unlike cereal and some other stocks, CCC dairy inventories were sufficiently small to be reduced with the help of export subsidization by mid-decade. Since the 1949 inception of Section 416, donations have

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[1]FAO, S of F & A--1959, pp. 76-77; S of F & A--1960, pp. 80-81; FAO Commodity Review--1961, pp. 38-44.

[2]FAO, S of F & A--1955, pp. 171-174.

[3]Table of butter and margarine production, see FAO Commodity Review--1961, p. 133.

[4]FAO, S of F & A--1959, p. 76.

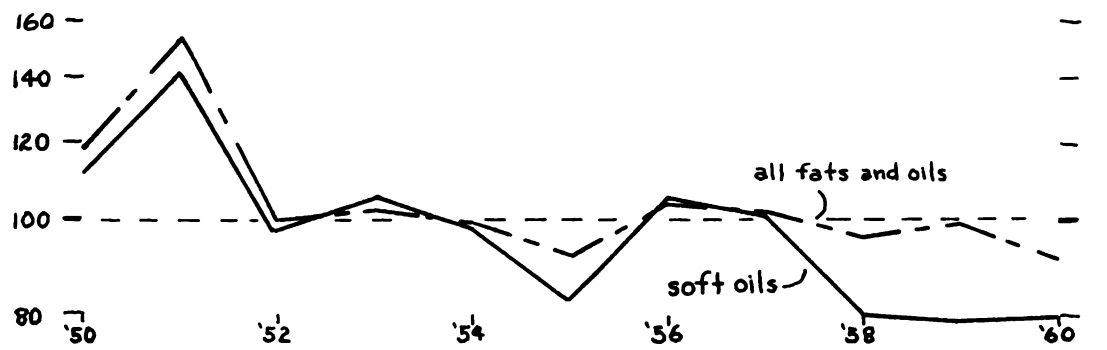
[5]FAO, "Skim Milk Powder and Casein: Some Characteristics and Trends," MBAES, June 1961, X: 6: 16-20.

constituted large portions of U.S. dairy exports.[1] Nevertheless, growth in the country's proportion of world trade at mid-decade apparently required the added impetus of "world price sales" of CCC inventories.[2]

Fats, Oils and Oilseeds

Postwar price trends for fats, oils and oilseeds indicate less price weakness in recent years than for previously discussed commodities. However, high late-decade prices for lauric acid oils and their importance in world trade hide the decline of soft-oil, soft-oilseed and lard prices. These declines are indicated roughly by the soft oil index, although it does not include lard or soft oilseeds. Figure 6 shows the indices of fat and oil and soft oil prices in international markets; note the greater decline of the soft index since 1957.

Figure 6.--FAO indices of international market prices of all fats and oils and soft oils (groundnut, cottonseed and soybean oils), 1952-54 = 100, data for 1950 to 1960.



Source of original data: MBAES, February 1961, X: 2: 8.

[1]For 1950-56 percentages, see Benedict and Bauer, op. cit., p. 57; 1954/55-58/59 percentages may be computed from data in FATP 16-60.

[2]See comment on butter sales, FAO, S of F & A--1956, pp. 30-31. Also, see Appendix A.

Nature and Use

Price movements of various oils are not isolated completely, because similar chemical and physical properties and technical processes (for example, refining and hydrogenation) place fats and oils from tree crops, annual seed crops, and land and sea animals into close competition. (Butter is usually considered as a dairy product rather than a fat.) Despite this competition, short term price movements of fats and oils may conflict, because of manufacturers' slowness in shifting from one to another and because of independent uses for some oils and fats.

An outline of oil groups and uses may be of assistance at this point.

1. Edible-soap oils and fats.

a. Soft oils (that is, they are liquid at room temperature).

(1) Olive oil, separate market because of price.

(2) Other oils which are liquid at room temperature include soybean, cottonseed and peanut oils; internationally less important ones include corn, rapeseed, sesame and sunflower oils. Hydrogenation solidifies them.

b. Lauric acid or "hard" oils (that is, these oils are solid at room temperatures) include coconut and palm kernel oils (but not palm oil),[1] and impart lathering properties to soaps. They are also used in margarine and for cooking fat or oil.

c. Lard and other edible pig fats are used mainly as food.

d. Whale and palm oils, and tallow are used mainly in soaps, although higher grades of whale and palm oils may be hydrogenated and used in margarine. Inedible (soap use) tallow forms the bulk of world trade in tallow.

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[1]Both palm and palm-kernel oils originate from the oil palm which is related to the coconut palm. Palm kernel oil comes from the seed of the oil palm and is a lauric acid oil. Palm oil comes from the pericarp of the oil palm fruit, that is from the fibrous tissue surrounding the seed and is not a lauric acid oil, even though it is used in soaps. Lauric acid oils impart a high degree of lathering property to soap. See Encylopedia Britannica(Chicago, 1957), vol. 16, p. 744; vol. 17, pp. 160-61.

2. Drying and technical oils include linseed, castor and tung oils; end-uses include paints, varnishes, linoleum, inks, some soft soaps. Soybean oil is used in drying oil end-uses in the United States, while linseed oil serves as food in India; tung oil is inedible.

3. Fish oils have special drying end-uses and find use in soaps and as food in some countries.[1]

Trade, Prices, and U.S. Importance

The United States is a relatively unimportant exporter in the soap oil market, exporting tallow only. On the other hand, it is quite important in the edible oil-fat market, exporting large portions of the world trade in soybean and cottonseed oils, soybeans, and (the soft-oil competitor) lard. Peanut (seed and oil) production and trade are almost as important as that for soybeans and oil, but less of the harvest enters world trade--U.S. exports are virtually zero.[2]

World demand for soap oils grew less rapidly than edible oils demand, for soap output grew only slightly during the fifties, increases in Russia offsetting declines in the rest of the world. Just as detergents replaced soaps, non-agricultural have replaced agricultural drying oils. On the other hand, the doubling of world margarine production has been an important factor in the demand growth that supported quadrupling of

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[1]The reference for the discussion on fat and oil usage is based on part of FAO's excellent article, "Indices of International Market Prices of Fats, Oils, and Oilseeds," MBAES, October 1955, IV: 10: 12-24.

[2]Although 1954/55-58/59 shipments of peanuts and products under the auspices of PL 480-MSA have been quite small, Section 32 payments in 1948/49-50/51 amounted to $15.6 million, or about one-fifth of such payments for the three years. Use in other years is not apparent. See Hillman and Witt, op. cit. (draft of a forthcoming bulletin containing table on Section 32 export payments).

soybean (beans and oil in terms of oil) trade.[1] To be sure, soft oils, lauric acid oils, and other oils may be used in margarine. However, European prices of U.S. soybean oil are lower than prices of peanut oil, and they have declined somewhat more during the decade. Since the U.S. exports roughly 75 percent or more of the world trade in cottonseed oil and soybean oil, it is quite possible that this country has exercised "price leadership."

Fruits and Meats

FAO unit value indices for groups of commodities indicate that fruit and meat prices as a group increased substantially during the fifties. In fact, the rise between 1952-53 and 1959-60 exceeds that for manufactured goods. However, late-decade FAO unit value declines occurred for bananas, oranges and tangerines, mutton and lamb, and to a lesser extent for apples and bacon. For these commodities it may be that production is satisfying demand. On the other hand, beef and veal, and cattle unit values resumed their upward trend after a 1956-57 setback. Raisins are the only fruit not showing a late-decade price fall.[2]

Beef and veal are the only agricultural commodities whose price increases since 1952-53 have raised their international purchasing power markedly above 1920-38 levels. Bananas were nearly as well off (relative to 1920-38), but prices have fallen since 1952-53. Most commodities in the

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[1] Comments based on production and trade statistics, some of which required conversion of seed units to oil units. See FAO Commodity Review--1961, pp. 53, 132 and 133. FAO Trade Yearbook--1960, p. 214. Also, MBAES, October 1961, X: 10: 22-25.

[2] Based on graph on FAO unit values, 1947-60; for table of original data, see S of F & A--1961, p. 172.

fruits and meats groups were higher in price in 1959-60 than in 1952-53, but their purchasing power was generally below 1920-38 levels (beef and veal, and bananas, excepted).[1]

The United States is considerably less important as a fruit and meat exporter than as a cereal, cotton, or oil-fat-oilseed exporter. However, PL 480-MSA subsidies may be associated with 1956-57 increases in the U.S. portion of world beef and veal exports.[2] Also, the use of Section 32 export payments on fruits totaling over $80 million for 1947/48-56/57 should be mentioned.[3]

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[1] See Table 4 and Appendix E.

[2] See Appendix D.

[3] Hillman and Witt, op. cit. (draft of forthcoming bulletin containing table of Section 32 export payments).

CHAPTER V

WORLD AGRICULTURAL PRICE DEPRESSIONS AND SUBSIDIZED UNITED STATES EXPORT IMPORTANCE

The hypothesis of this chapter is: if United States exports of an agricultural commodity represented 25 percent or more of 1955-59 world trade and were highly subsidized, and if the United States proportion of world trade increased more than 8 percent after subsidization, the commodity experienced considerable price falls since 1952-53. To test this hypothesis we shall consider criteria for categorizing commodities, then the categories, and finally the reasons that seem to be associated with commodity price movements. The discussion will emphasize United States export commodities.

Criteria

Four criteria have been used to categorize United States agricultural exports during the fifties in an effort to show the effect of various export programs. These criteria are: (1) are U.S. exports more or less than 25 percent of world trade for 1955-59; (2) what is the simple arithmetic difference in U.S. percentages of world trade between some pre-subsidy period and a subsidy period; (3) what is the degree of subsidization (high, moderate, low, or none); (4) what is the percentage price change between 1952-53 and 1959-60.

Twenty-five Percent of World Trade

For purposes of analysis, United States commodity exports were considered important in world trade if they represented 25 percent or more of world exports. Using 1955-59 instead of 1950-59 average percentages adds barley

and oats to the important commodity list. Also, 1955-59 percentages demonstrate the effects of government export subsidization for most commodities when compared to the lows or 1952-53 or 1953-54.

Change in U.S. Percentage of World Trade

The second criterion for categorizing commodities is the change in the United States percentage of world trade, comparing a pre-subsidy period with a subsidy period. For most commodities this was a matter of obtaining the simple arithmetic difference between 1953-54 and 1955-59 percentages. However, some commodities, notably dairy goods, linseed and oil experienced export booms at mid-decade. Cotton exports were low from 1953 to 1955, and flourished from 1956 to 1960. Hence, 1953-54 to 1955-59 percentage differences were used for the most part, but other differences were used in order to emphasize the extent of subsidy activities.

For a minority of commodities, 1952-53 percentages measure the low in United States agricultural exports better than the 1953-54 percentages, because of the timing of certain subsidy activities. "World price sales" of CCC inventories, and/or foreign currency sales (MSA, Section 550, beginning in 1953/54) of linseed and oil mean that 1953-54 represents a decade high in exports of these two goods. On the other hand, the apparent lack of Section 416 dairy product donations in 1952 means that U.S. export lows are better represented by 1952-53 percentages. Generally, U.S. exports of these few goods peaked at mid-decade, and shrank as CCC surplus stocks were reduced.

Apparently, CCC inventory "world price sales" and foreign currency sales (if they occurred) in 1953/54 affected cereal export patterns very little in the aggregate, except possibly to stave off even deeper cuts.

Growth in U.S. portions of the world cereal trade came in 1954/55 with the expansion of special export programs (larger MSA shipments, as well as shipments under a new program, PL 480). The credit for this growth in cereal exports is not due solely to MSA-PL 480, for wheat, corn, and rice were added to the list of cereals enjoying CCC "world price sales" in 1954/55. Only sorghums, barley, oats, and rye were on the list in 1953/54.

Although substantial portions of the 1954/55-55/56 cotton exports were PL 480 MSA shipments (1/3 and 1/2), the mandatory "world price sales" of 1956/57 were apparently necessary to increase the U.S. share of world cotton trade.

Degree of U.S. Export Subsidization

The third criterion for categorizing U.S. agricultural exports is the degree to which these exports have been subsidized since about 1952; it is an illusive criterion. Appendix A summarizes the information used to categorize a commodity as receiving high, moderate, low, or no subsidy.

The actual categorization of a commodity as to degree of subsidy is somewhat arbitrary, to be sure. Three factors were considered: level of export payments as a percent of export price during one or more years (range 9 to 75 percent); the number of years CCC inventories were offered (range 1 to 6 years between 1952/53 and 1958/59); and the proportion of U.S. exports moving under MSA or PL 480 (range, negligible to 75 percent). Often times there appeared to be correlation among these three indications of subsidy activity.

Extent of Post-1952-53 Price Fall

The fourth criterion for commodity classification, that is the degree of price fall since 1952-53, is represented by computing 1959-60 FAO export unit values as a percentage of those for 1952-53. Still 1953-54, and not 1952-53, better covers the low period for most U.S. agricultural exports, and better marks the beginning of subsidization of many of the more important exports. Further, since 1952-53 adjoins or even includes part of the Korean effect, it has been suggested that 1953-54 be used as a base. This was not done because the FAO unit value series is available only for 1952-53 or 1954-55. Secondly, the Korean conflict effects appear to have affected raw material prices most but had departed in the main by 1952 (see Figures 1 through 6) for commodities in general. Thirdly, the commodity price level in 1952-53, vis-a-vis the level in 1953-54 or 1954-55, as a basis of measuring the movement to 1959-60, emphasizes the degree of price drop for temperate zone goods (dairy products, cereals, some raw materials), de-emphasizes the fall for beverages, and does not greatly affect the oils and fats measurement.

Commodity Categories

Tables 3 and 5 show selected agricultural commodities arranged according to the four criteria just discussed. Table 4 presents the price movements in a somewhat different fashion.

Table 3 shows many of the world's more important traded commodities categorized according to price change between 1952-53 and 1959-60. Commodity names are capitalized and underlined if U.S. exports represent more than 25 percent of world trade in the period 1955-59. Note that

commodities for which the U.S. was the source of 25 percent or more of 1955-59 world exports have fallen at least 10 percent in price since 1952-53, and often more than 25 percent. Of the three exceptions, oats, tallow and tobacco, the U.S. has offered only low export subsidies on tallow and tobacco.

Table 3.--Price changes 1952-53 to 1959-60, selected commodities[a]

Degree of Price Change	Commodities
up more than 25 percent	Beef and veal, cattle, raisins, and cottonseed.
up 10 to 25 percent	TALLOW, rubber, tea, lauric acid oil index, copra, apples, oranges and tangerines, mutton and lamb.
up or down less than 10 percent	All internationally traded goods index, manufactured goods index, OATS, jute, TOBACCO, wine, cocoa, cheese, butter, condensed and evaporated milk, oilseed cake and meal, olive oil index, tallow whale and palm oil index, palm kernels, bananas, bacon, and canned meats.
down 10 to 25 percent	Agricultural goods index, rye, WHEAT, BARLEY, greasy wool, sugar, DRY MILK, in-shell eggs, LARD, shelled peanuts, SOYBEANS, SOYBEAN OIL, peanut oil, LINSEED.
down more than 25 percent	WHEAT FLOUR, CORN, SORGHUMS, milled rice, COTTON, coffee, COTTONSEED OIL, linseed oil.

Source: Appendices B and D.

[a]Commodity names are capitalized and underlined where the 1955-59 U.S. proportion of world trade is 25 percent or more.

A somewhat more detailed account may be helpful for the commodities which have fallen more than 10 percent in price and for which the U.S. exported more than 25 percent of the 1955-59 world trade.[1] Such commodities

[1]See Appendix B for a complete list of the commodities studied in this thesis and their percentage price levels (1959-60 prices as a percentage of 1952-53 prices).

fell 21 to 36 percent in price between 1952-53 and 1959-60. They are wheat, barley, wheat flour, corn, sorghums, powdered milk, lard, soybeans and oil, cottonseed oil, and cotton. Except for lard and soybeans, exports of these commodities have been highly subsidized.

Among the commodities falling 10 percent or more in price since 1952-53 are several for which the U.S. is an unimportant exporter (exported less than 25 percent of 1955-59 world trade). Small percentages of world trade notwithstanding, commodity competition suggests that the U.S. may well have influenced peanut and peanut oil prices with its subsidized exports of soybeans and oil, lard, and cottonseed oil, all of which compete in soft oil and fat markets. Similarly, subsidized U.S. cereal exports, including rice, may have influenced rice prices in Asia and Europe.

Table 4 offers a dual commodity classification scheme, one of which (vertical classification) is quite similar to that of Table 3. However, Table 4 affords classification on the basis of real purchasing power rather than prices, and there are fewer commodities. A diagonal from the upper left corner to the lower right corner indicates commodities for which purchasing power movements between 1952-53 and 1959-60 are similar to the 1959-60 divergences from 1920-38 purchasing power levels. Among important U.S. exports, wheat, barley, and cotton have suffered losses in purchasing power since 1952-53. Tobacco has purchasing power similar to 1920-38 levels. The same appears to be true for edible oils and seeds; however, the high late-decade lauric acid oil and oilseed prices probably offset the low prices of soft oils and oilseeds in this index. The soft oils and seeds (soybeans, peanuts and cottonseeds) probably suffered purchasing power losses more like

Table 4.--Real commodity purchasing power level in 1959-60, and the 1952-53 to 1959-60 change, 1920-38 = 100

Change, 1952-53 to 1959-60	1959-60 Real purchasing power level, 1920-38 = 100				
	over 125	110 to 125	90 to 110	75 to 90	60 to 75
up more than 25	beef & veal				
up 10 to 25			tea, wine, cheese	raisins, mutton & lamb, rubber, oranges	
up or down less than 10	bananas, cocoa	jute	tobacco, edible oils & oilseeds	sugar, bacon	apples, butter
down 10 to 25				wheat, barley	eggs
down more than 25	coffee	rice	corn wool		cotton

Source: Appendix E.

Note: Categorizing commodities according to real purchasing power changes instead of price changes (as is done in Table 3) between 1952-53 and 1959-60 does not cause many shifts. Comparing the categories of Table 3 with the vertical categories of Table 4 will indicate the following shifts: (1) raisins, apples and wool move up one notch; (2) wine, cheese and sugar move down one notch.

those of wheat and barley. Corn purchasing power in 1959-60 was not greatly different than 1920-38 average levels. As indicated in Chapter IV, corn prices have just recently (about 1957 or 1958) fallen sufficiently to permit displacing barley as the most important coarse grain in world trade. Both rice and corn prices have fallen more than barley or wheat prices since 1952-53, but rice prices must fall still more to reach 1920-38 purchasing power levels. In any event, Table 4 suggests that the price effects of U.S. subsidized exports have not only moved purchasing power below 1952-53 levels, but also below 1920-38 levels for cotton, barley, wheat, and probably soft oils. The same will likely be true for corn in a few years, if price falls continue.

Table 4 offers an interesting arrangement of some commodities, and it is worthy of comment. Coffee and rice are in the lower left corner. Their declines in price since 1952-53 have been the cause of considerable concern, but note that they are significantly better off than in 1920-38 in terms of purchasing power--another period of substantial excess production and supplies. By the same token, bananas, cocoa and jute appear to be somewhat better off than recent price movements indicate.

On the other hand, raisins, mutton and lamb, oranges and tangerines, and to a lesser extent, tea and wine are not quite as well off as recent price rises would indicate, for their real purchasing power is below or just about the same as it was in 1920-38.

Despite modest changes in purchasing power since 1952-53, sugar, bacon, and to a greater extent apples and butter command much less purchasing power than they did in 1920-38.

Table 5 categorizes commodities on the basis of three criteria, degree of U.S. export subsidization, U.S. subsidy-period (usually 1955-59) percentage of world trade, and change in U.S. percentage of world trade going from the pre-subsidy to the subsidy period. Commodities are categorized to show subsidy effects, regardless of timing. For purposes of comparison there are three groups of U.S. agricultural exports.

Of chief concern is the group of commodities for which the United States is an important exporter (source of 25 percent or more of world trade) in the subsidy period. For most of these commodities the arithmetic differences in U.S. proportions of world trade between the pre-subsidy and subsidy period were usually 19 to 40 percent but were between 8 and 14 percent for three of them. Included in this group are the cereals (except rye and rice), soft oils (soybean and cottonseed oil), linseed and oil, cotton, and dry milk. With the exceptions of rye and linseed, price declines since 1952-53 were between 21 and 36 percent.

The second group of highly subsidized U.S. agricultural exports consists of cheese, butter, and rye. U.S. percentages of world trade were moderate in the subsidy period, between 10 and 20 percent. Between the pre-subsidy and subsidy period, the U.S. proportion of world trade experienced a change of 10 to 19 percent. Prices are within 10 percent of their 1952-53 level.

The third group of U.S. agricultural exports are those in the lower right corner of Table 5. Their chief characteristics are two: the U.S. proportion of world trade has declined, and they have received low or no apparent export subsidies. However, the U.S. proportion of world trade

Table 5.--Degree of U.S. export subsidization related to increases in U.S. proportions of world trade, and related to subsidy-period U.S. proportions of world trade, selected agricultural commodities, 1952 to 1959 data.

Change in U.S. Proportion of World Trade, Pre-subsidy to Subsidy Period[a]	Degree of U.S. export subsidization and U.S. subsidy-period proportions of world trade								
	High			Moderate			Low or none		
	>25%	10-20%	<10%	>25%	10-20%	<10%	>25%	10-20%	<10%
18 to 40%									
cottonseed oil[b]	X								
soybean oil	X								
oats	X								
sorghums	X								
linseed[b]	X								
linseed oil[b]	X								
barley	X								
corn[b]	X								
rye		X							
cotton[b]	X								
8 to 14%									
oilseed cake & meal[b]									X
cheese[b]		X							
wheat flour	X								
soybean					X				
wheat[b]	X								
butter[b]		X							
dry milk[b]	X								

Group A

Highly subsidized U.S. exports; U.S. proportion of world trade increased substantially with subsidization to over 25%.

Group B

Highly subsidized U.S. exports; U.S. proportion of world trade smaller than first group, but increased after export subsidization.

Table 5.--CONTINUED

Change in U.S. Proportion of World Trade, Pre-subsidy to Subsidy Period[a]	Degree of U.S. export subsidization and U.S. subsidy-period proportions of world trade								
	High			Moderate			Low or none		
	25%	10-20%	10%	25%	10-25%	10%	25%	10-20%	10%
rice[b]		X		Group C					
beef & veal[b]			X	U.S. exports received low or					
apples				no subsidization; U.S. pro-					X
milk, cond. & evap.				portion of world trade stable				X	
prepared meats				or declining.					X
eggs (in shell)									X
lard & shortening							X		
oranges & tang.								X	
tobacco							X		
animal fats							X		

[a]Commodities are arranged according to declining differences where the differences are post-subsidy minus pre-subsidy U.S. proportions of world trade.

[b]Subsidy period is other than 1955-59 and/or pre-subsidy period is other than 1953-54.

Source: Appendices A and D.

ranges from less than 10 percent to over 25 percent. Included are apples, condensed and evaporated milk, prepared meats, in-shell eggs, lard and shortening, oranges and tangerines, tobacco, animal fats (notably tallow), and raisins.

Soybeans, oilseed cake and meal, rice, and beef and veal have not been placed in any particular group because of characteristics that set them apart.

U.S. soybean exports have increased about six-fold during the fifties, with moderate subsidization only. Three jumps in quantity occurred. Exports increased from around 500-650 metric kilotons (1950-52) to 3,300-4,000 (1959-60).

Oilseed cake and meal exports increased cyclically in quantity from 29 (1952) to 738 metric kilotons (1959). Apparent subsidization was low.

Beef and veal exports received rather high export subsidization in the form of PL 480-MSA shipments, and the quantity increased from around 5-6 (1953-55) to 30 metric kilotons (1956-57) and fell again.

Rice exports from the U.S. faced rather severe competition as Asian exporters achieved pre-war capacity in 1953 or 1954. Therefore, although the U.S. proportion of world trade increased less than three percent with the inception of PL 480-MSA shipments, it is notable that the U.S. proportion of world trade did not substantially decline.

A comment may be in order about U.S. raisin and orange and tangerine exports. Export subsidization since mid-decade appears to be moderate or low for these commodities. However, substantial Section 32 export payments were made on "fruits" in the late forties and early fifties. This may explain why U.S. proportions of world trade for these commodities were higher in 1953-54 than in 1955-59.

The Hypothesis Reconsidered

It may be well at this point to reconsider the hypothesis given at the beginning of this chapter; that is, if United States exports of an agricultural commodity represented 25 percent or more of 1955-59 world trade and were highly subsidized, and if the United States' proportion of world trade increased substantially after subsidization, the commodity experienced considerable price falls since 1952-53.

This hypothesis seems to be substantiated for cereals, fats, oils, oilseeds, cotton, tobacco, meats and fruits, dairy products, and oilseed cake and meal, with a few exceptions.

Consider wheat, barley, wheat flour, corn, sorghums, cotton, dry milk, soybean oil, cottonseed oil, and linseed as a group of commodities. Each of these commodities declined considerably (14 percent or more) in world price since 1952-53, and the U.S. proportion of world trade was 25 percent or more in 1955-59. Table 5 shows that the U.S. proportion of world trade grew 8 to 40 percent after subsidization (see Table 5, group A). Thus, these commodities substantiate the hypothesis in a positive sense.

Other commodities substantiating the hypothesis include: rye, butter, and oilseed cake and meal. The United States' proportion of world trade grew 10-20 percent after subsidization, but was less than 25 percent of world trade. Except for oilseed cake and meal, these U.S. exports were highly subsidized. However, the United States' proportion of world trade was probably not sufficiently high for it to exercise price leadership, partially accounting for the lesser degree of price fall (less than 13 percent) as compared to the first mentioned group of commodities.

Next, there is a group of commodities encircled as group C on Table 5. The United States' proportion of world trade remained about stable or declined after a very small degree of export subsidization, and ranged from over 25 percent to much below 10 percent. The commodities included are apples, raisins, oranges and tangerines, condensed and evaporated milk, in-shell eggs, prepared meats, lard and shortening, animal fats (chiefly tallow), and tobacco. Except for in-shell eggs and lard, 1959-60 prices of these commodities were within 10 percent of their 1952-53 level or had risen considerably. As for lard, the U.S. proportion of world trade is over 25 percent, but export subsidies have been low or non-existent (also true for tallow and tobacco). The U.S. could have affected lard prices through its subsidized exports of cottonseed and soybean oils, since all three compete in the edible fat and oil markets. However, in general, it seems tenable to conclude that United States' export policies have had little effect on prices of commodities in this group.

Finally, there is a group of commodities that may be exceptions to the hypothesis on one account or another: linseed oil, soybeans, rice, oats, and beef and veal. All U.S. exports of these commodities have been highly subsidized, except soybean exports. Oat prices of 1959-60 were within 10 percent of their 1952-53 level, although the U.S. proportion of world trade grew over 30 percent after the initiation of high export subsidies. U.S. subsidization of beef and veal exports increased the country's proportion of world trade temporarily, but this proportion is quite small. Soybean exports by the U.S. have grown markedly during the fifties, as mentioned previously, although the U.S. export subsidies have been only moderate. It is likely that the country exercised price leadership

due to its high proportion of world trade (not only in soybeans but in cottonseed oil and soybean oil). With regard to linseed oil, the increase in U.S. exports was a short-lived, mid-decade phenomena. Unless the U.S. is influencing linseed oil and other drying oil prices through its subsidized linseed exports (over 25 percent of 1955-59 world trade), it is unlikely that the country's export subsidy policies have been a chief cause of price declines. On the other hand, U.S. cereal exports to Asia and elsewhere may have caused some of the decline in rice prices since 1952-53. However, dietary substitution of other grains for rice has not been sufficient to cause rice purchasing power to fall below 1920-38 levels. Because the U.S. exports a higher portion of the trade in other grains, its export pricing policies have been more effective in causing the decline of purchasing power for other grains to 1920-38 or lower levels.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The impact of U.S. export subsidy policies on the world prices of many agricultural commodities is suggested by the growth and level of U.S. exports as a proportion of world trade. This country exports well over twenty-five percent of the world trade of several commodities, including cereals, oils, fats, oilseeds, cotton, dry milk, and tobacco. Furthermore, increases in the country's portion of world trade ranged between 8 and 40 percent for some of these commodities and coincided with the inception of government export assistance. The virtual stability of unassisted exports for the period 1952/53-59/60 is evidence of the importance of export subsidies, the growth in total U.S. agricultural exports being attributable to government assistance.

Because of commodity substitution processes, U.S. export subsidies may depress peanut and peanut oil prices, and other edible oil and seed prices, even though U.S. exports are quite small. These commodities compete with U.S. soybean, soybean oil, lard, and cottonseed oil exports in soft oil markets; for these goods, the U.S. is the leading exporter. Similarly, U.S. export policies may depress rice prices via competition from other cereal (U.S.) exports; such effects are possible even though the country's portion of world rice trade has been quite stable at around 13 percent during the decade.

Export subsidization, and other forms of trade assistance or trade restriction are usually adjuncts to domestic policy goals, and they are not limited to the United States. Many nations have had to cope with commodity surpluses, and production-consumption ratios that tend to depress

world prices. Raw material prices declined after 1950-51; next were cereals and dairy goods in about 1952-54; then beverages in 1954-55; soft oils and fats, some fruits and meats, and tobacco began to show price weakness or price declines by about 1957. Overproduction has occurred in many countries, and the causes are several, including the problems of production control and adjustment by many firms in a world of imperfect knowledge. Domestic income and price supports and other welfare measures may well have contributed to this overproduction, but they are not the sole cause. Amidst growing or threateningsurpluses, the United States and other countries have assisted the flow of exports through various forms of subsidy. On the other hand, these same countries may seek to restrict entry of other commodities into their domestic markets. A relatively new innovation has been the shipment of commodities to less-developed countries under concessional terms; despite efforts to by-pass world markets they may have helped push world prices down.

Considerable discussion has arisen about the welfare impact of export subsidization. Competing sellers in world markets have been affected by U.S. export policies. Yet, the people of this country have shared their abundance with people of less-developed importing nations; and the PL 480-MSA shipments have been arranged so that eventual payments are well below world prices. However, a discussion of the welfare impact of export subsidization is beyond the scope of this thesis.

Conclusions

1. Export subsidization has been an effective means of increasing (or regaining) high United States proportions of world trade in several agricultural commodities.

2. Dominance in world trade means that United States export subsidies have been instrumental in the decline of cereal, dairy products, oil, fat, oilseed, cotton and possibly tobacco world export-import prices during the decade.

3. The world price effects of United States agricultural export subsidies extend beyond commodities for which the country is a leading exporter to those commodities competing with these exports, such as peanuts and oil, rice, long-stable cotton, whale and palm oil.

4. United States export subsidies are not the sole cause of price declines of commodities for which it is a leading exporter.

5. Several causes may be associated with world export-import price movements during the fifties. They include: export subsidization, production-consumption divergences, war and other world political-economy disturbances, currency-exchange-ratio changes, substitution effects (input factor substitution, import substitution, new-production-source substitution), and industrial activity variations.

6. When the United States has been a major exporter in a commodity group, prices have moved smoothly, even though downward; other commodities have experienced more cyclical price patterns. Smooth price patterns probably fit into expectation models better, despite price downtrends.

7. Price movements since the early 1950's are not necessarily indicative of real purchasing power levels with respect to an interwar period base (1920-38). Despite price falls, coffee and rice have purchasing power above 1920-38 levels. At the opposite pole, raisins, mutton and lamb, rubber, and oranges and tangerines have purchasing power below 1920-38 levels in spite of substantial price increases.

8. Trade assistance (in the form of the expenditure of public funds) has been necessary to achieve "record" level United States exports in the late fifties and early sixties. Though "dollar" or "commercial" agricultural exports have increased during the fifties, it is crucial to realize that unassisted commercial exports remained virtually stable from 1952/53 to 1959/60.

APPENDIX A

Degree of U.S. export subsidization, post 1952/53.

Commodity	"Degree of subsidy"[a]	Export payment as a percent of export price[b]			CCC inventory sales, 7 possible[c]	Percent of U.S. exports as PL 480-MSA shipment, range[d]
		1954/55	55/56	58/59		
Dairy goods						54-81%
Butter	high	49	55	50	3	
Cheese	high	43	50	41	2	
Powdered milk	high	45	68	53	2	
Cereals						
Rice, milled	high	3	27	53	5	7-73
Wheat flour	high	...	...[e]	48	---	
Wheat	high	IWA, 20 to 45[e]			2	66-74
Rye	high	...	...	27	5	
Grain sorghums	high	19	10	20	5	22-66
Oats	high	...	...	14	5	
Barley	high	...	...	13	5	
Maize	high	8	...	9	4	
Raw materials						
Cotton	high	---	20	30[f]	4	19-63
Wool	low	...	...	---	3	low
Tobacco	low	...	...	...	1	10
Fats, Oils, Oilseeds						23-40
Soybean oil	high	...	...	...	---	75
Soybeans	low	...	...	...	1	7

APPENDIX A.--Continued

Commodity	"Degree of subsidy"[a]	Export payment as a percent of export price			CCC inventory sales, 7 possible[c]	Percent of U.S. exports as PL 480-MSA shipment, range[d]
		1954/55	55/56	58/59		
Cottonseed oil	high	...	...	...	4	41
Tallow	low	...	...	...	---	7
Lard	low	...	...	...	---	18
Peanuts	low	...	...	...	6	low
Linseed	low	...	...	...	4	3
Linseed oil	high	...	...	...	4	---
Tung oil	high	...	...	75	5	---
Oilseed cake & meal	low	...	...	...	1	low
Fruits and Meats						
Oranges[g]	med.	22	13	...	...	...
Grapefruit,[g]						
fresh	med.	19	...	...	...	...
canned	high	...	41	...	...	...
Beef & veal[g]	high	...	...	...	...	33
Apples[g]	(low ?)	...	...	...	...	...
Dried fruit	med.	...	...	...	...	17
(Raisins ?)[g]		...	...	...	...	...

Symbols: ... for not available; --- for negligible or not applicable.

Notes: see following page.

APPENDIX A.--Concluded

[a]Categorizing commodities according to degree of subsidy is somewhat arbitrary. The three main criteria are: (1) level of export payments as a percentage of export price; (2) number of years (seven possible) in which CCC inventory sales were made; and (3) proportion of U.S. exports moving as PL 480-MSA shipments.

[b]Sources:

1954/55: U.S., Dept. of Agric., Foreign Agric. Service, Foreign Agriculture Situation: Trading in Competitive Markets, November 1955, p. 22.

1955/56: _____, Increasing U.S. Farm Exports, November 1956, pp. 15 and 71.

1958/59: payments, 1961 Hearings, part 2, p. 282; computed as a percent of 1958-59 FAO export unit values, source of unit values is S of F & A--1960, p. 180. Note: 1958-59 unit values may be slightly different as published in S of F & A--1961. For rye, Canadian export price; for grain sorghums, U.S. wholesale price; for oats, Canadian export price; for tung oil, European ports price of U.S. commodity; prices from MBAES.

[c]Source: 1962 Hearings, part 1, p. 22. For years 1952/53-58/59.

[d]Where a single percentage appears, it is the percentage of the commodity moving as PL 480-MSA shipments (quantities) for the period 1954/55-58/59. Source of original data is FATP 16-60.

Where a percentage range appears, it is the range of annual average percentages (values) of the commodity moving as PL 480-MSA shipments, 1954/55-59/60. Source of percentage data is S of F & A--1961, p. 44.

[e]U.S. export payments computed as % of FAO export unit value, 1949/50-59/60. For 1949/50-55, see U.S., Congress, Senate, Foreign Relations Committee, Hearings on the IWA of 1956 (84th Congress, 2d Session), p. 12. For 1956/57 and 1958/59, see U.S., Congress, Senate, Senate Document 704 (86th Congress, 1st Session, 1959), p. 7. For 1959/60 (using Section 32 payments), see 1962 Hearings, part 2, p. 29.

[f]FAO, MBAES, October 1960, IX: 10: 21.

[g]Fruits are not shown as individual commodities as regards PL 480-MSA shipments in FATP 16-60.

APPENDIX B

Commodity price movements, 1952 to 1960 data.

Commodity	Price change, 1959-60 prices as a percent of 1952-53 price	Prices or export unit values, U.S. dollars per metric ton	
		1952-53	1959-60
All traded goods	98%	--	--
Manufactured goods	106	--	--
Agricultural goods	85	--	--
Cereals[a]	72	--	--
Oats, Can.	104	$52	$54
U.S.	87	55	48
Rye,[b] Can.	87	52	45
U.S.	80	62	49
Wheat	79	79	62
Barley	75	70	53
Wheat flour	69	112	77
Sorghums, U.S.[c]	68	56	38
Corn	64	78	50
Rice, milled	61	175	107
Raw Materials	82	--	--
Rubber, natural	119	592	705
Rubber, synthetic[d]	103	512	527
Jute	95	213	202
Wool, greasy	75	1,507	1,130
Cotton	69	887	612
Sisal	51	392	193
Beverages & Tobacco	86	--	--
Tea	125	981	1,224
Tobacco, unmfg'd.	107	1,196	1,284
Wine	106	165	175
Cocoa	91	678	666
Coffee	73	1,124	740
Sugar, raw	88	105	92

APPENDIX B.--Continued

Commodity	Price change, 1959-60 prices as a percent of 1952-53 price	Prices or export unit values, U.S. dollars per metric ton	
		1952-53	1959-60
Dairy Products	91	--	--
Cheese	109	672	733
Butter	90	960	868
Milk, cond. & evap.	91	340	308
Milk, dry	79	487	386
Eggs, in-shell	78	689	534
Oilseed Cake & Meal	91	74	68
Fats and Oils	96	--	--
Lauric acid oils	113	--	--
Coconut oil	125	283	355
Palm kernel oil	111	274	304
Tallow, whole & palm oils	102	--	--
Tallow, U.S.[e]	114	133	152
Drying oils	88	--	--
Linseed oil	73	314	230
Soft oils, except olive oil	80	--	--
Peanut oil	84	408	340
Soybean oil	78	309	241
Cottonseed oil[f]	73	348	254
Lard index	96	--	--
Oilseeds	97	--	--
Cottonseed[g]	139	64	89
Copra	112	168	188
Palm kernels	102	154	158
Linseed	86	151	130
Peanuts, shelled	78	221	173
Soybeans	76	111	84
Fruits	101	--	--
Raisins	137	215	294
Apples	116	108	126
Oranges & tang.	112	99	111
Bananas	90	99	89

APPENDIX B.--Continued

Data note: Percentages for commodity groups are FAO-computed index values. Percentages for individual commodities are price relatives, using the 1952-53 FAO-computed export unit value and a simple average of 1959 and 1960 export unit values to represent the 1959-60 value.

Except as noted, indices have a 1952-53 base. All traded goods index base is 1953. Indices for fats, oils and oilseeds have a 1952-54 base.

Where export unit values were not available, export, import or domestic wholesale prices were used to compute price relatives. For fruits, an index was specially computed, using 1952-53 quantity weights and the fruits shown.

Source notes: For commodity export unit values, 1952-53, and 1959 and 1960, see S of F & A--1961, pp. 172-173. Index values for fats and oils, lauric acid oils, tallow, whale and palm oils, drying oils, soft oils, lard and oilseeds are for market prices; see MBAES, February 1961, X: 2: 8. All traded goods index, see UN, Statistics Office, Monthly Bulletin of Statistics, September 1961, p. viii. Other commodity group indices, see S of F & A--1959, p. 35, and S of F & A--1961, pp. 172 and 174.

[a]Oat prices. Canada, number 2, C.W., basis in store Fort William-Port Arthur, domestic wholesale and export price. U.S., number 3, white, wholesale price, Chicago. See MBAES, February 1962, 11: 2: 38.

[b]Rye prices, 1952, 1953, and 1959 only. Canada, number 2, C.W., for domestic use and export, basis in store Fort William-Port Arthur, spot price, Winnepeg Grain Exchange. U.S., number 2, wholesale price, Minneapolis. See FAO Production Yearbook--1960 (Rome, 1961).

[c]Sorghums price. U.S., milo, number 2 yellow, wholesale price, Kansas City. See MBAES, February 1962, 11: 2: 40.

[d]Synthetic rubber price. U.S., GR-S, average wholesale price; from January 1956, S-type, cold, staining and non-staining, number 1500 and 1502, f.o.b. plant. See FAO Production Yearbook--1960 (Rome, 1961).

[e]Tallow price, U.S., fancy, bulk, f.o.b. ship, New York. Source: MBAES, October 1961, X: 10: 52.

[f]Cottonseed oil price, European ports, American, July 1951 through August 1954, semirefined, ½%, bulk, f.o.b. U.S. ports; September 1954 through December 1956, bleachable prime summer yellow, drums,

APPENDIX B.--Concluded

c.i.f., Rotterdam; from January 1957, bulk, nearest forward shipment, c.i.f.; from October 1958, crude. Source: MBAES, October 1961, X: 10: 50.

[g]Cottonseed price, India, Bombay, Varad, wholesale price. Source: Ibid., p. 48.

APPENDIX C

U.S. proportion of world trade, and value of world trade, commodity groups, 1958-59

Commodity group	U.S. % of world trade	Value of World trade Billions of $
Fruits (raisins, apples, oranges & tangerines, bananas)	5	.84
Meats (cattle, beef & veal, mutton & lamb, canned meat, pork, prepared meats) ...	2	2.57
Oilseeds (Copra, palm kernels, peanuts, soybeans, cottonseed, rape & mustard seed, sesame seed, linseed, castorbeans)	32	1.11
Fats & Oils (coconut oil, palm kernel oil, peanut oil, soybean oil, cottonseed oil, rape and sunflower seed oils, olive oil, edible pig fat, animal fats notably tallow, linseed oil, castor oil, palm oil)	39	.90
Oilseed cake & meal	13	.29
Dairy Products (cheese, butter, condensed and evaporated milk, dry milk, in shell eggs)	7	1.46
Beverages & Tobacco (tea, tobacco, wine, cocoa, coffee)	6	4.69
Agricultural Raw Materials (natural rubber, jute, greasy wool, cotton, sisal)	13	4.93
Cereals (wheat, wheat flour, milled rice, corn, grain sorghums, barley oats, rye)	37	4.04

Computation note:

FAO-computed values of world trade for 1958 and 1959 were averaged for each commodity. Then U.S. percentages of 1958-59 quantity trade were applied to these values of world trade for each commodity. The resulting U.S. values of world trade were summed, as were the world values of trade, for each of the commodity groups (consisting of the shown commodities). Comparison of the U.S. and world sums for each commodity group yielded the stated percentages.

APPENDIX C.--Continued

Sources of data: for 1958 and 1959 values of world trade for the various commodities, see FAO, FAO Trade Yearbook, vol. 14 (Rome, 1961), pp. 3-4. Other portions of this yearbook show U.S. and world quantities of trade for 1958 and 1959.

APPENDIX D

U.S. importance in world markets, 1950's.

Commodity	U.S. proportions of world trade					
	1955-59	Other, high		1953-54 or other low		Diff., high minus low
Cereals						
Sorghums	76%			47.6%		29.0%
Corn	54.6			34.0	54	20.6
Wheat	39.8			28.3		10.5
Wheat flour	38.2			24.8		13.4
Oats	32.2			0.9		31.3
Barley	30.5			6.1		24.4
Rye	19.8			0.8		19.0
Rice	13.3	16.7	56-57	13.9		2.8
Fats, Oils, Oilseeds						
Soybeans	91.9			81.1		10.8
Cottonseed oil	81.6	84.4	55-56	44.5	52-53	39.9
Soybean oil	78.6			39.8		38.8
Animal fats	74.3			79.2		4.9
Lard & short.	59.2			61.9		-2.7
Linseed	30.9			0.1	53	30.8
Linseed oil	12.2	38.4	54	12.3	52-53	26.1
Dairy Products						
Milk, dry	25.0	28.7	54-57	20.9	52	7.8
Milk, cond. & evap.	16.7			16.2		0.5
Cheese	13.2	14.1	54-58	0.6	52-53	13.5
Butter	8.8	11.9	54-56	1.8	52	10.1
Eggs, in shell	5.8			7.9		-2.1
Fruits & Meats						
Raisins	12.8			18.4		-5.6
Oranges & tang.	12.2			15.1		-2.9
Prepared meats	7.3			7.8		-0.5
Apples	5.8			4.1		1.7
Beef & veal	1.8	3.5	56-57	1.2		2.3
Others						
Oilseed cake & meal	14.2	17.3	55-56	3.5	52-53	13.8
Cotton	37.7	46.4	57-60	28.5	53-55	17.9
Tobacco	32.2			35.3		-3.1

Appendix D.--Continued

Computational Note:

Differences between U.S. proportions of world trade going from what appear to be pre-subsidy to subsidy periods are simple arithmetic differences in the two percentages.

U.S. percentages of world trade for any period were obtained by summing U.S. exports and world exports, and dividing the former by the latter. Note that computational, reporting and other difficulties mean that export and import data may differ slightly.

To maintain comparability, FAO world trade data comparable for the period 1948-59 have been used. More complete data are available for the period 1956-59. The two series differ in that the 1948-59 data exclude trade of certain Eastern European, Near Eastern and Far Eastern countries; more specifically, trade for Afghanistan (except raisins), Saudi Arabia, Yemen and other Arabian Peninsula countries, China (Mainland), North Korea, Outer Mongolia, North Viet Name is excluded. The world export data used includes trade for other countries, including the East European nations of Bulgaria, Hungary and Poland.

Sources of Data:

UN, FAO, Trade Yearbooks; 1934-38, 1950 and 1951 data, 1953 issue; 1952 and 1953 data, 1955 issue; 1954 and 1955 data, 1957 issue; 1956 to 1959 data, 1960 issue. Issues for a given year are published in the following calendar year, all in Rome.

APPENDIX E

International purchasing power, selected agricultural commodities, 1952-53, 1954-55, 1956-57 and 1959-60, with 1920-38 equal 100.

Commodity	Unit value of 100, US $ per metric ton	Index of purchasing power, latter two being computed for this thesis			
		52-53	54-55	56-57	59-60
Wheat	$74	97	85	83	83
Rice, milled	77	188	160	134	121
Corn	52	134	113	110	95
Barley	64	105	83	81	86
Sugar	116	93	91	93	85
Apples	149	65	76	80	75
Oranges & Tang.	127	74	79	101	85
Bananas	48	148	153	157	141
Raisins	312	62	63	76	85
Beef & veal	310	106	120	108	146
Mutton & lamb	443	63	84	90	77
Bacon	657	81	75	81	82
Butter	1,040	72	76	64	68
Cheese	650	75	78	81	90
Eggs (in shell)	727	78	71	66	64
Coffee	575	174	202	170	126
Tea	958	78	116	104	101
Cocoa	324	181	257	155	180
Wine	134	87	77	86	107
Tobacco	994	98	107	108	108
Cotton (raw)	724	106	101	77	68
Jute (raw)	190	116	105	95	112
Wool (greasy)	912	134	137	131	105
Rubber (natural)	784	68	65	81	88
Edible oils & seeds	---	102	102	---	98

Sources of original data: 1952-53 and 1954-55 index values, S of F & A--1956, p. 72. Unit values of 100, that is the FAO import unit value proportional to 100 percent of the average 1920-38 unit value; see UN,

APPENDIX E.--Continued

FAO, Statistics of the Volume, Average Unit Value and Total Value of International Trade in Agricultural Products (Rome, 1956). FAO import unit values for 1956 and 1957 (the simple average thereof being used to represent 1956-57 unit values), see S of F & A--1958, p. 217.

Computational note:

Since FAO published its study of international purchasing power in 1956, based on import unit values, it was necessary to compute purchasing power values for 1956-57 (using import unit values) and for 1959-60 (using adjusted export unit values, the last year for which import unit values were published being 1957).

The following is the formula used for the real purchasing power for a good, adjustments being made after this computational procedure such that the average of real purchasing power values for 1920-38 equaled 100. The latter adjustment was applied to the computed 1956-57 and 1959-60 purchasing power values, using an approximate adjustment.

$$\text{Real purchasing power index value for the given good} = \frac{\text{annual ave. import unit value, given year, given good} \;/\; \text{simple average of import unit values, given good, 1920-38}}{\text{index of import unit values of all goods moving in world trade, 1920-38 = 100, given year.}}$$

To obtain the approximate 1959-60 import unit values for various goods, the adjustment between 1952-53 export and import unit values was applied.

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