

THE TERMS OF TRADE BETWEEN THE SOVIET UNION
AND COMMUNIST CHINA, 1956-1959

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by

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I. INTRODUCTION

1. Definition

The terms of trade are determined by the relationship between prices a country gets for its exports and imports. As Professor C. P. Kindleberger pointed out, "the nearest comparable concept in domestic trade is the notion of farm parity as a base for farm prices. Farm prices today, or any particular agricultural price, may be compared with parity by ascertaining whether it has changed as much as and in the same direction as have the prices of those things farmers buy in relation to some specified period of time in the past. By the same token, the terms of trade of a country have improved or deteriorated relative to a base period if the price level of exports has increased or decreased, respectively, relative to the prices of imports."¹

As in the Marshall-Edgeworth two country-two commodity example, the terms of trade can be expressed as a price line OP, in Figure 1, which determines the relationship of the quantities of a country's exports to its imports. These terms of trade are neither favorable nor unfavorable, except as they are more favorable to both countries than the prices without trade. But a change in the terms of trade, by shifting the price line OP in either direction, may be favorable to one country and unfavorable to the other. In the case of the example, a shift of the price

¹. C. P. Kindleberger, "International Economics" (3rd ed.; Homewood, Illinois: Richard D. Irwin, Inc., 1963), pp. 168-69.

line from OP to OP' would be a favorable movement in the terms of trade for country B. On the contrary, a shift of OP line in the other direction would be unfavorable. Further suppose that country A produces wheat and country B produces cloth. The initial transaction between A and B are determined at the point P where A's offer curve, OA^2 , and B's offer curve, OB , are intersected and by

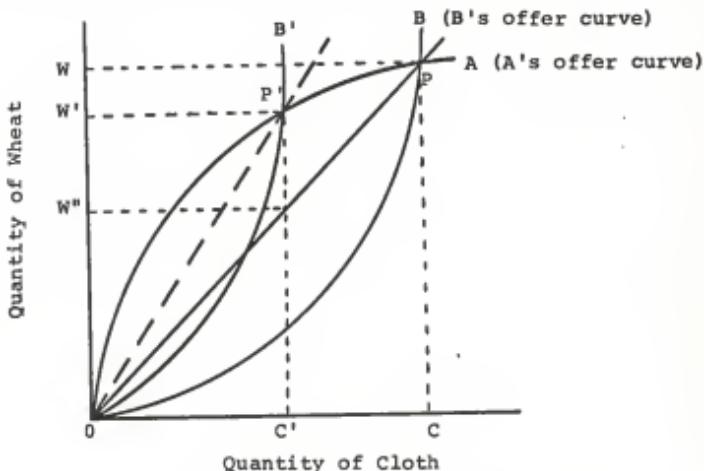


Fig. 1. The terms of trade under general equilibrium

the price line OP . Suppose that country B reduces the demand for wheat of country A by shifting its offer curve from OB to OB' and the demand of country A for cloth remains unchanged. Thus, country B is willing to exchange its cloth for wheat according to

²A's offer curve refers as a series of amounts of wheat which A is willing to exchange for a given amounts of cloth. B's offer curve refers as a series of amounts of cloth which B is willing to exchange for a given amounts of wheat.

its new offer curve OB' which intersected OA at P' . OP' becomes a new equilibrium price. At the new equilibrium level, country B trades OC' amount of cloth for OW' of wheat. Since the slope of OP' is greater than that of OP , country B is able to trade the same amount of cloth for a larger amount of wheat than she demanded at the old level of price, i.e., OP . Therefore, country B moves to more favorable the terms of trade because she trades OC' of cloth for OW' of wheat which is larger than OW'' . Again, it is clear that any shift of price line OP would change the terms of trade of the country.

The Marshall-Edgeworth diagram expresses the terms of trade under the conditions of general equilibrium. Exports and imports are assumed in balance. No transportation cost and no retaliation of a country against the other country are assumed. The terms of trade can therefore be shown either as the price of wheat in terms of the price of cloth or the quantity of wheat exchanged for a quantity of cloth. Hence, in the real world, there are more than two commodities and more than two countries, exports and imports are not always in balance. Further, it is not known what prices would be in the absence of trade.¹

2. Objective of Study

Since the Soviet Union published its foreign trade statistics in 1958, there have been many studies concerning the terms of trade between the Soviet Union and Communist bloc countries.

¹C. P. Kindleberger, "International Economics" (3rd ed.,

Homewood, Illinois: Richard D. Irwin, Inc., 1963), p. 170.

The first intensive analysis of the terms of trade between the Soviet Union and small communist countries appeared in articles "Terms of Trade between the Soviet Union and Small Communist Countries, 1955-1957" and "The Terms of Soviet-Satellite Trade: A Broadened Analysis" written by Horst Mendershausen. In his study, Mendershausen compared the average unit values of Soviet exports to and imports from the small communist countries with the average unit values of the small communist countries' exports to and imports from free European countries. He further concluded that the Soviet Union discriminated against the European satellites by charging them higher prices for Soviet exports and paying them lower prices for Soviet imports than they do for comparable commodities in trade with Free Europe. This enabled the Soviet Union to enjoy a position of monopolistic-monopsonistic.¹ Later study by Holzman indicated that

"The apparent Soviet anti-Bloc price discrimination which Mendershausen uncovered is not evidence of superior bargaining power at all but appears to be the natural consequence of what we have called the 'customs union' of Soviet Bloc nations, a group of nations committed to a high degree of autarky as a major objective and implementing this objective not by discriminatory tariffs but by direct controls. On the basis of this customs union model, it was predicted that not only would the Soviets 'discriminate' against other Bloc nations in comparison with Western Europe but that each member of the Bloc might (but

¹. Horst Mendershausen, "Terms of Trade Between the Soviet Union and Small Communist Countries, 1955-1957," Review of Econ. and Stat., Vol. 41: No. 2, May 1959, pp. 117-118; "The Terms of Soviet Satellite Trade: A Broadened Analysis," this review (May, 1960), p. 152-163.

would not necessarily) discriminate in the same way against every other member of the Bloc. This was borne out in a processing of newly available Bulgarian trade statistics which showed, as a matter of fact, even greater so-called 'discrimination' against the Bloc by Bulgaria than by the Soviet Union."¹

However, the above articles did not include the analysis of the trade between the Soviet Union and Communist China. Feng-Hwa Mah, using a similar approach as Mendershausen did in his article, compared the unit values of Sino-Soviet trade with that of Soviet-Western Europe trade and Sino-Western Europe trade. According to his article, Communist China paid on the average about 30 per cent more for its imports from the Soviet Union than non-Communist Europe did. On the other hand, there was no such clear-cut differential on the export prices. In 1955 and 1956, the Soviet Union paid slightly more for its imports from Communist China than for those from Western Europe while the reverse was true, again only to a small extent, in 1957, 1958, 1959.² He further remarked that "transport cost effect is a major reason for 'China differential'. The quality difference effect and the 'lean-to-one-side' effect are both also partly responsible for the 'China differential', but in a less significant way. These observations refer to the measured differentials in the level of unit values.

¹. Franklyn D. Holzman, "Soviet Foreign Trade Pricing and the Question of Discrimination, A Customs Union Approach", Review of Econ. and Stat., Vol. 44; no. 2, May 1962, pp. 145-46.

². Feng-Hwa Mah, "The Terms of Sino-Soviet Trade", The China Quarterly, no. 17, Jan.-Mar. 1964, pp. 179-187.

The changes over time of Sino-Soviet unit values follow closely those of the non-Communist Asian countries. Communist China's terms of trade with the Soviet Union, compared with those of the non-Communist Asian countries' trade with the rest of the world, do not show relative deterioration during this period, except for 1959.¹

The purpose of my study is to further investigate the terms of trade of Communist China in its trade with the Soviet Union during 1956-1959 and to find the factors affecting the change of the terms of trade in the period and to discover why Communist China changed its trade partner from the Soviet Union to Non-Communist countries as political relations deteriorated after 1960. We know that the Sino-Soviet trade had sharply declined since 1960. On the other hand, Sino-Non-Communist countries trade has been gradually increasing since then, especially Sino-Japanese trade. The statistics show that the total values of the Soviet imports from Communist China were US\$ 764.2 millions in 1956; US\$ 738.1 millions in 1957; US\$ 881.2 millions in 1958; US\$ 1,100.3 millions in 1959; US\$ 848.1 millions in 1960; US\$ 551.4 millions in 1961; US\$ 516.3 millions in 1962; and US\$ 413.0 millions in 1963. The total values of Soviet exports to China were US\$ 733.0 millions in 1956; US\$ 544.1 millions in 1957; US\$ 634.0 millions in 1958; US\$ 954.5 millions in 1959; US\$ 817.1 millions in 1960; US\$ 367.3 millions in 1961; US\$ 233.4 millions in 1962; and US\$

¹. *Ibid.* p. 191.

187.2 in 1963.¹ Evidently, the Sino-Soviet economic relation had deteriorated since 1960. The terms of trade between these two most powerful communist countries prior to 1960 seem worth exploring.

¹.The data are taken from "Current Economic Indicators for the U.S.S.R.", 89th Cong., 1st Sess., 1965 (Washington: U.S. Government Printing Office, 1965), p. 161.

II. COMPILATION OF DATA AND METHOD OF COMPUTATION

1. Source and Characteristics of Data

Because of the limited availability and inaccuracy of Communist China's foreign trade statistics, the compilation and computation of foreign trade data is an important item in a study of the terms of trade between the Soviet Union and Communist China. A study made by Kang Chao indicated that "China's foreign trade data are not as reliable as some people tend to believe. The overall foreign trade data published by Peking give a distorted picture because of the unrealistic and inconsistent exchange rate used by China and the different pricing bases used in her trade with the West and in her trade with Communist countries."¹ Unfortunately, China's foreign trade statistics are not available in KSU Library. Though some world trade statistics have been published by many international organizations, like United Nations and International Monetary Fund, the data related to quantities of commodities traded are not included in those statistics. Therefore, the compilation must be based on Soviet trade statistics. The statistics appeared in "Foreign Trade of the U.S.S.R.", World Trade Information Service Report, published by the U.S. Department of Commerce, Bureau of Foreign Commerce. But only four-year data are available (1956-1959). In addition, only the

¹.Kang Chao, "Pitfalls in the Use of China's Foreign Trade Statistics", *The China Quarterly*, no. 19, July-Sept. 1964, p. 64.

selected commodities of Soviet imports and exports statistics were printed in the Reports. But the quantities of commodity imports and exports are not indicated in some heterogeneous goods. Therefore, over-all computation and long-term analysis of the terms of trade between the Soviet Union and Communist China seem impossible because of lack of complete data. However, some homogeneous commodities with trade quantity indication were chosen from the "Foreign Trade of the U.S.S.R." as sample commodities for calculation. Because the terms of trade are indicated in the form of an index number, the trade aggregates of some homogeneous commodities may be qualified for the estimation of total trade.

As the "Foreign Trade of the U.S.S.R." indicated, the statistics represent "general" trade in the years 1955-1959. Imports include all merchandise entering the countries whether for domestic consumption or for re-export. Exports include the produce and manufactures of the Soviet Union and re-exports of goods imported into the U.S.S.R. and subsequently exported. Exports are credited to the country of destination and imports to the country of origin. Most of the data were compiled from official Soviet trade statistics, as published by the Ministyerystovo Vnyeshnyei Torgovli SSSR, Planovo-Ekonomicheskoye Upravlyeniye, in Vneshnyaya Torgovlya SSR: Statisticheskiy Obzor. Both exports and imports are valued f.o.b. in the years 1955-1959.¹

¹. The note is prepared by the Internatl. Economic Analysis Div., Office of Economic Affairs, U.S. Dept. of Commerce in the "Foreign Trade of the U.S.S.R." 1958-59, World Trade Information Service Report, Part 3, No. 61-9 U.S. Dept. of Commerce (Washington D.C.: U.S. Government Printing Office, 1961), p. 8.

2. Method of Computation

(1) Formula of Index Numbers

Different unit-value (price) indexes were computed for various comparisons.

a.) In computing Comparison of Unit Values of Selected Commodities in Sino-Soviet Trade with that of Similar Commodities in Soviet-Other Communist Countries¹ Trade and in Soviet-Non-Communist Countries² Trade during 1956-1959 (Table 1 and 2), Paasche's current-weight price index formula, $P = \frac{IQ_n \cdot P_n}{IQ_o \cdot P_o}$, was used.

Thus, the comparison of the two sets of prices was weighted by quantities of China's exports to or imports from U.S.S.R. in the current year. Since two comparisons are made, P_n stands for the prices of Communist China's exports to or imports from U.S.S.R. while P_o stands for the prices of Other-Communist countries exports to or imports from U.S.S.R. in one case and the prices of Non-Communist countries exports to or imports from U.S.S.R. in the other case.

b.) In computing Index Numbers of Selected Commodities Traded Between Communist China and the Soviet Union, 1956-1959 (Table 3), 1956 was selected as a base year. The value index, V , (either

¹. Other Communist Countries include Albania, Bulgaria, Czechoslovakia, Finland, East Germany, Hungary, North Korea, Outer Mongolia, Poland, Rumania, and Yugoslavia.

². Non-Communist countries are the countries other than Communist Bloc which includes Afghanistan, Egypt, France, West Germany, India, Italy, Malaysia, Sweden, and United Kingdom, etc.

exports or imports) was expressed in a percentage form, $V = \frac{V_n}{V_0}$, i.e. a percentage increase or decrease from base year (0) to current year (n). The volume index, Q, (either exports or imports) was calculated by means of base year price weighted volume index, $Q = \frac{\sum Q_n \cdot P_0}{\sum Q_0 \cdot P_0}$. The ratio of these two totals was a measure of the change in exports or imports by volume; no price changes were involved. The price index, P, (either exports or imports) was computed by current year volume weighted price index, $P = \frac{\sum Q_n \cdot P_n}{\sum Q_n \cdot P_0}$, i.e., the comparison of two sets of prices was by means of the quantity exports or imports in the current year. "The method is standard, adopted by many countries in their compilation of index numbers of volume and price. It can be readily extended to cover wide groups or the total of exports or imports."¹

(2) Computation of Unit Values

Unit values (unit prices) were calculated by dividing values of specific transactions (converted into dollars) by quantities traded (mostly converted to metric tons) for sizable aggregates of fairly homogeneous commodities (Appendix Table 1-8). Seven commodities in 1956-57 and nineteen in 1958-59 were selected to compute the unit values for China's exports to U.S.S.R.. Six commodities in 1956-57 and sixteen in 1958-59 were selected to calculate the unit values for China's imports from U.S.S.R.. The

¹. R. G. D. Allen and J. Edward Ely, "International Trade Statistics" (New York: John Wiley & Sons, Inc., 1953) p. 189.

commodities selected for computing unit values entirely depended upon the availability of data. Further, the commodities computed with unit values were not all listed to calculate the index number of the terms of trade because of lack of data availability. The number of commodities selected for computing the index number of the terms of trade were indicated in each related table.

(3) Computation of the Terms of Trade

a.) The Gross (Barter) Terms of Trade

$$G = \frac{Q_i}{Q_e} \times 100 \quad \text{where } Q_i \text{ is volume index for imports}$$

Q_e is volume index for exports

The volume of imports in percentage of the volume of exports for the current year (n) relative to the base year (0). Both Q_i and Q_e are in index form with year 1956 as 100. G measures the real gain from trade, comparing imports actually received with exports actually dispatched.

b.) The Net (Barter) Terms of Trade

$$T = \frac{P_e}{P_i} \times 100 \quad \text{where } P_e \text{ is price index for exports}$$

P_i is price index for imports

T measures the real cost of imports in terms of exports. Thus, the price of exports in percentage of the price of imports, for the current year (n) in relation to the base year (0). Both P_e and P_i are again in index number form with year 1956 as 100.

c.) The Income Terms of Trade

$$I = Q_e \times T$$

The index I is the product of volume index for exports, Q_e , and the index of the net barter terms of trade, T, again with year 1956 as base year.

The above methods of computing the terms of trade are taken from R. G. D. Allen's article "Index Numbers of Volume and Price".¹ In order to construct Table 4 "The Terms of Sino-Soviet Trade" during 1956-1959 (1956=100) as indicated above, the computation of the index numbers of volume and prices for both exports and imports is necessary. This computation is presented in the Table 3, Appendix Table 9 and 10. The numbers of commodities selected for these tables and the total values of selected commodities for either China's exports to or China's imports from U.S.S.R. as the percentage of total value of transaction are also indicated in the tables.

¹.R. G. D. Allen & J. Edward Ely, "International Trade Statistics", Chapt. 10 (New York: John Wiley & Sons, Inc., 1953) pp. 207-209.

III. THE TERMS OF TRADE OF COMMUNIST CHINA

1. Unit Value Comparison and the Terms of Trade

(1) A comparison of the unit values of selected commodities in the Sino-Soviet trade with the unit values of the similar commodities in the Soviet-Other Communist countries trade during 1956-1959 was made and the result was presented in Table 1. The recorded values of China's exports to or imports from U.S.S.R. were expressed in terms of the values China would have received if she had enjoyed the prices of the same commodities which Other-Communist countries exported to or imported from U.S.S.R.. The comparison was shown in the form of index numbers. The calculated result showed that China had a comparative price disadvantage¹ over its trade with U.S.S.R.. The receipts which China received from its export goods to U.S.S.R. were 19 per cent lower in 1956, 9 per cent higher in 1957, and 9 per cent lower in 1958-59 than the amount Soviet Union would have paid if she had imported the same quantity of goods from Other-Communist countries. On the other hand, the payments which China paid for its import goods from U.S.S.R. were 36 per cent higher in 1956, 33 per cent higher in 1957, 4 per cent higher in 1958, and 14 per cent higher in 1959 than the payment the Soviet Union would have received if she

¹. The terms "comparative price advantage" (or disadvantage) was suggested by Joseph Berliner and coined by Franklyn D. Holzman in his article, "Soviet Foreign Trade Pricing and the Question of Discrimination", Review of Econ. and Stat., May 1962, p. 137.

she had exported to Other-Communist countries. This meant that Communist China received unfavorable treatment on both its exports and its imports. The terms of trade was definitely unfavorable to China. Since the international transactions in Communist bloc countries were mostly based on bilateral treatment, the price differential very often exists in the Communist intra bloc trade. According to the study made by Holzman, the Communist intra trade prices were not always equalized but discriminated against each other.¹ The terms of trade of China for the four years were unfavorable because they were all below 100, i.e., 59.6 in 1956; 82.0 in 1957; 87.5 in 1958; and 79.8 in 1959. However, it is clear the terms of trade were relatively tending more favorable to China year by year.

(2) The results of the comparison shown in Table 2 in which the recorded values of selected commodities in the Sino-Soviet trade were expressed in terms of the values China would have received if she had enjoyed the prices of Soviet-Non-Communist countries trade were different from that of the previous comparison. The index numbers of China exports to U.S.S.R. during 1956-1959 were 133, 122, 118, and 116 respectively. These showed that China received quite favorable treatment on its exports. If using Mah's terms to interpret, China had 33%, 22%, 18% and 16%

1. Franklyn D. Holzman, "Soviet Foreign Trade Pricing and the Question of Discrimination", Review of Econ. and Stat., May 1962, p. 143-145.

of over-receipts on its export goods from U.S.S.R. in 1956, 1957, 1958 and 1959 respectively. But the favorable treatment was offset by the unfavorable treatment on its imports. Let us look at the index numbers of China's imports from U.S.S.R.. The values of the index numbers are 131 in 1956; 133 in 1957; 105 in 1958; and 120 in 1959. Thus China made 31%, 33%, 5%, and 20% of over-payments to U.S.S.R. on its import goods in the corresponding years. Hence, the favorable treatment China had received on its exports was offset by the unfavorable treatment on its imports; therefore, the terms of trade of China were in the neighborhood of 100. The values are 101.5 in 1956; 91.7 in 1957; 112.4 in 1958; and 96.7 in 1959. The results were consistent with Holzman's conclusion, Soviet sometimes appear to "discriminate" against the Bloc, and other times appear to "discriminate" in favor of the Bloc.¹

2. Gross, Net, and Income Terms of Trade

The methods of computing gross, net and income terms of trade have been presented in the previous section. The results of the calculation will be interpreted as follows:

$$(1) \text{ Gross Barter Terms of Trade } (G = \frac{Q_i}{Q_e} \times 100)$$

By comparing volume index for imports with volume index for exports, the gross barter terms of trade measure the real gain from trade. "Changes over time in the index G then show

¹. Franklyn D. Holzman, "Soviet Foreign Trade Pricing and the Question of Discrimination", Review of Econ. and Stat., Vol. 44; no. 2, May 1962, pp. 138-40.

variations in the real gains from trade actually realized. A rising value of G shows that more imports are purchased for a given volume of exports. This may be because import prices have fallen or because of other factors in the balance of payments, such as increased use of invisible receipts.¹ The result was shown in Table 4. The G value drastically declined to 72.6 in 1957 from the base year 1956 = 100. This indicates that the terms of trade became markedly unfavorable to China. Thus, more of exports were sent out, in comparison to the imports that came in. This might be due to the higher import prices China was required to pay. In 1958 and 1959, the situation was the other way, G value rose to 130.7 and 108.1 respectively. The terms of trade were more favorable to China resulted from less exports in relation to the imports. The fluctuation might be due to the appreciation of the yuan against the rouble resulting from the adjustment of the foreign exchange rate between the Soviet Union and Communist China at the end of 1957.²

$$(2) \text{ Net Barter Terms of Trade } (T = \frac{P_e}{P_i} \times 100)$$

The net barter terms of trade measure the real cost of imports in terms of exports. The purpose of the measurement is

¹. R. G. D. Allen & J. Edward Ely, "International Trade Statistics" (New York: John Wiley & Sons, Inc., 1953), p. 208.

². Kang Chao and Feng-Hwa Mah, "A Study of the Rouble-yuan Exchange Rate," *The China Quarterly*, no. 17, Jan.-March, 1964, p. 193.

to isolate the price effect from other factors by calculating the price of exports in percentage of the price of imports for a current year (n) in relation to the base year (0). A change in T value shows a varying volume of imports which could be obtained from a given volume of exports on the basis of price relations. A rise in T value represents that imports are becoming relatively cheaper than exports and the terms of trade are becoming more favorable.¹ The net barter terms of trade did not change appreciably during 1956-1959, except in 1958. The T value went up to 111.7 in 1958. The reason for rising T value in the year might be mainly due to a fall in import price. The T value in 1957 and 1959 was 101.5 and 101.0 respectively. Some reader may wonder why the T value in 1957 remained in 101.5 while the G value in the year declined to 72.6. The inconsistency of these values are attributed to the partial concepts of the terms of trade because T value is determined by the ratio of P_e to P_i and G value is determined by the ratio of Q_i to Q_e . However, we know that the T value did not change and the G value did decline in 1957. Accordingly, $G/T = \frac{Q_i/Q_e}{P_e/P_i} = \frac{Q_i}{Q_e} \times \frac{P_i}{P_e} = \frac{V_i}{V_e}$, and $G = \frac{V_i}{V_e} \times T$, where V_i is value index for imports and V_e is value index for exports. If T remains unchanged, a change in G will be due to a change in the ratio of V_i to V_e . For the same reason, the decline in the G value in 1957 was due to a large decrease in the value index for imports.

¹R. G. D. Allen and J. Edward Ely, "International Trade Statistics" (New York: John Wiley & Sons, Inc., 1953), p. 208.

relative to a small decrease in the value index for exports as the T value remained unchanged. According to the Soviet foreign trade statistics, the recorded values of China's exports to U.S.S.R. were US\$ 764.2 millions in 1957 and US\$ 738.1 millions in 1957, and recorded values of China's imports from U.S.S.R. were US\$ 733.0 millions in 1956 and US\$ 544.1 millions in 1957. In addition, the weakness of the gross and net barter terms of trade is supplemented by the income terms of trade.¹

(3) Income Terms of Trade ($I = Q_e \times T$)

The income terms of trade is the net barter terms of trade multiplied by the volume index of exports. It refers to the volume of imports obtainable from the income earned from exports. This concept has also been called the "capacity to import." According to Kindleberger, if there is a strong pull toward equilibrium in the balance of payments (i.e., $P_e Q_e = P_i Q_i$), then $\frac{P_e Q_e}{P_i}$ determines Q_i . A country can buy more imports if any of three things happen: (1) The price of exports goes up; (2) The price of imports goes down; (3) The volume of exports goes up.² The values of I shown in Table 4 are 97.3 in 1957; 129.7 in 1958; and 127.4 in 1959. The slight fall in 1957 might be due to a small decrease in the volume of exports. A large rise in 1958 and 1959 might be attributed to an increase in the volume of exports and a decline in imports price as well.

¹. G. S. Dorrance, "The Income Terms of Trade," *Review of Economic Studies*, (1948-49), pp. 50-56.

². C. P. Kindleberger, "International Economics", 3rd ed. (Homewood, Illinois: Richard D. Irwin, Inc., 1963), p. 172.

The "gains from trade" can be derived from the income terms of trade. The gains from trade is represented by the income terms of trade $\frac{P_e Q_e}{P_i}$ less the volume index of exports Q_e , or $Q_e \left(\frac{P_e}{P_i} - 1 \right)$.¹ Further, the formula can also be rewritten as

$$\text{Gains from trade} = Q_e \left(\frac{P_e}{P_i} - 1 \right) = \frac{Q_e (P_e - P_i)}{P_i}$$

The gains from trade of China were 1.4 in 1957; 13.6 in 1958; and 1.3 in 1959 as compared to the base year 1956 (calculated from Table 3 and 4). In 1958, the gains from trade of China were attributed to a drastic decrease in import prices; a great difference between export prices and import prices; and a substantial increase in the volume of exports. In 1957 and 1959, there were no gains. The main reason for no gains in these two years were no significant difference between export prices and import prices.

¹C. P. Kindleberger, "The Terms of Trade: A European Case Study" (New York: John Wiley & Sons, Inc. & The Technology Press of MIT, 1956), pp. 288-89.

IV. FACTORS AFFECTING THE TERMS OF TRADE OF CHINA

From the previous results, we know that Communist China had improved the terms of trade as a result of the increase in the volume of exports since 1956. Further, we know that an improvement in the terms of trade will expand the export industries. The main commodities of China's exports during 1956-1959 were agricultural products and minerals which are considered as relatively labor-land-intensive (relative to the capital) commodities. The expansion of export industries due to the improvement of the terms of trade in China would cause high utilization of labor and land.

Communist China, since it had improved conditions in foreign trade after 1956, had a better domestic economy, especially in 1958 and 1959. In addition, the improvement of the terms of trade tends to increase the demand for import goods. For most of China's import commodities were machinery, transport equipment, manufactured goods and mineral fuels which are considered as capital goods. It is quite possible that the higher industrial production and rate of economic growth in 1958-1960 was due to the improvement of the terms of trade.

In the remainder of this section, a discussion of some factors which might affect the terms of trade of China during 1956-1959.

1. A study by Kang Chao pointed out that "the Soviet loans had been extended to Communist China since 1950 and they had been exhausted by the end of 1957. The loan receipts by China in 1956,

as Chao estimated, 117 million yuan, and the loan receipts in 1957 were 23 million yuan. According to the Sino-Soviet agreement signed on February 14, 1950, the commodities to be purchased by China with the loan proceeds were specified. The detailed types, quantities, prices and date of deliveries were to be determined by 'special agreements'. This commodity list was later designated as 'Commodity List C' to be distinguished from the 'Commodity List A' (the Soviet exports) and the 'Commodity List B' (the China exports) in the ordinary bilaterally balanced Sino-Soviet trade. The same provision had been renewed every year in the annual trade agreement until December 31, 1957.¹ Since Communist China received Soviet loans in 1956 and 1957, the transactions related to the loans were governed by specific provisions, i.e., some commodity prices on China's imports from U.S.S.R. were fixed. Besides, the Western embargoes and controls on trade with China forced China to trade with the Soviet Union. For these reasons, China had no other choice, then had to pay higher import prices. Apparently, the terms of trade were becoming unfavorable to China, especially in 1957. However, the improvement of the terms of trade in 1958-1959 was found partially by the enlargement of the volume of exports and partially by a fall in import prices relative to export prices in these years.

¹. Kang Chao, "Pitfalls in the Use of China's Foreign Trade Statistics", *The China Quarterly*, no. 19, July-Sept., 1964, pp. 54-56.

2. The Rouble-yuan exchange rate had been adjusted during 1956-1959. According to Kang Chao and Feng-Hwa Mah's article "A Study of the Rouble-Yuan Exchange Rate",¹

"it is quite certain that from the signing of the Sino-Soviet trade agreement on April 19, 1950 to the end of 1957, the effective rouble-yuan exchange rate was approximately 1 to 1 or more precisely 1.03 rouble = 1 yuan. We believe that it was either toward the end of 1957, or at the beginning of 1958, that the rouble value of the yuan was appreciated from 1 roubles = 1 yuan. Apparently at the same time, a non-commercial exchange rate of 6 rouble = 1 yuan was also introduced. The doubling of the rouble value of the yuan at the new foreign trade exchange rate, together with the introduction of the non-commercial rate, has corrected to some extent the overvaluation of the rouble at the old rouble-yuan rate, and made it less embarrassing for Peking to begin to publish the adjusted rouble-yuan rate along with the exchange rates between the yuan and other currencies." They further concluded that "the appreciation of the rouble value of the yuan from 1 to 2 roubles also made the new rouble-yuan rate consistent with the foreign trade exchange rates of Eastern European countries."²

From their study, we know that the rouble value of the yuan was appreciated from 1 yuan = 1 rouble to 1 yuan = 2 roubles either at the end of 1957 or at the beginning of 1958. The yuan value of the rouble was depreciated at the time. Under the classical presumption, the terms of trade of a country will worsen if the country's foreign exchange is depreciated because the export prices will fall and import prices will rise. But under the

¹.Kang Chao and Feng-Hwa Mah, "A Study of the Rouble-Yuan Exchange Rate", *The China Quarterly*, No. 17, Jan.-March, 1964, p. 192-204.

².Ibid., pp. 193-195.

contemporary presumption, "the export prices fall in foreign exchange, and import prices rise in domestic currency. In domestic currency, export prices rise, and in foreign exchange, import prices fall. The extent to which export and import prices fall abroad or rise at home will depend upon the elasticities."¹ We know that most of China's export goods are agricultural products and minerals, and its import goods are machinery and industrial equipments. Both China's domestic demand for its export goods and its demand for import goods have low elasticities. If Sino-Soviet trade had been carried on under the free market situation, and if the contemporary presumption is correct, the appreciation of Chinese currency against Soviet currency would have led to a rise in its export prices and a fall in its import prices. Therefore, we may conjecture that the terms of trade moved in favor of China in 1958 and 1959 due to the appreciation of the yuan against the rouble.

3. Transportation cost played an important role in determining the term of trade between the Soviet Union and Communist China. It might be a cause of the price differential between Sino-Soviet trade and Soviet-Other-Communist countries trade and Soviet-Non-Communist countries trade as well. Since exports and imports were valued at f.o.b. price base, the transportation cost, especially inland transportation, should be considered by both exporting and

¹C. P. Kindleberger, "International Economics" (3rd ed.; Homewood, Illinois: Richard D. Irwin, Inc., 1963), p. 173.

importing countries. In the first unit value comparison of Sino-Soviet trade with Soviet-Other-Communist countries trade as shown in Table 1, China seemed to receive lower export prices from U.S.S.R. and to pay higher import prices to U.S.S.R.. Indeed, this may be interpreted in terms of transport costs. Because the bulk of China's exports to U.S.S.R. (Soviet imports) and Soviet exports to China (China imports) must move over long distance of inland via Trans-Siberian railways,¹ the prices of the Soviet exports to or the Soviet imports from China should cover the costs of long and expensive hauls. On the other hand, Soviet transports to the other communist countries (most are East European satellites) were much shorter; besides, some of the goods could be shipped by sea. Therefore, the Soviet Union would bid up its export prices on China's import goods and undercut its import prices on China's export goods. This Soviet behavior might have resulted in the unfavorable terms of trade of China as shown in Table 1.

The price differential as shown in Table 2 obtained by comparing the unit value of selected commodities of Sino-Soviet trade with the unit value of similar commodities of Soviet-Non-Communist countries trade might be explained in terms of different types of transportation used. The situation of Soviet-Non-Communist countries was different from that of the Sino-Soviet trade. The so-called Non-Communist countries include Afghanistan,

¹. Eckstein, Alexander, "Communist China's Economic Growth and Foreign Trade: Implications for U.S. Policy" (New York: McGraw-Hill Book Co., 1966), p. 172.

Egypt, France, West Germany, India, Italy, United Kingdom, Malaysia, and Sweden. These countries are not closely located along the Soviet border. The Soviet hauls to these countries or these countries hauls to the Soviet Union were not necessarily through the long inland distance. Thus, the inland transport cost are not significant in the total cost of commodities. However, the large bulk of commodities are shipped by waterways. This means that the export goods are only moved from a point of manufacture to a port. If foreign transactions are based on f.o.b. price, an importing country would consider ocean freight. Under the combination of the above-mentioned circumstances, it would be possible for the Soviet Union to pay higher import prices on China's exports if the ocean freight which the Soviet Union was required to pay were greater than the inland transport costs. By the same token, the Soviet Union might possibly raise its export prices on China's imports because she had to bear expensive inland transport costs. In general, Communist China received favorable prices on its exports and paid unfavorable prices on its imports. This might be the reason that the results shown in Table 2 are neither favorable nor unfavorable to China.

Again, if the Sino-Soviet trade is carried on by means of bilateral agreement with f.o.b. price base, and if there is no other competition involved, and if the cost of production and the percentage of profit markup are the same in both countries, the terms of trade will move in favor of China because of the less inland transport costs she is required to pay. Since the Soviet

Union has to bear a larger amount of inland transport costs, she will, of course, try to bid up the price of her own commodities and undercut the price of other's in order to cover the cost.

4. The quality of a commodity might affect the price differential. Usually, a higher quality commodity is sold at a higher price, and a lower, at a lower price. Since the measurement of the quality of a commodity is very difficult and the commodities involved in international trade are so complicated, the quality of an international commodity is assumed to be homogeneous. In addition, the index of the terms of trade is calculated by aggregating fairly homogeneous commodities; therefore, the quality differential is assumed to have no effect.

V. CONCLUSION

The concepts of "the terms of trade" were developed mostly by classical and neoclassical economists. Because the concepts are partial, it is easy to be misled. For this reason, the use of the concepts of "the terms of trade" to illustrate economic phenomena should be carefully and thoroughly evaluated.

Since 1956, Communist China's income terms of trade with the Soviet Union had improved up to 1959. This largely due to the increase in the volume of exports and the decrease in the prices of imports. The enlargement of the volume of exports might be attributed either to the technological improvement or to the depression of domestic consumption, and the decrease in import prices might be resulted from the adjustment of the foreign exchange rate. Even though the price differential still existed between Sino-Soviet trade and Soviet-Other countries (Other-Communist and Non-Communist countries) trade, Communist China had obtained some gains from trade during 1956-1959. To what extent had Communist China improved the terms of trade and gained from trade? This is a crucial question. Because we do not know what the real situation of China in 1956 was, an exact quantitative illustration seems impossible. The results indicated in this study are only the comparison of the given years (1957, 1958, 1959) relative to 1956.

The terms of trade have been favorable to Communist China. But Communist China did shift her foreign trade away from the Soviet Union and moved toward the free world after 1960. This

move could be explained as a change in the political policy of Communist China because of the deterioration of Sino-Soviet relations. The political decision always plays an important role in determining the international trade of non-market oriented economies such as the Soviet Union and Communist China.

Table 1

COMPARISON OF UNIT VALUE OF SELECTED COMMODITIES IN SINO-SOVIET TRADE WITH THAT OF THE COMMODITIES IN SOVIET-OTHER COMMUNIST COUNTRIES TRADE, 1954-59

Terms of trade	Year		1956	
	Index numbers	Index numbers	Number of Commodities Selected	Selected Commodities as % of Total
(1) China exports to U.S.S.R.:				
$\frac{U_A}{U_B} \cdot \frac{P_A}{P_B}$	Valued at recorded prices	81	4	29.3%
$\frac{U_A}{U_B} \cdot \frac{P_A}{P_B}$	Valued at Other Communist Countries prices			
(2) China imports from U.S.S.R.:				
$\frac{U_A}{U_B} \cdot \frac{P_A}{P_B}$	Valued at recorded prices	136	6	17.5%
$\frac{U_A}{U_B} \cdot \frac{P_A}{P_B}$	Valued at Other Communist Countries prices			
(3) Terms of trade: (1)/(2)		59.6		

Notes: (1) Calculated from Appendix Tables 1-8.
(2) If (1)/(2) x 100 is greater than 100, the terms of trade is favorable to China.
If (1)/(2) x 100 is less than 100, the terms of trade is unfavorable to China.

Index Numbers	1957		1958	
	Number of Commodities Selected	Selected Commodities as % of Total	Index Numbers	Number of Commodities Selected
109	4	28.6%	91	14
				50.4%
133	5	15.6%	104	15
				35.9%
82.0			87.5	

Index Numbers	1959	
	Number of Commodities Selected	Selected Commodities as % of Total
91	14	42.6%
114	15	21.0%
79.8		

Table 2

COMPARISON OF UNIT VALUE OF SELECTED COMMODITIES IN SINO-SOVIET TRADE WITH THAT OF THE COMMODITIES IN SOVIET-NON-COMMUNIST COUNTRIES TRADE, 1956-58

Terms of trade	Year		1956	
	Index numbers	Index Numbers	Number of Commodities Selected	Selected Commodities as % of Total
(1) China exports to U.S.S.R.:				
$\frac{U_A^P}{U_A^T} \cdot P_A$ = Valued at recorded price		133	6	29.3%
$\frac{U_A^P}{U_A^T} \cdot P_C$ = Valued at Non-Communist Countries prices				
(2) China imports from U.S.S.R.:				
$\frac{U_A^P}{U_A^T} \cdot P_A$ = Valued at recorded prices		131	6	17.5%
$\frac{U_A^P}{U_A^T} \cdot P_C$ = Valued at Non-Communist Countries Prices				
(3) Terms of trade: (1)/(2)		101.5		

Note: See Table 1.

Index Numbers	1957		1958	
	Number of Commodities Selected	Selected Commodities as % of Total	Index Numbers	Number of Commodities Selected
132	6	28.6%	118	17
133	5	15.6%	105	15
91.7			112.4	

Index Numbers	1959	
	Number of Commodities Selected	Selected Commodities as % of Total
116	16	42.0%
120	15	21.0%
96.7		

Table 3

INDEX NUMBERS OF SELECTED COMMODITIES TRADED BETWEEN COMMUNIST CHINA
AND SOVIET UNION, 1954-1959 (1956 = 100)

(1) China Exports to U.S.S.R.				
Index	Year	1956	1957	1958
Value Index, V_A	100	$\frac{IV_{A1}}{IV_{A0}} \times 100 = 98.8$	$\frac{IV_{A2}}{IV_{A0}} \times 100 = 109.5$	$\frac{IV_{A3}}{IV_{A0}} \times 100 = 113.1$
Volume Index, Q_A	100	$\frac{IQ_{A1} \cdot P_{A0}}{EV_{A0}} \times 100 = 95.9$	$\frac{IQ_{A2} \cdot P_{A0}}{EV_{A0}} \times 100 = 116.1$	$\frac{IQ_{A3} \cdot P_{A0}}{EV_{A0}} \times 100 = 126.1$
Price Index, P_A	100	$\frac{EV_{A1}}{EV_{A0}} \times 100 = 103.1$	$\frac{EV_{A2}}{EV_{A0}} \times 100 = 94.3$	$\frac{EV_{A3}}{EV_{A0}} \times 100 = 87.3$

(2) China Imports from U.S.S.R.				
Index	Year	1956	1957	1958
Value Index, V_I	100	$\frac{IV_{I1}}{IV_{I0}} \times 100 = 70.7$	$\frac{IV_{I2}}{IV_{I0}} \times 100 = 128.0$	$\frac{IV_{I3}}{IV_{I0}} \times 100 = 117.8$
Volume Index, Q_I	100	$\frac{IQ_{I1} \cdot P_{I0}}{EV_{I0}} \times 100 = 69.6$	$\frac{IQ_{I2} \cdot P_{I0}}{EV_{I0}} \times 100 = 151.7$	$\frac{IQ_{I3} \cdot P_{I0}}{EV_{I0}} \times 100 = 136.3$
Price Index, P_I	100	$\frac{EV_{I1}}{EV_{I0}} \times 100 = 101.6$	$\frac{EV_{I2}}{EV_{I0}} \times 100 = 84.4$	$\frac{EV_{I3}}{EV_{I0}} \times 100 = 86.4$

Notes: (1) Notation see Appendix Tables 1 and 9.

(2) $V_{A0} = Q_{A0} \cdot P_{A0}$; $V_{A1} = Q_{A1} \cdot P_{A1}$; $V_{A2} = Q_{A2} \cdot P_{A2}$; $V_{A3} = Q_{A3} \cdot P_{A3}$

$V'_{A0} = Q'_{A0} \cdot P_{A0}$; $V'_{A1} = Q'_{A1} \cdot P_{A1}$; $V'_{A2} = Q'_{A2} \cdot P_{A2}$; $V'_{A3} = Q'_{A3} \cdot P_{A3}$

(3) Calculated from Appendix Tables 9-10

Table 4
THE TERMS OF SINO-SOVIET TRADE OF SELECTED COMMODITIES, 1956-1959
(1956 = 100)

Terms of trade	Year	1956	1957	1958	1959
Gross (barter) terms of trade:					
$G = \frac{Q_1}{Q_e} \times 100$		100	72.6	130.7	108.1
Net (barter) terms of trade:					
$T = \frac{P_e}{P_1} \times 100$		100	101.5	111.7	101.0
Income terms of trade:					
$I = Q_e \times T$		100	97.3	129.7	127.4

Note: {1} Calculated from table 3.
 {2} If the values of G , T and I are greater than 100, the terms of trade are favorable to China.
 If the values of G , T , and I are less than 100, the terms of trade are unfavorable to China.

Appendix Table 1
OVERVIEW TABLES OF SUPPORTED CONSTITUENTS FROM CONSTITUENT CHARTERS
AS OF SEPTEMBER 2006

- Note: (1) Calculated from: U.S. Department of Commerce, Bureau of Foreign Commerce, "Foreign Trade of the U.S.S.R.: 1956-57", World Trade Information Service Report, Part 3, no. 59-12, 1959, pp. 1-6.
- (2) Complete figures are not provided by the Bureau.
- (3) a indicates that the commodity is not included in the sum of V_A and $Q_A \cdot P_B$ (or V'_A and $Q'_A \cdot P'_B$) of the corresponding comparison.
- b indicates that the commodity is not included in the sum of V_A and $Q_A \cdot P_C$ (or V'_A and $Q'_A \cdot P'_C$) of the corresponding comparison.
- (4) Q_A = quantities of China's exports to U.S.S.R.; Q_B = quantities of other Communist countries exports to U.S.S.R.; Q_C = quantities of Non-Communist countries exports to U.S.S.R.
- V_A = recorded value of China's exports; V_B = recorded value of Other-Communist countries exports; V_C = recorded value of Non-Communist countries exports.
- P_A = unit value of China's exports; P_B = unit value of Other-Communist countries exports; P_C = unit value of Non-Communist countries exports.
- (5) The notation with apostrophe means imports which include quantities, recorded value, and unit value.
- (6) Conversion rates (U.S. dollars per rouble): \$0.25 = 1 rouble.
- (7) Metric ton = 2,204.6 pounds.
- (8) Meter = 1.0936 yards.

APPENDIX TABLE 2
SOVIET REPORTS OF TRADES CONTRIBUTING TO COMMUNIST CHINA,
OTHER THAN ENERGY AND NON-CHINESE COUNTRIES, 1956

Commodity	Communist China Imports				Other Commodity Imports				Non-Chinese Imports		
	t_A^1	t_A^2	t_A^3	t_A^4	t_B^1	t_B^2	t_B^3	t_B^4	t_C^1	t_C^2	t_C^3
Petroleum, crude, base and trucks, number	3,369	10,596	3,13	5,947	6,643	20,149	25,346	1,75	3,191	16,055	1,96
Petroleum, crude	397	14,803	37,59	8,450	6,123	2,526	53,675	25,25	974	15,023	15,42
Gasoline	643	95,112	54,70	25,245	28,736	673	24,930	39,36	1,67	7,346	45,59
Steel, stl	377	16,095	42,67	9,952	39,206	522	13,770	26,59	1,109	30,029	27,05
Fertilized lime and lime, all product	582	45,670	135,62	36,019	40,224	975	115,120	118,70	533	66,592	1,94,92
Copper, wrought and copper wire	6,900	8,205	1,19	7,193	6,293	24,900	25,987	3,04	80,600	19,649	0,95
Brassware for complete industrial plants	216,950						60,4075		22,572		
Total imports of selected commodities	1,361,959				94,785	97,975			268,766		
Total Communist China Imports from O.E.C.D.		725,025									
Imports of selected commodities as % of total		17.5%									

Note: See Appendix Table 1

Units:
(1) 1,000 US\$
(2) Metric Tons
Except as indicated

Appendix Table 3

SIX-MONTH REPORTS OF DEDICATED COMMUNISTS FROM COMMUNIST CHINA,

OTHER COMMUNISTS AND NON-COMMUNIST GOVERNMENT, 1957
 Units: (1) 1,000 YUAN
 (2) Metric Tons
 Except as indicated

Commodity	Communist China Reports						Other Communist Democrats Reports			Non-Communist Democrats Reports	
	Q _t	V _t	Q _t	V _t	Q _t *P _t	V _t	Q _t	V _t	Q _t	V _t	Q _t
Rubber, natural, crude ^a	48,100	31,204	0.77	**	53,400	**	**	**	97,000	87,634	0.69
Wool, raw	13,700	23,904	1.74	26,228	54,027	10,500	21,627	2,06	53,300	89,211	2.46
Tobacco, manufactured	44,400	43,031	0.98	41,052	43,051	26,000	29,594	0,92	15,500	14,645	0.94
Meat and meat preparation	57,400	53,850	0.59	25,710	16,850	25,900	16,113	0,62	53,300	11,006	0.35
Rice ^b	185,100	25,437	0.14	**	18,154	**	**	**	189,400	18,986	0.10
Wool fabric, 3000 meter	8,100	469,661	61.13	31,468	26,800	4,500	17,462	3,103	2,600	5,609	3.31
Tin, unroasted ^{a,b}	22,000	45,587	2.07	**	**	**	**	**	**	**	**
Total exports of selected commodities	713,0487	1,365,465	1,173,200		84,816						
Total Communist China exports to U.S.S.R.	790,125										
Exports of selected commodities as % of total	28.66										

Note: See Appendix Table 1.

APPENDIX TABLE 4
SOVIET REPORTS OF SELECTED IMPORTS TO COMMUNIST CHINA,
OTHER-COMMUNIST AND NON-COMMUNIST COUNTRIES, 1957

Commodity	Communist China Imports						Other Communist Countries Imports			Non-Communist Communist Countries Imports		
	Q _A	Y _A	Y _B	Q _B ^a	Y _B ^a	Q _C	Y _B	Y _B	Q _D	Y _D	Q _E	Y _E
Passenger cars, bus and truck, number	529	1,067	3,75	845	1,021	18,628	29,218	1,57	15,049	28,596		1,90
Petroleum, crude	580	14,911	37,40	8,516	6,916	4,222	94,618	28,43	1,201	28,042		16,20
Steelplate	573	31,496	54,06	23,290	23,052	826	75,516	46,58	306	12,791		41,80
Diesel oil	380	16,201	42,65	12,542	11,262	599	19,770	33,01	1,720	50,975		29,44
Iron and steel, rolling mill product	149	21,469	143,60	19,617	20,677	1,357	175,163	123,00	497	63,419		136,97
Copper, unroasted & b and copper wire		5				37,200	36,407	0,82	23,460	17,957		0,79
Equipment for & construction industrial plants		269,025				58,759				60,145		
Total imports of selected countries	165,064		64,970	63,838			352,285			179,823		
Total Communist China Imports free F.O.B.	544,200											
Imports of selected countries as % of total	15,66											

Note: See Appendix Table 1

Unit: (1) 1,000 ton
(2) metric ton
Based on
estimated
data

Non-Communist
countries Targets

APPENDIX TABLE 5
MOVEMENTS INVESTS OF STATE-OWNED CORPORATION FROM COMMUNIST CHINA
AVERAGE ANNUAL PERCENTAGE CHANGES IN INVESTMENT DURING 1980-1990

Commodity	Quantitative Chinese Export ^a				Other Commercial & Governmental Exports				Non-Commercial Quantitative Imports				
	Q. ₁	Y. ₁	Q. ₄	Y. ₄	Q. ₁	Y. ₁	Q. ₄	Y. ₄	Q. ₁	Y. ₁	Q. ₄	Y. ₄	
Yardage, natural ^b	36,100	22,044	0.61	**	21,203	14,270	0.61	**	222,600	131,419	0.59	**	
Yard, raw	12,100	21,219	1.75	24,277	16,900	17,636	2.0	34,200	65,617	2.01	**		
Tobacco, manufactured	39,500	35,415	0.80	37,559	37,197	23,100	21,956	0.95	22,700	20,737	0.96	**	
Wax and wax preparation	155,300	66,567	0.53	94,038	24,859	14,900	10,850	0.75	16,500	3,929	0.80	**	
Tea ^b	452,000	66,803	0.13	**	46,134	**	**	**	47,700	4,560	0.10	**	
Wool fabrics, 1,000 meters	9,000	42,526	4.76	30,545	26,559	5,200	10,987	3.43	1,900	5,607	2.95	**	
Fine wrought ^b	19,300	59,346	2.04	**	23,932	**	**	**	190	124	1.24	**	
Oak, 1,000 ft. tons	808	2,726	13.44	3,252	2,753	3,559	55,300	15.54	59	701	13.28	**	
Bone, 1,000 ft. tons	7,100	9,563	1.95	2,037	2,065	50,900	16,651	0.26	4,400	1,200	0.29	**	
Alum, 1,000 ft. tons	576	14,794	15.13	10,653	17,580	1,151	12,870	10.9	41	737	17.90	**	
Linen, 1,000 ft. tons ^b	12	2,363	1.89	2,615	**	90	21,353	217.89	**	**	**	**	

Appendix Table 3 (continued)

Note: (1) Calculated from U.S. Department of Commerce, Bureau of Foreign Commerce.

World Trade Information Bulletin

[2] Complete figures are not provided by the Bureau.
[3] Compositions and other values of Appendix table 1.

APPENDIX TABLE 6
BUDGET REPORTS OF SELECTED COMMODITIES TO COMMUNIST CHINA,
OTHER-DOMESTIC AND SEMI-COMMUNIST COUNTRIES, 1958

Commodity	Other Domestic Commodity Imports						Non-Domestic Commodity Imports		
	q_1^t	r_1^t	$q_1^t r_1^t$	$q_1^t r_1^t s$	$q_1^t r_1^t c$	$r_1^t s$	$r_1^t c$	r_1^t	$r_1^t p$
Passenger cars, number	1,264	2,158	1,71	3,490	1,617	13,652	16,752	1.2	6,804
Trucks, number	26,595	51,753	2,51	58,070	81,957	6,556	16,550	2.57	2,549
Petroleum crude, 1,000 M. tons	672	1,566	22,37	2,594	20,927	4,992	153,560	20,75	7,489
Gasoline, 1,000 M. tons	640	36,044	46,69	25,301	26,020	884	25,185	26,42	13,349
Steel mill, 1,000 M. tons	663	24,293	53,77	19,651	16,844	695	20,687	26,61	13,253
Iron and steel rolling-mill products, 1,000 M. tons	189	56,160	194,54	26,662	22,694	1,596	242,033	151,65	377
Bulkywaste for complaints ^{a,b}		166,162				51,259			182,471
Industrial plants									
Barriers, wall and roller, thousand	0.95	1,674	2,00	1,559	1,038	3,732	6,970	1.87	3,635
Tractors, number	2,656	10,769	4,05	12,384	7,432	2,096	11,138	4,05	5,946
Kerosene	352,800	11,970	0,54	10,895	9,212	39,100	1,200	0,05	478,200

Units: (1) 1,000 tons
(2) Metric tons
Except as indicated

Appendix Table 6 (continued)

	Φ_A^t	Γ_A^t	Σ_A^t	Ψ_A^{t+T}	Φ_B^t	Γ_B^t	Σ_B^t	Ψ_B^{t+T}	Φ_C^t	Γ_C^t	Σ_C^t	Ψ_C^{t+T}
Subsidized oil, n.	1.96 _{+10.0}	34.415	0.28	20.119	14.515	40.500	4.136	0.10	67.000	4.891	0.077	
Chemical, arts, n.	33	3.932	59.10	1.480	1.020	50	2.065	43.3	134	4.411	33.92	
Metallurgy	10,900	4.193	0.30	5,070	2,373	62,400	17,621	0.20	36,300	7,769	0.21	
Iron and steel, glass tires and fittings	75,600	16.295	0.23	16.311	15.913	117,700	87,192	0.23	27,000	5,844	0.22	
Agriculture, unincorp.	20,100	9.178	0.46	13.025	9.270	42,700	25,432	0.55	52,200	24,029	0.46	
Gloves, household, thousands	333	2.046	6.20	1.752	1.574	1,596	8,396	5.26	369	3,744	4.73	
Locomotives, railroads, aircrafts, n.	50	3.932	70.64	---	---	---	---	---	---	---	---	
Total imports of selected commodities	227,450		218,795	217,526		535,897			257,7170			
Total Government China Imports from U.S.S.R.			634,000									
Imports of selected commodities as % of total			25.3%									

Note: See Appendix Table 5

APPENDIX TABLE 7
**BOTTLE IMPORTS OF SELECTED COMMODITIES FROM CHINESE COMMUNIST
 OTHER-COMMUNIST COUNTRIES,^a 1959**

Commodity	Communist China Imports				Other Communist Countries Imports				Non-communist Other Countries Imports
	Q _t	V _t	Q _t ^b	V _t ^b	Q _t	V _t	Q _t ^b	V _t ^b	
Rubber, natural	23,900	10,084	0.76	---	16,183	---	---	228,200	1,477,749
Nail, raw	13,000	21,936	1.69	26,777	21,382	9,200	18,950	25,600	59,932
Tobacco, manufactured	36,200	29,481	0.88	37,113	22,750	38,900	39,052	1,02	28,190
Tea and tea preparation	82,500	42,102	0.51	53,044	18,156	15,900	10,923	0.54	18,400
Rice ^c	655,400	82,574	0.13	---	72,912	---	---	30,700	54,405
Wool fabrics, 1,000 meters	12,600	49,846	3.96	42,241	25,563	3,800	12,468	3,28	8,139
Tin, unroasted ^d	20,000	41,707	2.01	---	---	---	---	---	2,831
Catal, 1,000 N. tons	204	2,649	12.99	5,242	2,640	4,124	69,530	15,09	95
Kinforous metals and alloys, unroasted	13,900	33,196	1.06	3,373	33,034	70,600	19,043	0.27	7,800
Cement, 1,000 N. tons	560	8,525	35.88	6,144	6,182	1,044	11,450	30,90	276
Steel metals for found ^e 1,000 N. tons	13	2,458	201.69	2,095	---	101	22,415	221,93	---

Appendix Table 7 (continued)

	Q_A	\bar{Y}_A	\bar{Y}_A	$Q_A \cdot \bar{Y}_A$	Q_B	\bar{Y}_B	P_B	\bar{Y}_C	P_C	\bar{Y}_C	
Tea	17,200	19,441	1,112	—	25,654	—	—	23,900	10,536	1,48	
Vegetables	24,700	2,910	0,12	3,652	2,157	1,06,100	1,05,390	0,15	5,2,300	4,560	0,09
Fruit and nuts, fresh	1,75,700	19,419	0,15	26,054	25,053	93,400	15,720	0,16	90,400	16,879	0,18
Vegetable oils, edible	64,300	21,017	0,33	28,124	29,207	4,600	2,012	0,44	2,700	1,254	0,46
Cotton fabrics, 1000 square	148,900	50,065	0,24	59,160	50,049	35,400	14,065	0,40	6,000	9,049	0,34
Milk factories, 1000 litres	54,000	41,136	0,16	52,272	36,080	6,000	5,319	0,37	4,500	2,590	0,58
Frostmilk, leather	8,981	36,703	4,09	37,870	25,603	1,5,701	5,110	4,22	3,358	9,516	2,05
Soybeans, ^{a,b}	635,900	67,493	0,11	—	—	—	—	—	—	—	
Total exports of selected commodities	461,913	—	—	375,106	398,993	—	38,2,765	—	200,499	—	
Total Commodity Exports to U.S.A.	1,100,475	—	—	—	—	—	—	—	—	—	
Exports of selected commodities as % of total	42.0%	—	—	—	—	—	—	—	—	—	

Notes: See Appendix Table 5

APPENDIX TABLE 8
NOTICE REPORTS OF SELECTED CONTRIBUTOR TO COMMERCIAL CRIME,
OTHER-COMMERCIAL AND NON-COMMERCIAL CONTRIBUTOR CRIMES, 1969

Community	Commercial Crime Inputs						Commercial Crime Outputs		
	q'_A	y'_A	y'_B	q'_B	y'_C	q'_C	y'_D	q'_D	y'_E
Passenger cars, number	1,546	8,592	1,74	3,890	2,872	26,683	30,577	1,22	7,811
Trucks, number	8,046	25,366	3,15	18,935	30,507	15,176	20,656	2,35	5,076
Petroleum, crude	636	13,739	21,60	13,059	6,733	6,401	125,573	20,5	5,348
1000 W. trees									13,73
Gasoline, 1000 W. tree	1,456	51,519	41,26	46,103	47,637	953	74,921	36,71	41,5
Diesel oil, 1000 W. tree	537	10,730	55,65	16,533	14,597	899	26,654	89,65	3,187
Iron and steel, rolling,	130	29,988	266,06	19,191	14,296	1,910	261,983	147,43	396
Steel products, 1000 W. tons									120,74
Equipment for agriculture	399,762						85,001		81,359
Industrial Plants									
Barrels, half and smaller,	2,969	5,077	1,71	5,500	4,085	4,295	7,911	1,06	3,476
thousand									4,702
Tractors, number	941	2,649	2,32	3,270	2,769	11,636	43,132	3,40	4,703
Kerosene	250,100	13,157	0,03	12,540	10,635	49,000	1,643	0,03	409,600
									13,073
									0,03

Unit: (1) 1,000 US\$

(2) Millions

(3) Millions

(4) Millions

(5) Millions

(6) Millions

(7) Millions

(8) Millions

(9) Millions

(10) Millions

Appendix Table 8 (continued)

	q^1_A	q^r_A	q^1_A	q^r_A	$q^1_A x^{p^r}$	$q^r_A x^{p^r}$	q^1_B	q^r_B	T^1_B	T^r_B	η^1_B	η^r_B	η^1_C	η^r_C
Sulfuric acid	210,600	18,400	0.59	21,610	15,672	44,900	4,600	0.10	\$3,100	6,134	0.07	0.07		
Gasoline	53	1,202	36.75	1,446	945	55	2,403	43.69	204	5,259	20,64			
Paraffins	4,500	1,597	0.35	1,334	815	59,600	17,872	0.30	67,200	16,248	0.18			
Trees and their leaves and twigs	5,700	1,4403	0.27	13,231	10,679	130,500	89,913	0.25	57,000	7,537	0.20			
Alumina, unrefined	300	1.00	0.63	1.95	1.40	42,300	22,269	0.53	34,800	16,198	0.47			
Clay, kaolin and silica	379	12,205	6.09	1,929	1,989	2,945	12,950	5.09	3677	1,326	5.25			
Solvent, ethyl benzene	950	73,449	77.53	—	—	—	—	—	—	—	—			
Total imports of selected commodities	200,423	176,831	157,269	160,734	160,734	317,601								
Total Commodity Imports from U.S.S.R.	994,575													
Imports of selected commodities as % of total	21.0%													

Note: See Appendix Table 5

APPENDIX TABLE 9
GENERALIZED CHINA REPORTS OF HEAVILY CONCENTRATED TO T-5, S-5, R-5, T-5
RECORDED TAUTS AND TAUTED AT 15000 PESB

Oriented by	1956					1957					1958					1959				
	η_{10}	T_{10}	T_{40}	η_{1L}	T_{1L}	$\eta_{1L} \times 10^2$														
Indirect, average, annual	14,900	12,537	9,777	48,100	37,204	27,037	36,100	29,048	27,197	35,900	31,000	31,054	31,800	31,800	31,800	31,800	31,800	31,800		
Yield, raw	13,000	12,436	9,465	33,700	23,804	22,605	23,510	21,759	19,945	33,000	31,956	32,975	32,975	32,975	32,975	32,975	32,975	32,975		
Thinner, manufactured	26,900	29,947	0,95	44,400	41,011	45,404	35,300	31,435	36,300	36,300	37,600	37,600	37,600	37,600	37,600	37,600	37,600	37,600		
Hair and meat preparations	123,400	53,130	6,53	57,400	73,630	19,274	14,700	66,367	63,903	62,500	43,103	43,103	43,103	43,103	43,103	43,103	43,103	43,103		
Alive	497,600	64,406	0,34	131,110	25,437	25,754	45,600	65,863	63,292	69,400	63,574	63,574	63,574	63,574	63,574	63,574	63,574	63,574		
Non-fabricated, 1000 meters	5,000	35,473	4,05	5,100	49,561	48,403	9,000	46,426	56,090	12,600	49,940	49,940	49,940	49,940	49,940	49,940	49,940	49,940		
Tin, uncoated	25,700	33,497	8,07	22,000	45,507	45,540	13,300	36,346	39,753	30,000	41,707	41,707	41,707	41,707	41,707	41,707	41,707	41,707		
Total exports of uncoated committee	295,6734				295,574	248,895	364,227	364,403	364,403	364,403	364,403	364,403	364,403	364,403	364,403	364,403	364,403	364,403		
T-50, Committee China subject to D.S.C.	738,205				770,126		383,950													
Exports of uncoated committee on g of total	24,05				24,05		30,05													
																			26,05	

Note [1] Calculated from Appendix Tables 1, 2, 3, and 4.
Note [2] One page is shown for uncoated O, and current year is shown by underline.

APPENDIX TABLE 10
COMMODITY DATA REPORTS OF SELECTED COMMODITIES FROM U.S. I. & C. 1955-59
RECORDED VALUE AND VOLUME AT 1955 PRICE

Commodity	1955	1957	1958	Units [1] 1,000 US Metric Tons Energy as indicated	1959							
	$\frac{t}{kg}$	$\frac{t}{kg}$	$\frac{t}{kg}$	$\frac{t}{kg}$	$\frac{t}{kg}$							
Petroleum, kerosene and fuels, similar	3,369	10,596	3,125	539	1,807	21,677	21,639	53,862	68,768	9,530	26,493	27,023
Petroleum, crude	397	14,843	27,39	503	14,211	14,203	672	14,966	25,126	636	13,739	25,730
Gasoline	641	35,112	54,70	573	31,436	31,309	640	36,044	35,059	1,256	51,019	65,054
Distillate oil	577	16,095	42,67	503	16,321	16,315	663	27,269	26,290	537	18,739	23,767
Tires and steel wheels	582	43,670	135,62	149	21,409	20,307	119	36,768	25,632	130	29,303	17,630
Mill products												
Total imports of selected commodities	120,306											
Total, Domestic China	733,025											
Imports from U.S. 7,711												
Imports of selected commodities as % of total	16.4%											

Note: (1) Calculated from Appendix Tables 2, 4, 6, and 8.

(2) Estimates see Appendix Table 3 and 6.

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THE TERMS OF TRADE BETWEEN THE SOVIET UNION
AND COMMUNIST CHINA, 1956-1959

by

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B. S., Chung Hsing University, 1958

AN ABSTRACT OF A MASTER'S REPORT

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Several partial concepts of the terms of trade were developed by classical and neoclassical economists to evaluate a bilateral international transaction. Because the concepts are partial, it is easy to misunderstand the concept. The terms of trade are always expressed in the form of index. Thus, the prices a country gets for its exports in relation to its imports are shown in percentage. Several fairly-homogeneous commodities were selected as a sample from the Soviet foreign trade statistics during 1956-1959 for computing the terms of trade between the Soviet Union and Communist China in the period. The comparisons of the unit value of Sino-Soviet trade with that of Soviet-Other Communist countries trade and with that of Soviet-Non-Communist countries trade were made. From these comparisons, a price differential in Communist intra bloc trade as well as in outside bloc trade was found. The price differential might be due to the differential costs of transportation incurred in each country because the trade was based on f.o.b. price. Gross, Net, and Income terms of trade were calculated to measure the results of Sino-Soviet trade during 1956-1959. As the result, Communist China had obtained some gains from its trade with the Soviet Union owing to the relative move of the terms of trade in favor of China, especially in 1958. This favorable move might be due to the increase in the volume of China's exports and the decrease in the prices of China's imports. The increase in the volume of China's exports to U.S.S.R. during 1956-1959 might be due either

to the technological improvement or to the depression of domestic consumption. But the decrease in the prices of China's imports might be due to a relatively-favorable adjustment of foreign exchange rate. The shift in China's foreign trade from the Soviet Union to the free world after 1960 was conjectured by a change in political policy of Communist China resulting from the deterioration of Sino-Soviet relations.