SYRIA'S TERMS OF TRADE

1938, 1939, 1951-60

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PREFACE

In recent years, there has been an increasing interest in the terms of trade, both conceptually and statistically. Such an interest has probably been accentuated by the recognition of world disparities in living standards, and the subsequent classification of countries into developed (with high standards of living) and underdeveloped (with low standards of living) countries. This interest has been enhanced by the alleged long run deterioration in the terms of trade of underdeveloped countries, and the determination of many of them to raise their living standards through industrial, as opposed to agricultural, development.

The aim of this study is to measure and analyze changes in Syria's terms of trade during 1951-1960 mainly and the prewar years of 1938 and 1939. This may prove to be useful in the future on several grounds. First, changes in Syria's terms of trade will continue to affect its national income, balance of payments position, and its ability to obtain foreign exchange. Hence, changes in Syria's terms of trade will continue to affect the rate of its economic development. Secondly, a developing economy, like that of Syria, needs to assign priorities in its development plans. Whether to give priority to industrial or agricultural development is an important question that needs to be answered. Recent changes in Syria's terms of trade may

be of some help in this respect. Thirdly, a study of changes in Syria's terms of trade may help to shed some light on the controversy regarding the movement of terms of trade between developed and underdeveloped countries.

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ABSTRACT

This is a statistical study of changes in Syria's commodity and income terms of trade for the years 1938, 1939, and 1951-1960 inclusive. In addition, it is concerned with changes in the volume of Syria's exports and imports in the same period. However, the analysis of changes in the above mentioned terms of trade and volume indices is of a statistical nature; no attempt is made to go beyond the statistical findings to study the factors that could have produced such changes.

The study falls into two parts. The first part contains a general and theoretical discussion of the various terms of trade concepts, the relation of changes in the terms of trade to economic development, and the most important problems that are faced when one is attempting to measure changes in the terms of trade. The second part consists of the actual measurement and analysis of changes in Syria's commodity and income terms of trade, and its export and import volume indices.

The construction of the import unit value and import volume indices presented a more difficult task than did the construction of the export unit value and export volume indices; the number of items that entered into the construction of the import indices was more than double that which entered into the construction of the export indices. But while other

studies have used one system of weights, both current and base year weights were used in constructing the export and import indices given in this study. This, of course, resulted in an appreciable increase in the time spent in the construction of these indices.

With regard to Syria's commodity terms of trade, one can safely say that after 1951 they exhibited a downward trend; the downward path, however, was not a continuous one. Up to, and including 1957, Syria's income terms of trade showed a definite upward trend after which they started fluctuating. The path of Syria's export volume indices was similar to that of its income terms of trade indices. By 1953, the index was about five times its 1938 level; and by 1957, it was about 45 percent above its 1953 level. The volume of Syria's imports showed a definite upward trend despite some marked interruptions that occurred in 1957 and 1959.

The measurement of changes in Syria's terms of trade, and in the volume of its exports and imports, is an important thing by itself. Such a step, however, needs to be supplemented by further research which should aim at studying the influence of such changes on the Syrian economy, and investigate the factors (economic and non-economic) that may account for such changes.

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PART I

TERMS OF TRADE - GENERAL AND THEORETICAL CONSIDERATIONS

CHAPTER I

INTRODUCTION

A. IMPORTANCE OF TERMS OF TRADE

The terms of trade concept is not a new one; it has been receiving increasing attention over the last three decades. In countries where foreign trade is large in relation to output and expenditure, terms of trade - or rather changes in terms of trade - will affect the real national income of these countries as well as their balance of payments position. Foreign trade is usually more important in underdeveloped countries than in the developed ones. Many economists think that one of the reasons for the disparities between the living standards of the developed and underdeveloped countries has been the long run deterioration in the terms of trade of the latter.

There is no agreement among economists regarding the importance to be attached to changes in terms of trade. It is easier perhaps to justify their theoretical importance than their practical usefulness.

Rostow[1] finds the terms of trade to be important because they serve "as a short hand index of certain complex forces operating on the balance of payments and real wages, as well

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1. W.W. Rostow, "The Terms of Trade in Theory and Practice", The Economic History Review, III, No.1 (1950), pp. 1-2.

as a way of isolating an important factor determining relative income changes as between a country... and the... international economy." And also because "movements in the terms of trade hold a central position in the analysis of current international... economic problems and in the formulation of policy designed to solve them." In addition, the terms of trade, as a concept, "has its roots planted in two now largely separate bodies of economic thought: the short-run theory of international trade and the theory of economic development. It is to the bringing together of these lines of theory that economists are likely to devote increasing attention during the coming years."

Kindleberger[1] finds similar reasons to justify the importance and interest attached to changes in terms of trade. Where foreign trade plays an important role in the economy of a country, changes in terms of trade are important on balance of payments and national income grounds. Increased awareness of international disparities in living standards is another factor. "We suggest that the principal reason for widespread interest in the terms of trade is the growing consciousness of differences in world standards of living which has focused people's attention on the mechanism for the international distribution of income."

The above arguments for the importance of changes in

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1. Charles P. Kindleberger, The Terms of Trade, A European Case Study, (New York: The Technology Press of Massachusetts Institute of Technology and John Wiley and Sons, Inc., 1956), p. 2.

terms of trade find no better welcome than in the underdeveloped countries. Changes in terms of trade are not the only, or even the most important, factor which determine the rate of economic development, or in providing an explanation for the international disparities in living standards. However, foreign trade in the underdeveloped countries occupies a central position; and changes in their terms of trade may increase or reduce their ability to develop, assuming the will to do so. The alleged deterioration in the terms of trade of the underdeveloped countries is taken by some economists as an indication that foreign trade operates with a bias in favor of the developed countries. This has been questioned, however, on many grounds and the evidence is not conclusive. Attempts to predict the future terms of trade have been made since the forties; the evidence points in the opposite direction.

Less significance is usually attached to the construction and interpretation of terms of trade indices than to their theoretical importance. The merchandise terms of trade are the ones most commonly constructed and used. The current account terms of trade are rarely constructed because of the statistical and conceptual difficulties involved; however, these are the terms of trade most relevant to the analysis of the effect of the terms of trade on national income and the balance of payments.

Even where the commodity (merchandise) terms of trade

are constructed, numerous problems are encountered that reduce their usefulness. The construction of terms of trade involve the use of index numbers which "present serious analytical difficulties under any and all circumstances... these difficulties are especially serious over extended periods."[1]

These difficulties relate to the construction and interpretation of index numbers. The choice of a weighting system and a base year are difficulties of construction. The fact that index numbers may fail to reveal changes in quality or composition of trade impairs their usefulness even if all other obstacles were overcome.

These and other difficulties have led many writers to doubt the significance of computing the terms of trade. Kindleberger[2] cites F.C. Benham as saying that comparisons over long periods of time should be treated with particular suspicion, and Viner was reported to have said that over long periods, the available data are irrelevant. Another writer says that "no undue significance should be attached to what is, after all, only a man-made entity, and surely must be the outcome of complicated set of circumstances whose nature may differ widely and yet leave the ratio of

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1. Ibid., p. 7.

2. Ibid.

export and import prices unaffected."[1]

B. THE GAIN FROM TRADE AND TERMS OF TRADE

International trade bestows many benefits on the participating parties. Haberler[2] points out, in addition to the traditional benefits based on comparative advantage and specialization, four types of indirect benefits. First, and this is important to the underdeveloped countries - trade enables a country to import capital equipment and raw materials needed for development; secondly, trade provides a channel for the difusion of technical know-how and managerial talents from the more developed to the less developed countries; thirdly, trade is a vehicle allowing for international capital movements; and fourthly, trade reduces the risk of monopoly and helps to create an atmosphere conducive to competition.

These benefits are important enough. But perhaps more important is the gain derived from the direct exchange of goods and services. This type of gain derives from the principle of comparative advantage and its corollary, that of specialization. "According to classical theory, the gain to a country from foreign trade consists in getting

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1. H. Staehle, "Some Notes on the Terms of Trade", International Social Science Bulletin, III (1951), p. 34.

2. Gottfried Haberler, International Trade and Economic Development, (Cairo: National Bank of Egypt, 1959), p. 11.

indirectly in exchange for those products in which a country has comparative advantage (or less comparative disadvantage), more goods, or better goods than could be produced at home with the same quantity of productive resources, it being understood that the possible gain may be used to obtain leisure as well as more or better commodities."[1]

Different countries have different factor endowments. The principle of comparative advantage implies that each country would, as a result of the free play of the forces of the market, specialize in producing those commodities where its comparative advantage is greatest (or its comparative disadvantage is least). This entails specialization and division of labor on an international level. A country would also produce those commodities that embody a high proportion of its abundant factors and exchange them for commodities embodying a high proportion of its scarce factors. Thus specialization will increase the real income of the participating countries as each makes the most effective use of its factor endowments. It is this "international division of labor and international trade, which enables every country to specialize and to export those things that it can produce cheaper in exchange for what others can provide at a lower cost, have been and still

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1. Jacob Viner, International Trade and Economic Development, (Oxford: Clarendon Press, 1953), p. 34.

are one of the basic factors promoting economic well-being and increasing national income of every participating country."[1]

Thus the case for the gain from trade is established. But this is a static view of the gain arising from trade; all it says is that trade is better than no trade and that at a given time a country will be better off with, than without, trade. However, it does not say anything on how the amount of gain, over a period of time, may move in favor or against a country. The terms of trade, or rather changes in them, become relevant in attempting to answer this question.

1. Relevance of Terms of Trade

At a given moment, the terms of trade are hardly indicative of how the gain from trade is being divided between two countries. These terms reflect the conditions of supply and demand of the countries concerned. As such, "terms of trade are neither favorable nor unfavorable, except perhaps in the sense that they are more favorable to both parties than the prices at which they enjoy the two commodities without trade."[2] However, terms of trade of what-

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1. Haberler, op. cit., p. 6.

2. Charles P. Kindleberger, International Economics, (revised ed; Homewood, Illinois: Richard D. Irwin, Inc., 1958), p. 164.

ever type, could be constructed so that when referred to a base period would be indicative of changes in welfare and such changes may be more or less favorable.

In the sense most commonly used, the terms of trade of a country refer to the relation between the prices it gets for its exports and the prices it pays for its imports. The ratio of these two sets of prices is known as the commodity terms of trade; alternatively, it is known as the net barter terms of trade.

Most often, the construction of terms of trade has been limited to the commodity terms of trade. A favorable change in the commodity terms of trade means that more imports can be obtained for each unit of exports. "From the beginning of the classical period, if not earlier, the trend of the commodity terms of trade has been accepted as an index of the direction of change of the amount of gain from trade, and it is therefore an old doctrine that a rise in export prices relative to import prices represents a favorable movement of the terms of trade."[1] But is this relation between the trend in the commodity terms of trade and the direction of change in the amount of gain from trade as simple as that?

This relation has been criticized on many grounds.

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1. Jacob Viner, Studies in the Theory of International Trade, (New York: Harper and Brothers Publishers, 1937), p. 555.

The cause of the change must be known, as well as changes in the volume of trade, before one can say that a country is better or worse off because of a favorable or unfavorable movement in its commodity terms of trade. The commodity terms of trade concept, "although straightforward and clear... has been met with criticism from the economists, mainly because it ignores one or another of the factors which determine the influence of the terms of trade on the balance of payments, the gains from trade, or the income of a country. Consequently, several other definitions have been suggested which take account of one or more of the factors ignored."[1] And to say that a country's position has improved relative to a base period because its commodity terms of trade have improved can be misleading. "The implications for the welfare of the country or countries concerned depends on the causes that are at the root of the change."[2]

Some of the factors that bring about changes in the commodity terms of trade produce unambiguous results. For instance, changes in income or tastes abroad that reduce the demand for a country's exports are definite cases of a movement in the gain from trade against the country in question. On the other hand, an increase in costs of pro-

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1. M. K. Atallah, The Terms of Trade Between Agricultural And Industrial Products, (Rotterdam: Netherlands Economic Institute, 1958), p. 5.

2. Haberler, op.cit., p. 21.

duction due to depletion of resources, while improving the commodity terms of trade, may be accompanied by a reduction in the volume of exports which may offset the improvement in the commodity terms of trade. Or the commodity terms of trade of a country may have deteriorated because of falling costs of production; in this case, "the deterioration in the terms of trade has no sinister implications."[1] This is because increased efficiency means that a country is making effective use of its resources; the benefits may be passed on in the form of higher incomes or lower prices, or a combination of both. The effect on the balance of payments may be favorable if foreign demand is elastic so as to make up for lower unit prices of exports.

Several terms of trade concepts[2] have been suggested in order to isolate the effects of changes in terms of trade on the national income, balance of payments, and the welfare of a country. We will start with a discussion of the commodity terms of trade.

a. Commodity Terms of Trade

The commodity terms of trade refer to the relationship between the prices that a country receives for its

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1. Ibid.

2. For a comprehensive treatment of the various concepts of terms of trade see: Viner, Studies in the Theory of International Trade, op. cit., pp. 555-65.

exports and those it pays for its imports. They are expressed as a ratio of these two sets of prices; symbolically, the commodity terms of trade are expressed as follows: $Tc = \frac{ePn}{ePo} \div \frac{iPn}{iPo}$, where the notations P, e, i, n, o, stand for price, exports, imports, current period, and base period respectively.

"This index measures the trend of the 'Physical amount' of foreign goods received for one 'physical unit' of the export goods, with a rise in the index indicating a favorable trend and vice versa."[1] And for a long time, changes in the trend of commodity terms of trade have been accepted as an index of the direction of change of the amount of gain arising from trade. This is true (abstracting from changes in volume) under certain conditions. With trade limited to two commodities and under constant costs of production, the commodity terms of trade "refers to the factoral terms of trade, that is the ratio at which factors of production generally, are exchanged for each other. Once we consider many commodities, the possibility of a changing composition of exports, and historical changes in cost, the terms of trade concept loses its precision."[2] Under conditions of changing efficiency, the commodity

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1. Ibid., p. 558.

2. Gottfried Haberler, A Survey of International Trade Theory, (3rd Printing, Princeton: Princeton University, 1955), p. 26.

terms of trade fail to show the effect of changes in the terms of trade on both, the relative and absolute standards of living of the countries concerned.

The commodity terms of trade fail to show what happened to the ratio of the volume of imports to that of exports or vice versa. In addition, the commodity terms of trade "regards those goods only which pay for goods; it demarcates any movement of goods which serves for other payments."[1] Furthermore, changes in the commodity terms of trade measure the change in the purchasing power of a unit of exports without paying attention to what has happened to the volume of exports.

The above mentioned limitations of the commodity terms of trade will be taken up when the other concepts of terms of trade - introduced to do away with these limitations - are discussed. However, despite their shortcomings, the commodity terms of trade remain important. They are easier to construct than the other concepts and can be manipulated in conjunction with volume (export) indices to determine changes in the import capacity of a country.

b. Factoral Terms of Trade

The single factoral terms of trade are the commodity

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1. F. W. Taussig, International Trade, (New York: The Macmillan Company, 1927), p. 113.

terms of trade adjusted for changes in productivity in the production of exports. The double factoral terms of trade correct the commodity terms of trade for changes in productivity in both a country's exports and imports.

The single factoral terms of trade represent "the rate at which the services of a country's factors are exchanged for goods from abroad."[1] An improvement in the single factoral terms of trade is compatible with a deterioration in the commodity terms of trade. The deterioration in the commodity terms of trade will affect adversely the money income and balance of payments of a country. But an improvement in the single factoral terms of trade means that a country is making more effective use of its factors of production which will increase its real national income and its standard of living. The single factoral terms of trade are the terms "most relevant to discussion of change in the absolute standard of living... as affected by foreign trade."[2] As for the balance of payments, the adverse effect caused by the deterioration in the commodity terms of trade may be compensated, or over compensated for, if foreign demand for exports is elastic.

The double factoral terms of trade are important in

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1. Kindleberger, International Economics, op. cit., p. 167.

2. D. H. Robertson, "The Terms of Trade," International Social Science Bulletin, III (1951), p. 29.

discussions relating to relative standards of living between nations. They represent "the number of units of productive services of the foreign country whose product exchanged for the product of one unit of your own country."[1] It is possible, if productivity has increased in a country more than another for its double factoral terms of trade to move in its favor while the commodity terms of trade have moved against her. It is because of their significance in connection with relative national standards of living that Robertson[2] has called the double factoral terms of trade the "true" terms of trade.

Theoretically, then, the factoral terms of trade are more important than the commodity terms of trade when discussing the effects of terms of trade on the standard of living and real income of a country. In practice, however, they "cannot be calculated... for the concept of a 'unit of productive factor' and thus that of a productivity index, is almost impossible to define operationally."[3]

c. Gross Barter Terms of Trade

One of the shortcomings of the commodity terms of

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1. Viner, Studies in the Theory of International Trade, op. cit., p. 561.

2. Robertson, op. cit., p. 29.

3. Haberler, A Survey of International Trade Theory, op. cit., p. 27.

trade is their failure to show what has happened to the balance of payments. For instance, an improvement in the commodity terms of trade could mean any one of the following things: (a) exports and imports have remained in balance, but less exports are being exchanged for the same volume of imports; (b) or that more imports are being obtained for the same exports; (c) or exports exceed imports and the surplus is being invested abroad. In addition the commodity terms of trade fail to take account of unilateral transactions.

To make up for these deficiencies, Taussig introduced the gross barter terms of trade particularly to take account of unilateral transactions. The gross barter terms of trade "relate the quantities of imports and exports exchanged for one another in a subsequent period as compared with a base period."[1] Symbolically, they are expressed as: $\frac{iqn}{eqn} \div \frac{iqo}{eqo}$, or vice versa, where q refers to quantity and e, i, n, o refer to exports, imports, current period, and base period respectively. An improvement in the gross barter terms of trade is indicated by an increasing ratio of imports to exports.

One of the advantages of the gross barter terms of trade is that they are relatively easy to compute, another is that they help to give a better picture of how foreign

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1. Kindleberger, International Economics, op. cit., p. 166.

trade affects the welfare of country. Even if the commodity terms of trade of a country have moved advantageously, the gross barter terms may not do so, "and it is these total transactions which are really of significance for her welfare."[1] This is so because a country may be getting a high price for its exports relative to its imports but exports a quantity of goods for which it gets no money. Such exports may reduce the welfare of its people and increase that of the receivers.

However, the gross barter terms of trade have shortcomings of their own. "The meaning of the... gross barter terms of trade is unambiguous only when the balance of payments remains balanced in the two periods concerned and when these periods are sufficiently close together to ignore large changes in productivity."[2]

Viner agrees that allowance must be made in an index of gain from trade for unilateral transactions on condition that such gains or losses can be attributed to international trade, which he doubts. And "to use the statistics of commodity exports and imports as the basis for calculating the gross barter terms of trade would in practice be liable to lead to seriously misleading results. Such procedure would lead to treatment as unilateral transactions of commodity

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1. Taussig, op. cit., p. 114.

2. Kindleberger, International Economics, op. cit., p. 166.

exports or imports whose compensating imports or exports has taken place in the past,"[1] or to take place in the future.

A similar criticism is addressed by Haberler.[2] An improvement in the gross barter terms of trade does not necessarily indicate that a country is deriving more gain from international trade. This is so because the gross barter terms of trade "mixes heterogeneous cases which have to be judged differently, even if other things[3] have remained unchanged." Thus the gross barter terms of trade may have actually deteriorated when exports rise because the country pays reparations as well as in the case when exports rise because the country lends abroad. "Obviously these two cases have to be judged differently."

d. Income Terms of Trade

The income terms of trade - expressed as an index number - are defined as the commodity terms of trade multiplied by an index of the volume of exports. They are also referred to as a country's capacity to import and are expressed symbolically as Ti = Tc . Qx, where Tc is the commodity terms of trade and Qx an export volume index.

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1. Viner, Studies in the Theory of International Trade, op. cit., p. 563.

2. Haberler, A Survey of International Trade Theory, op. cit., p. 30.

3. Other things refer to employment or volume of production and maintenance of equilibrium in the balance of payments.

The commodity terms of trade relate to a unit of trade, they disregard the relation between the gain from trade and volume of trade. They measure the relative purchasing power of a unit of exports and neglect changes in the volume of exports. However, "changes in terms of trade should be analyzed and evaluated jointly with changes in the quantum of foreign trade. It is only when improved export prices relative to import prices are not attributable to a reduced volume of exports that results are uniformly favorable."[1] Otherwise, the reduction in the volume of exports may offset any favorable effects on the national income and balance of payments of a country obtained through an improvement in the commodity terms of trade.

The income terms of trade also, partly, remedy one of the deficiencies of the gross barter terms of trade; these, by dealing with the ratio of imports to exports (or vice versa), obscure what may have happened separately to the volume of exports and imports. The income terms of trade take account of changes in the volume of exports.

The income terms of trade are of special importance to underdeveloped countries. Foreign exchange resources are of the utmost importance in these countries who need

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1. U.N., Department of Economic Affairs, Relative Prices of Exports and Imports of Under-developed Countries, (Lake Success, New York: U.N. Publications, 1949), p. 122.

high imports of capital equipment and are usually faced with balance of payments difficulties. Ignoring the possibility of capital movements in the short run and the resource effect over the longer period, the income terms of trade will determine the import capacity of a country.[1]

A country's capacity to import is increased when: (a) prices of its exports go up; (b) prices of its imports go down; (c) the volume of its exports goes up; or (d) a combination of these. Hence an improvement in the commodity terms of trade of a country may not increase its capacity to import if the volume of exports falls to such an extent that it wipes away the gain from the improvement in the commodity terms of trade. This implies that a "deterioration in the commodity terms of trade is quite consistent with foreign-trade generated economic growth, so long as there is improvement in the income terms of trade. This is so, because it is the total import capacity of a country's export earning rather than the import capacity of each unit of her exports that is relevant (for capital formation)."[2]

But the income terms of trade did not escape criticism. Like the gross barter terms of trade,[3] it "mixes heterogeneous

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1. Kindleberger, The Terms of Trade, op. cit., p. 288.

2. A.I.A. Islam, "Pakistan's Terms of Trade, 1955-60", The Pakistan Development Review, I, No. 2 (1961), p. 56. Paranthesis mine.

3. Haberler, A Survey of International Trade Theory, op. cit., p. 30.

cases which have to be judged differently." The concept is "inferior" and less "reliable" a guide than the commodity terms of trade since it is possible for the income terms of trade to show an improvement in a case where either the quantity of exports has increased or the prices of imports have fallen. Obviously, these two cases do not have the same welfare significance for a country.

e. Other Concepts[1]

There are other concepts of terms of trade which will make the single factoral terms of trade a better index of changes in the amount of gain from trade. Multiplying the single factoral terms of trade by the reciprocal of an index of the "disutility coefficients" of the technical coefficients of the export commodities would result in a "real cost terms of trade index" which provides an index of the physical amount obtained per unit of real cost.

The real cost terms of trade index could be modified further to reflect changes in the relative desirability of import commodities and the commodities forgone which could have been produced with the help of factors of production now engaged in the production of export commodities. To take account of such changes in relative desirability arising from changes in tastes, "it would be necessary to incorporate

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1. See Viner, Studies in the Theory of International Trade, op. cit., pp. 559-61.

in the 'real cost terms of trade index' an index of the relative average utility per unit of imported commodities and of native commodities whose internal consumption is precluded by allocation of resources to production for exports."[1] This index may be referred to as "the utility terms of trade index."

The trouble with both, the "real costs" and "utility terms" of trade indices, lies in the fact that both concepts defy measurement. The concepts of disutility and utility involved cannot be measured; hence these two terms of trade concepts remain of theoretical interest only.

2. Terms of Trade - Coverage and Types

An index of the terms of trade may be computed to cover only the merchandise items in the current account of a country's balance of payments, or extend its coverage to include both the visible and invisible items in the current account. The first index may be referred to as the merchandise terms of trade index; the second as the current account index.

"On reflection, it is clear that the terms of trade for goods and services is a concept superior to that for goods alone."[2] This is so because the significance of the terms of trade arises mainly from the effect they may exert

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1. Ibid., p. 560.

2. Kindleberger, The Terms of Trade, op. cit., p. 17.

on the income of a country and/or its balance of payments which makes the current account terms of trade more relevant. Such terms, include all the transactions of a country with the rest of the world which may affect its national income, and a wider range of transactions that may affect its balance of payments. And for some countries, income or earnings in the current account from items other than exports of goods may be quite significant as is indicated in Table I below.

In a country like Norway, for instance, which earned during 1950-1955 about fifty percent of her total credits on current account from invisible items, the superiority of the current account to the merchandise terms of trade becomes clear. If the price of commodity exports behaves differently from that of the invisible items, the commodity or merchandise terms of trade become misleading as an indication of the changes in the gain from trade. The current account terms of trade, in addition to being more comprehensive than the merchandise terms, do not give rise to such an ambiguity.

TABLE 1

EARNINGS FROM INVISIBLE ITEMS AS A PERCENTAGE OF TOTAL CURRENT RECEIPTS FOR SOME COUNTRIES (1950-1955)

Country	1950	1951	1952	1953	1954	1955
Norway	49.6	48.0	51.3	51.5	48.8	51.2
Canada	-	-	-	20.1	20.3	21.7
Denmark	19.2	21.5	23.1	22.1	21.8	22.3
Greece	31.1	31.1	32.0	32.3	30.9	30.4
Ireland	45.6	44.5	39.9	36.9	36.0	37.6
Italy	22.1	19.8	25.7	31.1	31.1	31.8
Japan	29.1	36.4	47.8	46.6	36.8	29.6
Philippines	26.9	22.6	30.1	30.1	27.7	29.1
Sweden	22.8	21.8	25.6	26.4	26.6	26.8
United Kingdom	33.3	31.6	30.8	31.7	32.9	31.7

- = Not available

Source: Derived from data given in: U.N., Statistics of National Income and Expenditure; Statistical Papers, Series H, No. 10, (New York: U.N. Publications, 1957).

In practice, however, it is very difficult to calculate the current account terms of trade index because of the conceptual and statistical difficulties involved. In his detailed

study, Kindleberger mentions that it was possible to expand the merchandise terms of trade to include shipping and the services rendered by capital; this, however, "has been performed on a very crude basis.... A single index, largely derived from British data, has been used in each case to apply to the eight separate countries of Industrial Europe."[1]

Terms of trade can be constructed to cover all of a country's imports and exports, its imports and exports in selected commodities and commodity groups, or its trade with a country or region in all commodities or some selected ones.

Terms of trade between some commodity groups of exports and imports may be important particularly in the case of underdeveloped countries. These countries, require, among other things, heavy imports of capital goods; their exports, on the other hand, are mainly primary products. Hence the terms of trade between these two commodity groups may determine partly the ability of underdeveloped countries to carry on their development programs.

Detailed indices may help to shed light on the controversy regarding the historical trend of the terms of trade of underdeveloped countries, which could help in policy decisions regarding industrial as opposed to agri-

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1. Ibid.

cultural development. In addition, a detailed index may be used to obtain information on the developments of the volume of trade of particular groups of commodities.

But for a country, the overall terms of trade are the more important ones. These are affected by every item of exports and imports. For example, the exports of underdeveloped countries are usually composed of few items, their imports, on the other hand, are more diversified; now a favorable change in the prices of raw materials in relation to capital equipment may be offset by unfavorable movements in the prices of other imports - such as textiles and foodstuffs - which may be more important than capital equipment. The net result would be an adverse movement in the country's overall terms of trade.

The overall terms of trade are more comprehensive and relevant when analyzing the effects of changes in terms of trade on national income, balance of payments, and ability of a country to import. This does not underestimate the importance of detailed indices as these may be important in particular circumstances and in relation to policy decisions.

C. FACTORS AFFECTING CHANGES IN TERMS OF TRADE

Changes in the terms of trade of a country are affected by a variety of factors. It is difficult, however, to fit

these factors into separate categories independent of each other. It is perhaps possible to classify them under the comprehensive coverage of demand and supply. This is possible as the terms of trade relate to a ratio of two sets of prices and demand and supply analysis is well equipped in this respect. This, however, does not help much since splitting the forces working on the terms of trade into demand and supply is of limited use for analytical purposes because of its general nature.

The choice of a classification system is likely to be an arbitrary one. Speaking of changes in demand, Kindleberger mentions that "a variety of bases may be chosen for classifying demand, most of which overlap and all of which must be altered if a different point of view is chosen."[1]

The most common way of classifying factors affecting changes in terms of trade is according to their extent in time - short run and long run factors. But it is possible to distinguish factors or forces of a systematic nature, random factors, or contrived factors such as those relating to commercial policy.

These classifications necessarily overlap. In general, short run factors involve changes which are either random or have their origin in monetary expansion or contraction. These factors operate on both the demand for, and supply of

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1. Ibid., p. 177.

commodities. On the other hand, the long run approach covers structural and systematic changes in demand and supply. "In the short run, two types of factors are expected to influence the relative prices of agricultural and industrial products; the physical factors... and the monetary factors.... In the long run, structural factors, such as the Industrial Revolution, the opening of new territories, technical innovations, and changes in incomes and tastes, are thought to influence the movement of the relative prices of agricultural and industrial products."[1]

And according to Rostow, "the short run approach interprets changes in the ratio mainly in terms of the changing monetary and demand positions... the long period approach to the terms of trade remains closer to the real cost propositions of classical trade theory... it involves directly changes in relative productivity as well as in the structure of demand."[2]

In the short run,[3] changes in commercial policy, changes in the value of currency, the business cycle, and changes in foreign and domestic investment are factors that may influence

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1. Atallah, op. cit., pp. 1-2.

2. Rostow, op. cit., p. 6.

3. Kindleberger, The Terms of Trade, op. cit., p. 8.

changes in terms of trade; the extent and direction of their influence depends on the assumptions made. The first two factors may be classified as random factors; the next two as systematic. In addition, Kindleberger[1] mentions four other random factors that may operate from the demand side: (a) war and rearmament; (b) changes in tastes, except those involved in the acceptance of new products marketed by the leading manufacturing nations; (c) changes in demand derived from technological or other changes with the same exceptions as in (b); and (d) changes in demand produced by declines in income. And in the long run, systematic changes in demand relate to changes in income and tastes, technology, and population.

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1. Ibid., p. 177.

CHAPTER II

TERMS OF TRADE AND ECONOMIC DEVELOPMENT

In discussing the relation that may exist between changes in the terms of trade and economic development, a distinction is sometimes made between the terms of trade between underdeveloped and developed countries and those between primary and manufactured products. Most often, however, the distinction is not made. It is usual to take movements in the terms of trade between primary and manufactured products to reflect movements in the terms of trade between underdeveloped and developed countries. This is generally accepted because the exports of underdeveloped countries are mainly primary products while their imports are mainly manufactured ones; the opposite being true of the exports and imports of the developed countries.

A. INTERNATIONAL TRADE AND ECONOMIC DEVELOPMENT

The importance to underdeveloped countries of changes in their terms of trade is based on two related facts. The first has to do with the direct and indirect benefits that international trade bestows on the participating countries; the second with the special importance of international trade in the economies of underdeveloped countries.

In analyzing the effect of changes in the terms of trade on economic development, no attempt will be made here to define what is meant by economic development. It may be enough to point out that "a factor or institution or policy... are said to be conducive to economic development, if it can be shown that they speed up the rate of growth of per capita real income as compared with the rate that would obtain in the absence of the factor or policy or institution in question."[1]

We have seen, in the previous chapter, how international trade will increase the real income of the participating countries and bestows on them many other indirect benefits. "International trade not only increases national income within given production functions, thereby enabling a country to save and invest more, but trade also increases productive capabilities."[2] These benefits are of particular importance to underdeveloped countries; hence one may conclude that international trade - and therefore changes in the terms of trade - have something to contribute to economic development since "what is good for the national income and the standard of living is, at least potentially, also good for economic development; for the greater the volume of output the greater can be the volume

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1. Haberler, International Trade and Economic Development, op. cit., p. 1.

2. Ibid., p. 15.

of growth - provided that people individually or collectively have the urge to save and invest and economically develop."[1]

Implied in the above statements is that trade should proceed in accordance with the principle of comparative advantage which arises from differences in factor endowments. Two corollaries immediately follow: first, a country should specialize along lines in which it has a comparative advantage, exporting commodities that embody a high proportion of its abundant factors and importing those embodying a high proportion of its scarce factors; second, restrictions on trade will reduce the benefits arising from trade as the volume of trade will be reduced and hence free trade will serve best the interests of all participating countries.

This classical case for specialization and free trade based on comparative advantage has been criticised on several grounds. First, that the theory is a static analysis of trade and therefore unable to take account of the facts of dynamic changes, thus making it inapplicable to countries engaged in economic development and rapid structural change.

In the opinion of many economists, this deficiency in the theory is not as important as its supporters claim it to be. Kindleberger thinks that "the static nature of comparative advantage does not make it inapplicable to countries

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1. Ibid., p. 6.

engaged in economic development.... If factors should be changed by discovery or population growth, a new basis of comparative advantage is reached, but the same reasoning applies. Resources should be readjusted so as to give a new maximum."[1] Similar views are held by Haberler: "Now it is true that the theory of comparative cost is static; it is also true that the economies of most countries are changing and developing and that the theory should take account of the fact. But it is not true that a static theory, because it is static, is debarred from saying anything useful about a changing and developing economic world. There is such a thing as comparative statics."[2]

In addition to criticising the static nature of the theory, the relevance of the simplifying assumptions underlying the theory were also questioned. But more relevant to our discussion, are the criticisms addressed against excessive specialization and free trade.

While these propositions are usually accepted for the more developed countries, they have been questioned when applied unreservedly to underdeveloped countries. The proposition is put forward that international trade works with

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1. Charles P. Kindleberger, Economic Development, (New York: The McGraw-Hill Book Company, Inc., 1958), p.238.

2. Haberler, International Trade and Economic Development, op. cit., p. 8.

a bias in favor of the developed and against the underdeveloped countries. The following arguments are offered in support of this claim. First, excessive specialization in producing primary products, and unregulated trade, subject the economies of the underdeveloped countries to excessive cyclical fluctuations; secondly, trade is unable to do away with disguised unemployment; thirdly, unfavorable effects spread from the more developed countries to the less developed ones; and fourthly, the terms of trade have been moving against the underdeveloped countries for a long time. The fourth argument is relevant to our discussion and will be discussed in more detail in the last section of this chapter.

The arguments against free trade and excessive specialization are not addressed with the same intensity. Some accept free trade and specialization but have some reservations; others think that unregulated trade based on specialization may retard economic development.

Haberler who points out that international trade has made tremendous contributions in the development of many countries and is expected to continue to do so, accepts some limits on free trade: "It cannot be denied, I believe, that sometimes well chosen methods of moderate protection of particular industries can help to speed up economic development. This implies that free trade can to some extent retard the development of a country, not compared, of course, with a

situation of no trade but compared with a situation in which certain moderate amount of protection is given to suitably selected industries."[1]

B. IMPORTANCE OF FOREIGN TRADE IN UNDERDEVELOPED COUNTRIES

We have seen how international trade - subject to some restrictions - benefits the participating countries by directly increasing their real income, and indirectly, in many other ways. In underdeveloped countries, international trade usually assumes special significance; it is important both in relation to their balance of payments position and to their ability to develop. This importance is magnified as foreign trade is large in relation to total expenditure and output and because its composition in these countries makes their economies subject to wide and severe fluctuations which affect their income and foreign exchange holdings, and hence their ability to develop.

H. W. Singer stresses the importance of international trade to underdeveloped countries on the following grounds: "Foreign trade tends to be proportionately most important when incomes are lowest. Secondly, fluctuations in the volume and value of foreign trade tends to be proportionately more violent in that of underdeveloped countries and therefore...

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1. Ibid., p. 33.

also more important in relation to national income. Thirdly ... fluctuations in foreign trade tend to be immensely more important for underdeveloped countries in relation to that small margin of income over subsistence needs which forms the source of capital formation, for which they often depend on export surpluses over consumption goods required from abroad."[1]

Though the importance of international trade to underdeveloped countries is recognized, it is not always recognized that, in these countries, it is more important than in the developed countries. According to Singer,[2] this derives from a "logical confusion... between the absolute amount of foreign trade, which is known to be an increasing function of national income, and the ratio of foreign trade to national income. Foreign trade tends to be proportionately most important when incomes are lowest." In addition to this logical confusion, Singer mentions other factors which are advanced to belittle the importance of foreign trade in the underdeveloped countries as compared with the developed ones. "The great discrepancy in the productivity of labor in the underdeveloped countries as between the industries and occupations catering for exports and those catering for domestic production.... Hence employ-

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1. H.W. Singer, "The Distribution of Gains Between Investing and Borrowing Countries," American Economic Review: Papers and Proceedings, XL, No.2 (May, 1950), p. 473.

2. Ibid., pp. 473-74.

ment statistics in underdeveloped countries do not equally reflect the importance of foreign trade, since the productivity of each person employed in the export sector tends to be a multiple of that of each person employed in the domestic sector. Since, however, employment statistics for underdeveloped countries are notoriously easier to compile than national income statistics, it is again easy to slip, from the fact that the proportion of persons employed in export trade is often lower in underdeveloped countries than in industrialized countries to the conclusion that foreign trade is less important to them. This conclusion is fallacious, since it implicitly assumes rough equivalence of productivity in the export and domestic sector." A third factor is to be found in that a large part of the population in some underdeveloped countries is outside the monetary economy, and is not, therefore, very much affected by fluctuations in the volume and value of foreign trade.

In underdeveloped countries, a large percentage of their output is sold to foreigners and a large percentage of their income is spent on foreign imports. This makes exports occupy a central position as a determinant of national income, rate of savings, monetary stability, and hence capital formation and the ability to develop. Imports are also important as they provide a source for importing capital equipment and other needed products.

The importance of exports makes foreign trade by far the most important factor determining the ability of underdeveloped countries to obtain foreign exchange; there are exceptions, however. In a study made by the United Nations, the importance of exports as a source of foreign exchange is made clear. "Data on capital movements and invisible earnings indicated that such receipts did not compensate for instability in export proceeds. Underdeveloped countries depend almost exclusively on foreign exchange earnings from exports for their capacity to import. Before 1939, foreign exchange receipts from long-term gross capital imports were, on the average, about 10 percent of the foreign exchange receipts of the six countries examined. Earnings from invisible items were about one percent to 3 percent of export proceeds except where special circumstances resulted in higher proportions. During the period from 1946 to 1950, the net capital flow for investment... after allowing for service payments on prior capital debts, was negative for most underdeveloped countries examined."[1]

If the import capacity of underdeveloped countries is largely governed by foreign exchange proceeds from exports, then, this will have a strong influence on their rate of

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1. U.N., Department of Economic Affairs, Instability in Export Markets of Under-Developed Countries, (New York: U.N., 1952), p. 7.

development in two ways. First, their ability to import capital equipment will be reduced even if savings did not drop; this is so because many of the developmental expenditures, especially the import of capital equipment, have to be made abroad and in many instances other types of imports are likely to be needed. "Furthermore, if development projects are expected to result in the production of exportable goods, calculations of cost and income may be completely upset by wide fluctuations in prices and demand."[1] This reduces the usefulness of planning and forecasting.

The problem of the underdeveloped countries is intensified because of the wide fluctuations they witness in their export proceeds from year to year. The demand of the underdeveloped countries for imports usually covers a wide variety of commodities. On the other hand, their exports - mainly primary products - are subject to severe fluctuations which in prosperity bring unexpected benefits and do great harm in periods of depression. If the underdeveloped countries could save in periods of prosperity and utilize these savings in periods of depression, the problem would not be as severe. However, underdeveloped countries usually spend whatever foreign exchange they may earn.

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1. Ibid., p. 1.

C. CHANGES IN TERMS OF TRADE AND ECONOMIC DEVELOPMENT

The significance of changes in the terms of trade of underdeveloped countries is due to the importance of foreign trade in their economies and because other sources of foreign exchange are relatively much less important than those arising from the sale of exports. Changes in the terms of trade affect the national income, balance of payments, as well as the import capacity of an underdeveloped country. Their influence, however, must not be exaggerated. "The terms of trade... are only one factor - and not generally the most important single factor - in determining national income and funds available for economic development. Nor does an increase in export prices relative to import prices, automatically further economic development."[1]

An underdeveloped country may mobilize and utilize its domestic resources very efficiently; however, no matter how efficient in doing so, it has to resort to the importation of capital equipment and other goods necessary for its economic development which cannot be made available at home. To do this, it requires foreign exchange which it obtains mainly from selling its exports. Thus the more the rise in the prices of its exports relative to the prices of its imports, the more foreign exchange the country will have at its dis-

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1. U.N., Relative Prices of Exports and Imports of Under-Developed Countries, op. cit., p. 121.

posal, other things remaining equal, and the larger will be its national income and the possible margin of savings. "Improvements in the terms of foreign trade..., affect the national incomes of under-developed countries as definitely as improved technology, increases in employment or changes from less productive to more productive employment.... Conversely, a deterioration in terms of trade has the effect of offsetting such favorable developments as may occur."[1]

An improvement in the terms of trade of an underdeveloped country - by enabling it to obtain its previous imports for a smaller volume of exports, or an increased volume of imports for the same volume of exports - makes it possible for it to release part of its domestic resources for the purpose of economic development or to use the additional imports for the same purpose. Even when the improvement in the terms of trade is due to lower productivity or reduction in the volume of exports, the gain is still present "but it is in the negative form of a shifted or avoided loss, rather than a gain accomplished."[2]

There is also a relation between the flow and type of foreign investment and changes in the terms of trade. An improvement in the terms of trade of an underdeveloped country, by improving its ability to meet both, debt services on foreign borrowing and withdrawals of earnings arising from foreign

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1. Ibid.

2. Ibid.

investment, increases the ability of the country to develop through foreign financing of its projects. On the other hand, a deterioration in its terms of trade reduces its ability to absorb foreign finance and direct foreign investment towards activities yielding directly foreign exchange; these are usually of limited value to the development of the country in question.

A favorable change in the terms of trade of an underdeveloped country will strengthen its balance of payments position and reduces the possibilities of devaluation. This is so because underdeveloped countries usually face balance of payments difficulties and maintain the value of their own currencies - in terms of foreign currencies - in many instances, by imposing exchange controls and import restrictions.

For purposes of illustration, let us examine some figures that may help to indicate the importance to underdeveloped countries of changes in their terms of trade. "According to calculations made by the 'Economist', the fall of 7½ percent which occurred in the prices of primary commodities between 1956 and 1957 has resulted in a loss of $3,500 million to $4,000 million in the annual earnings... generated by the primary producing countries. Dr. T. Balogh estimates this fall by 8½ percent and thinks that it represents a fall in the purchasing power of the producers of well over

£ 1,500 million per annum - more than the whole of the Western Economic Aid to the poor areas."[1]

An improvement in the terms of trade of an underdeveloped country plays a positive role in accelerating the rate of economic development when no reduction in the volume of exports has taken place. If the volume of exports has fallen, the improvement in the terms of trade will offset partly the loss of foreign exchange, a situation better than where only the volume of exports is being reduced with no offsetting favorable changes in the terms of trade.

Also, it does not follow necessarily that improved terms of trade will accelerate the rate of economic development; the gain may accrue to foreigners who may own the sources of primary products. Even if the natives of a country receive the benefits, there is no guarantee that economic development will proceed faster. Increased foreign exchange earned through an improvement in the terms of trade may be spent on luxuries or may result in an inflation, both of which are not conducive to economic development. An act of domestic saving is needed to enable a country to make use of an improvement in its terms of trade to accelerate its rate of economic development.

There are some general remarks which must be made when the relation between economic development and changes in the terms of trade is discussed.

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1. Atallah, op. cit., pp. 3-4.

There exists a paradoxical relationship between changes in the terms of trade and economic development.[1] The urge towards industrialization is usually felt strongly when the prices of primary commodities are falling relative to those of manufactured commodities; yet, at such times, the resources, both local and foreign, at the disposal of an underdeveloped country available for financing industrialization are diminished. And when the opposite relation between these two sets of prices prevail, and the underdeveloped country can import capital and other goods necessary to carry on its development, the incentive to industrialize is usually weak. Investment will be directed to the production of more primary commodities to the neglect of domestic investment in industry.

The second remark has to do with the position of an individual underdeveloped country when one is considering the general trend between the prices of primary and manufactured commodities. A predominant proportion of the exports of an underdeveloped country is usually accounted for by one or a few primary commodities. On the other hand, its imports are more varied and contain besides capital goods, and sometimes more important in value, other imports such as foodstuffs and textiles. For instance, "textile manufactures constitute a high proportion of the imports of underdeveloped

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1. Interpreted to mean industrialization.

countries and their importance increases inversely with the degree of development; it is highest in the least developed countries."[1]

A fall in the prices of capital goods relative to those of primary commodities does not imply necessarily that the terms of trade of an underdeveloped country have improved, and thus the import capacity of the country has increased. According to a United Nations study, "high prices of capital goods cannot be considered, in the aggregate, a significant factor in reducing the supply of capital goods to under-developed countries.... While prices of capital goods were not a major factor in limiting supplies in general, the high prices paid for imported textile manufactures had serious consequences. The prices paid by under-developed countries for imported textile manufactures rose more than the export prices obtained by under-developed countries."[2]

In addition, a general improvement or deterioration in the prices of primary commodities, relative to manufactured ones, may not have the same effect on all underdeveloped countries. The overall terms of trade of a particular country depend on the manner in which the prices of its main exports - usually very few - have moved in relation to the prices of its

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1. U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., p. 14.

2. Ibid., pp. 14-15.

imports. There is no reason why the particular prices of a country's exports should behave according to the general trend. The United Nations study makes this point clear: "Price changes among the various primary goods which different under-developed countries export and the various capital goods which they import have been highly diverse. The relative terms on which primary goods could be exchanged for capital goods in the post-war period, compared with the immediate pre-war period, depended upon the particular goods exchanged in the trade between the under-developed and the industrialized country."[1]

The third remark relates to the possibility of export and import prices rising equally. In a situation of this sort, one is likely to think that the position of a country will remain unchanged. This, however, is true only when the value of imports and exports are fairly balanced. "This, however, ceases to be true when imports are considerably larger than exports, or vice versa. Under-developed countries often have import surpluses.... In such cases, the rise in import prices is a much more serious matter and it is not sufficiently compensated by an equal rise in export prices. When this applies, the balance of payments of an under-developed country may deteriorate seriously even though export and import prices rise in exactly the same degree."[2]

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1. Ibid., p. 36.

2. Ibid., p. 123.

One final remark: an underdeveloped country could pay for its current imports from the proceeds of exports sold in the past and from accumulated reserves; or it could finance such an import surplus through foreign loans. Again, development programs usually extend into the future, and imports of capital equipment have to be paid for at a future date. Hence, it is the future terms of trade of an underdeveloped country that are important. The long run movement in the past of the terms of trade between the developed and underdeveloped countries may be of analytical or historical interest. However, this movement may be important if it is of any help in predicting the future movement in the terms of trade. The past trend has been, according to many economists, in favor of the developed countries and is expected to continue as such; this view is not accepted by many economists.

D. TERMS OF TRADE - PAST MOVEMENT

The theory has been advanced, that ever since the 1870s, there has been a discernible trend in the terms of trade between the underdeveloped (primary exporters) and the developed countries (manufactures exporters). It is maintained that the terms of trade of the underdeveloped countries have been deteriorating since then and will continue to do so in the future. The weight of the evidence seems to point out that though the past movement of the terms of trade has been in

favor of the developed countries, one cannot speak of a continuous trend nor of its continuation in the future in the same direction.

1. Past Trend - Statistical Evidence

It must be pointed out at the beginning, that statistical data on the long run movements of the terms of trade of the underdeveloped countries in the past are not directly available. What is available relates to the terms of trade of the now developed countries, particularly the United Kingdom. "Among the developed countries, series long enough to shed light on the long-run movement have been constructed only for Britain. And most of the statistical material used in discussions about the terms of trade between agricultural and industrial countries relate to the British terms of trade."[1]

The terms of trade of a developed country will furnish only indirect evidence on the movement of the terms of trade of its trading partners, the underdeveloped countries. However, the reliance on the British terms of trade is justified on two grounds: first, there are practical considerations which have to do with the availability of data; secondly, Britain in the nineteenth century accounted for a substantial part of world trade, with its imports composed mainly of primary commodities and exports predominantly of manufactured

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1. Atallah, op. cit., p. 6.

commodities, as it was the first industrial country.

Two series, for net barter terms of trade, covering long periods have been constructed for the United Kingdom. The first was prepared by A. H. Imlah and covers the period between 1798-1913. This series covers only visible trade and is constructed by dividing export indices by the corresponding import indices. This series is given below in Table 2.

TABLE 2

THE NET BARTER TERMS OF TRADE OF THE U.K., 1798-1913 (1880 = 100)

Year	N.B.T. of T.	Year	N.B.T. of T.	Year	N.B.T. of T.	Year	N.B.T. of T.	Year	N.B.T. of T.
1798	222.3	1817	149.3	1836	119.9	1855	97.4	1874	113.0
1799	202.7	1818	141.2	1837	129.1	1856	97.8	1875	112.0
1800	205.0	1819	163.6	1838	120.5	1857	99.8	1876	105.3
1801	202.1	1820	160.8	1839	105.0	1858	103.4	1877	99.1
1802	277.7	1821	174.4	1840	106.1	1859	102.2	1878	102.9
1803	256.7	1822	164.0	1841	109.8	1860	95.6	1879	101.7
1804	225.9	1823	158.8	1842	115.4	1861	97.3	1880	100.0
1805	218.7	1824	163.6	1843	126.3	1862	107.5	1881	97.6
1806	220.4	1825	138.4	1844	123.9	1863	116.0	1882	96.0
1807	212.7	1826	162.1	1845	131.1	1864	110.7	1883	96.6
1808	216.3	1827	154.4	1846	107.8	1865	105.8	1884	99.3
1809	155.1	1828	154.9	1847	107.1	1866	109.5	1885	100.2
1810	173.6	1829	146.3	1848	120.3	1867	107.6	1886	100.9
1811	210.1	1830	145.6	1849	114.9	1868	100.9	1887	101.4
1812	171.9	1831	138.3	1850	112.3	1869	103.3	1888	99.9
1813	-	1832	144.2	1851	113.0	1870	102.8	1889	101.2
1814	149.0	1833	125.1	1852	113.7	1871	109.1	1890	109.5
1815	155.3	1834	119.5	1853	109.0	1872	112.8	1891	108.3
1816	169.3	1835	119.6	1854	106.2	1873	116.7	1892	106.8

TABLE 2 (CONTINUED)

Year	N.B.T. of T.	Year	N.B.T. of T.
1893	107.6	1904	118.8
1894	110.7	1905	118.4
1895	111.7	1906	120.2
1896	111.9	1907	120.6
1897	111.6	1908	120.6
1898	111.1	1909	114.8
1899	119.0	1910	113.2
1900	126.1	1911	118.2
1901	124.3	1912	118.1
1902	119.8	1913	122.2
1903	118.1		

- = Not available.

Source: A.H. Imlah, "The Terms of Trade of the United Kingdom, 1798-1913", The Journal of Economic History, X (1950), pp. 177-182. Table 1 quoted in: Atallah, op. cit., Appendix 1, Table 1.

The second series was prepared by Colin Clark and is constructed by dividing export price indices by the corresponding import price indices. This series is given in Table 3 below.

TABLE 3

THE UNITED KINGDOM NET BARTER TERMS OF TRADE
(1913 = 100)

Period	N.B.T. of T.	Period	N.B.T. of T.
1801-15	141.7	1886-93	88.8
1816-28	123.6	1890-1903	97.6
1829-42	100.2	1904-10	97.7
1843-50	92.4	1911-13	98.5
1851-59	82.6	1914-18	93.6
1860-69	86.0	1919-23	130.1
1870-76	92.0	1924-32	124.1
1877-85	82.4	1933-37	138.0

Source: Colin Clark, The Conditions of Economic Progress, (1st ed.), quoted from A.E.Khan, Great Britain in the World Economy, (New York: 1956), p. 144, in B. Higgins, Economic Development, (New York: W.W. Norton and Company, Inc., 1959), p. 364.

A third series is given by Kindleberger for Industrial Europe - Britain, Germany, France, Italy, the Netherlands, Belgium, Sweden, and Switzerland. It covers merchandise trade and is constructed by dividing exports prices by imports prices. This series is comprised of two indices: one is unadjusted and includes trade between the countries of Industrial Europe, the other is adjusted to exclude such trade and covers the period 1900-1952. There are differences in the absolute magnitudes of the two indices but both reflect similar movements in the terms of trade of Industrial Europe.

The adjusted series, however, reflects more accurately changes in the terms of trade between Industrial Europe and the underdeveloped countries; it is given below in Table 4.

TABLE 4

INDUSTRIAL EUROPEAN MERCHANDISE TERMS OF TRADE, 1900-1952
(1913 = 100)

Year	Terms of Trade	Year	Terms of Trade
1900	113	1926	109
1901	113	1927	109
1902	109	1928	108
1903	109	1929	109
1904	108	1930	119
1905	107	1931	129
1906	107	1932	136
1907	106	1933	138
1908	108	1934	137
1909	103	1935	135
1910	100	1936	130
1911	101	1937	124
1912	100	1938	134
1913	100	1946	-
1920	96	1947	125
1921	108	1948	118
1922	110	1949	118
1923	114	1950	106
1924	113	1951	102
1925	108	1952	109

- = Not available.

Source: Kindleberger, The Terms of Trade, op. cit., Table 2-1, pp. 12-13.

A fourth series is given by the United Nations for the United Kingdom and covers the period 1876-1938. The indices are expressed as the ratio of imports prices to exports prices and are constructed by using current weights. This series is given below in Table 5.

TABLE 5

UNITED KINGDOM TERMS OF TRADE, 1876-1938

(1938=100)

Period	Terms of Trade	Period	Terms of Trade
1876-80	163	1926	119
1881-85	167	1927	122
1886-90	157	1928	123
1891-95	147	1929	122
1896-1900	142	1930	112
1901-05	138	1931	102
1906-10	140	1932	102
1911-13	140	1933	98
1913	137	1934	101
1921	93	1935	103
1922	102	1936	107
1923	107	1937	107
1924	122	1938	100
1925	125		

Source: U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., Table 5, p. 22. Based on W. Scholte, "Enwicklung und Strukturwandlungen des englischen Aussenhandels von 1700 bis zur Gegenwart", Probleme der Weltwirtschaft, No. 62, (Jena, 1938).

The series presented in Table 2 for the United Kingdom and constructed by Imlah, shows that the British terms of trade deteriorated between 1800 and 1860. Then, for a period of about fifteen years the deterioration stopped to continue again until 1882 and moved favorably with some exceptions until 1913. A similar movement is shown in Clark's series.

Kindleberger's series for Industrial Europe, like the above two series, shows some movements up and down in the index but no general trend. Between 1900 and 1920 there was a downward trend of less than one point a year, on the average. And with the exception of a marked movement in favor of industrial products in the early thirties and one in favor of agricultural products after the Second World War, no trend is discernible.

The fourth series, given by the United Nations, shows a trend despite some marked fluctuations in the index. Between 1876 and 1938, the trend of the terms of trade of the United Kingdom is decidedly downward.

For the sake of comparison with Tables 3 and 4, the figures given in Table 5 have been adjusted by changing the base year from 1938 to 1913. The result is given in Table 6 below.

TABLE 6

UNITED KINGDOM TERMS OF TRADE, 1876-1938

(1913=100)

Period	Terms of Trade	Period	Terms of Trade
1876-80	119	1926	87
1881-85	122	1927	89
1886-90	115	1928	90
1891-95	107	1929	89
1896-1900	104	1930	82
1901-05	101	1931	74
1906-10	102	1932	74
1911-13	102	1933	72
1913	100	1934	74
1921	68	1935	75
1922	74	1936	78
1923	78	1937	78
1924	89	1938	73
1925	91		

Source: Calculated from data given in Table 5.

The conclusions that may be derived from the series of Imlah, Clark, and Kindleberger do not lend themselves to generalizations such as the one usually given: that the terms of trade of the underdeveloped countries have been deteriorating for a long time. The favorable trend shown in Imlah's and Clark's series between 1800 and 1850 are of little use in predicting the future terms of trade between the developed and underdeveloped countries. Concerning Imlah's series, Higgins points out that "this series is of limited use for predicting

the movements in terms of trade of underdeveloped countries today."[1] Kindleberger's series does not show any secular trend, favorable or unfavorable.

The figures given in Table 5 by the United Nations have been used to support the theory which states that there has been a secular tendency for the terms of trade of the underdeveloped countries to deteriorate. The data indicates that on the average, a given quantity of primary exports, would pay for about 60 percent of the quantity of manufactured goods at the end of the period (1938) as compared with the beginning of the period (1876).

Among the outstanding advocates of this theory is H.W. Singer who accepts the findings of the United Nations and states that "it is a matter of historical fact that ever since the seventies the trend of prices has been heavily against sellers of food and raw materials in favor of the sellers of manufactured articles. The statistics are open to doubt and to objection in detail, but the general story which they tell is unmistakable."[2]

2. Past Trend - Explanation

It is possible to explain the deterioration in the terms of trade of the underdeveloped countries as being

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1. Higgins, op. cit., p. 362.

2. Singer, op. cit., p. 477.

the result of differences in the rate of increase in productivity in the production of primary and manufactured commodities; the implication being that the rate of increase in productivity in the output of primary commodities was greater than that in the output of manufactured commodities. This explanation, however, was not accepted by the authors mainly responsible for the thesis of the secular deterioration in the terms of trade of primary producers.[1] On the contrary, they believe that productivity increased at a faster rate in manufacturing industries than in primary production. "The possibility that changing price relations could merely reflect relative trends in productivity may be considered as disposed of by the very fact that standards of living in industrialized countries (largely governed by productivity in manufacturing industries) have risen demonstrably faster than standards of living in underdeveloped countries (generally governed by productivity in agriculture and primary production) over the last sixty or seventy years."[2]

The following explanations are usually offered instead. In the industrialized countries, the fruits of technical

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1. See: Singer, op. cit., pp. 477-78 and U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., p. 126.

2. Singer, op. cit., p. 478.

progress - increased efficiency and falling real costs - result in increased incomes for labor and more profits for the entrepreneurs; they are not passed on to consumers in the form of lower prices. On the other hand, technical progress in the production of agricultural commodities and raw materials is passed on to consumers - native and foreign - in the form of lower prices.[1] These differences in how the fruits of technical progress are passed arises from the exercise, in the developed countries, of monopolistic powers which maintain the level of prices in the face of increasing productivity. Employers and labor unions in the developed countries are said to be able to maintain prices up and thus do not allow the consumers to share in the fruits of technical progress through lower prices; they keep these fruits for themselves in the form of higher wages and profits.

Another explanation, in addition to the above, is given in terms of Engel's law which states that as incomes rise, the demand for food rises less than the demand for finished industrial products; the percentage spent on food by consumers is a decreasing function of income.

Also, as people get richer, the percentage of national income spent on the products of tertiary industries increase,

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1. It must be noted that this argument does not invalidate the proposition that changes in the rates of productivity between the industrialized and underdeveloped countries has been in favor of the latter.

which implies that the percentage spent on primary products will decline. And "in the case of raw materials, technical progress in manufacturing actually largely consists of a reduction in the amount of raw materials used per unit of output, which may compensate or overcompensate the increase in the volume of manufacturing output."[1]

Kindleberger thinks that "the basis for the tendency of the terms of trade to deteriorate for underdeveloped countries is found in their immobility of supply.... Supply is elastic for price increases and inelastic for price declines."[2]

3. Past Trend - Criticism

Various criticisms have been addressed against the theory which maintains that the terms of trade of primary producers have been deteriorating ever since the 1870s. These criticisms are addressed against the data taken as a basis for the theory - namely the inverse of the British terms of trade - and against the attempted explanations to such a trend. This attitude is briefly summed up by Haberler who writes: "the theory of the secular tendency of the terms of trade to deteriorate for primary producers, i.e. for prices of primary, especially agricultural, products to fall relatively to the prices of finished goods is a big topic and raises many intricate questions. I

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1. Singer, op. cit., p. 479.

2. Kindleberger, Economic Development, op. cit., p. 241.

can nevertheless be brief, because recent researches, both theoretical and statistical, have made it abundantly clear that the theory under review is based on grossly insufficient empirical evidence, that it has misinterpreted the facts on which it is based, that the attempted explanation of the alleged facts is fallacious and that there is no presumption at all that the alleged unfavorable tendency of the terms of trade will continue in the future."[1]

a. The Data

The theory of deteriorating terms of trade for primary producers, has, as its statistical basis, the terms of trade of the United Kingdom given in the United Nations study and shown in Table 5 above. However, these terms of trade cannot be taken to represent the terms of trade of all industrial countries. Calculations made by Kindleberger of the terms of trade for Industrial Europe reveal wide divergencies between the British terms of trade and those of other countries of Industrial Europe.[2]

One has to keep in mind also that the statistical data relates to the terms of trade of an industrialized country, The United Kingdom, and not those of the primary producing countries. The terms of trade of the latter have been derived

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1. Haberler, International Trade And Economic Development, op. cit., p. 19.

2. See: Kindleberger, The Terms of Trade, op. cit., Table 2-1, pp. 12-13.

indirectly, i.e., they are taken to be the inverse of the British terms of trade. This cannot be accepted without any questions as the British export prices are taken f.o.b. and import prices c.i.f. because "in order to evaluate the true terms of trade of the exporters of primary products both export and import prices must be measured at the ports of entry of these countries."[1] This is so because when freight rates change, the geographical basis for valuation will influence the terms of trade. Haberler mentions Ellsworth, who has investigated the problem statistically, as concluding: "a large proportion, and perhaps, all of the decline in the British prices of primary products in the period between 1876 and 1905 can be attributed to the great decline in inward freight rates.... Since the prices of British manufactured exports fell in this period by 15 percent, the terms of trade of primary countries, were f.o.b. prices used for their exports as well as for their imports, may well have moved in their favor."[2]

Even if one accepts the British terms of trade as being representative of those of other industrial countries, and that their inverse reflects the terms of trade of primary producers, another criticism must be made. This criticism

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1. Haberler, International Trade And Economic Development, op. cit., p. 20.

2. Ibid.

is not addressed particularly against the British terms of trade but applies generally to all terms of trade indices. It is relevant in connection with all terms of trade indices covering long periods of time. Terms of trade indices have a strong bias because, over extended periods of time, they fail to indicate changes in the quality and composition of trade. Continuous improvements in the quality of old products are being made and new products are all the time being introduced. However, this bias works in favor of manufactures exporters and against primary exporters since improvements in the quality of old products, and the introduction of new ones, are more frequent in the case of manufactures than in primary production. Thus, terms of trade indices, by failing to eliminate this bias, make the movement of the terms of trade of primary exporters appear less favorable or more unfavorable than they actually would have been if account could have been taken of the improvement in the quality, and the addition of new products, in their imports.

b. The Explanation

The explanations offered for the deterioration of the terms of trade of primary exporters have been subject to criticism. A.N. Mclead[1] refuses to accept Singer's assertion "that the failure of living standards to rise in underdeveloped

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1. A.N. Mclead, "Trade and Investment in Underdeveloped Areas", American Economic Review, XLI (1951), p. 413.

areas is sufficient proof that his 'trend of prices' does not merely reflect changes in real costs". He contends that while industrial countries may have used their share of gain from falling real costs to raise their standards of living, the underdeveloped areas used their share to support increased numbers. In addition, "Dr. Singer's main argument for his conclusion that changes in real costs do not explain the relative price changes, however, is that productivity increased more rapidly in industry than in production of food and raw materials.... The really significant concept may be called 'effective productivity', or productivity in the sense of ability to deliver the product to the ultimate consumer. Improvements in transport techniques and other developments have vastly increased the effective productivity of once-distant raw materials producing countries.... It is thus, far from clear that effective productivity has increased more rapidly in industrial countries."

Regarding monopolistic pricing of finished goods, Haberler thinks that "there is little of it, surely less in international trade than within some of the industrial countries.... The reason... there are now many industrial countries competing with one another in the world market."[1] He does not also accept the explanation given in terms of Engel's law. Higgins quotes him as saying that Engel's law

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1. Haberler, International Trade and Economic Development, op. cit., p. 22.

is "one of the best established empirical generalizations in economics." However, "it cannot bear the heavy burden which is placed on it by the theory under review."[1] It is not enough that the percentage spent by consumers of their income on food to be a decreasing function of income and that with rising incomes, a small proportion will be spent on raw materials, to say that the prices of primary products relative to those of finished products must fall. "The reason is that there are numerous counteracting and conflicting forces and tendencies at work, for example, technological changes, industrialization in the developed as well as in the underdeveloped countries, population growth and the law of diminishing returns in primary production."[2]

4. Conclusion

The controversy regarding the historical movement of the terms of trade between primary and manufactured products is not as yet settled. The evidence and the explanations put forward to justify the theory that the terms of trade of the primary producers have deteriorated between 1876 and 1838 and that the trend will continue in the future were subjected

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1. Gottfried Haberler, "Critical Observations on Some Current Notions in the Theory of Economic Development," L'Industria, No. 2 (1957), p. 9. Quoted in: B. Higgins, op. cit., p. 374.

2. Haberler, International Trade and Economic Development, op. cit., p. 23.

to severe criticisms.[1]

It is recognized by many economists that, in the light of the criticisms addressed against the statistical evidence and explanations, one cannot speak of a secular tendency in the past for the terms of trade of primary exporters to deteriorate relative to those of manufactures exporters. What is more accepted is the proposition that while no trend is discernible, one can speak of a movement in the terms of trade which has been more favorable to the developed countries. Higgins thinks that "the weight of the evidence favors those who believe that underdeveloped countries do face a problem of deteriorating terms of trade."[2] Kindleberger also shares these views: "as it happens, there is no evidence from Europe's terms of trade to suggest that, while there is no necessary trend in the terms of trade between manufactures and raw materials, the terms of trade seem to favor developed and run against underdeveloped countries."[3]

The possibility of the alleged deterioration of the terms of trade for primary exporters between 1876 and 1938 to continue has been questioned. Colin Clark thought that

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1. For a comprehensive and brief account of the various views and explanations of the long run movement in the terms of trade see: Atallah, op. cit., Ch. 2, pp. 12-20.

2. Higgins, op. cit., p. 358.

3. Kindleberger, Economic Development, op. cit., p. 241.

by 1960 the trend would have moved in favor of agricultural products by 90 percent as compared to a base period 1925-1934 and expects something like these terms of trade to persist till 1970.[1] W.A. Lewis, though agreeing with Clark on the direction of change, differs from him as far as magnitudes are concerned. "Lewis's calculations lie between 22 percent and 39 percent above 1924-1935."[2]

The significance of the controversy to underdeveloped countries can be questioned still further. The evidence cited related to the merchandise terms of trade; other items in the current account were left out. But we have seen that to isolate the effects of changes in the terms of trade on the national income and balance of payments of a country, the current account terms of trade are more relevant.

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1. Colin Clark, "The Future of the Terms of Trade", International Social Science Bulletin, III (1951), p. 38.

2. Atallah, op. cit., p. 17.

CHAPTER III

MEASUREMENT OF TERMS OF TRADE

In Chapter I reference was made to the following terms of trade concepts or measures: (a) the commodity terms of trade, (b) the single and double factoral terms of trade, (c) the gross barter terms of trade, (d) the income terms of trade, (e) the "real cost" terms of trade, and (f) the "utility" terms of trade. It was also pointed out, that the coverage of terms of trade may extend to cover merchandise trade only, or all current account transactions in the balance of payments. The distinction was made between merchandise and current account transactions terms of trade, and the point was made that the current account terms of trade is a superior concept than that of the merchandise terms of trade since it has a wider coverage which makes it more relevant when analizing the effects of changes in terms of trade on the balance of payments and real income of a country.

No attempt will be made here to show how the current account terms of trade can be measured as this is scarcely done because of the conceptual and statistical difficulties involved. There remains the merchandise terms of trade. Of these, the "real cost" and the "utility" terms of trade can be put aside immediately as they are subjective in their nature and, hence, defy measurement. The concepts of utility

and disutility involved in their calculation cannot be measured statistically.

Despite the theoretical importance of the factoral terms of trade, in practice, they cannot be measured.[1] The difficulty arises from the impossibility of defining what is meant by a "unit of productive factor" and thus that of a productivity index and from the fact that "there is at present no way of measuring changes in the productivity of factors other than labour."[2] Hence no attempt will be made here to show how the factoral terms of trade may be measured.

The statistical problems encountered in measuring the commodity and the gross barter terms of trade are less formidable than those encountered in measuring the more complex and less objective concepts referred to above. Data to measure the income terms of trade can be obtained as a by-product from the process of measuring the commodity and gross barter terms of trade; hence it presents no particular problems of its own.

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1. An attempt was made to measure the single factoral terms of trade in terms of labour by dividing the merchandise terms of trade by an index of output per head in the production of exports. See: Ely Devons, "Statistics of United Kingdom Terms of Trade", The Manchester School of Economic And Social Studies, XXII, No. 3, (September, 1954), pp. 265-68.

2. Ibid., p. 266.

A. COMMODITY TERMS OF TRADE - MEASUREMENT

The commodity terms of trade are expressed as a ratio of two sets of prices: the prices that a country receives for its exports to those it pays for its imports. However, the exports and imports of a country are composed of thousands of items, making it difficult, or rather impossible, to obtain any useful information on changes in the prices of exports and imports. The prices of the various items must be combined in one meaningful summary for exports, and one for imports, to be of any use. This is actually a problem of constructing price index numbers.

The construction of price indices raises many problems. The choice must be made between indices based on actual price quotations and indices based on unit values (obtained from trade statistics through the division of values by quantities). In addition, not all commodities entering into the construction of a price index are of equal importance. Hence, appropriate weights must be chosen and this raises another set of problems. The fact that terms of trade indices are expressed as relatives of a base period magnitude raises another set of problems. The base period must be carefully chosen. In addition, a current period may be compared directly with the base period or the comparison is made indirectly by comparing each period with the previous one and linking the current with the base period by multiplication. This involves a choice between fixed base and chained index numbers.

1. Price Indices Vs. Unit Value Indices

A change in the commodity terms of trade is measured by the change in the prices of exports relative to the change in the prices of imports. Statistically, this may be done by a price index or a unit value index of exports divided by the corresponding index for imports. If actual market price quotations are given for the commodities imported and exported, "the price change over a period of time may be measured for each commodity and expressed by a simple price relative, the price change for the aggregate of all such commodities, i.e., the change in the average price, appropriately weighted, may be expressed by a composite price index. Or given satisfactory foreign trade data on the value and quantity of commodities... corresponding indices may be constructed on the basis of unit values."[1]

One has, therefore, to choose when constructing commodity terms of trade between indices based on actual prices and those based on unit values. According to Kindleberger, "the main differences between indexes, based on prices on the one hand and unit values on the other, lies in accuracy, coverage, and timing."[2] Let us contrast the two indices

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1. U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., p. 2.

2. Kindleberger, The Terms of Trade, op. cit., p. 317.

with reference to accuracy, coverage, and timing.

a. The Question of Accuracy

Indices based on unit values obtained as a quotient from the division of quantities into their corresponding values generally fail to reflect changes in prices alone. The extent of this failure will depend on the degree of homogeneity of the commodity groups under consideration. Commodity classifications that contain commodities which are not strictly homogeneous will result in unit values that reflect in addition to changes in prices, changes in the composition of the commodity group under consideration. A change in unit values in such instances, which is taken as an indication of a price change, may be the outcome of a change in the proportions in which different qualities or sizes of items in the commodity group are combined. The results are such as "where calculations of terms of trade... are based on unit values of largely heterogeneous commodity items, serious distortions of true price indices are possible."[1]

This distortion of terms of trade indices based on unit values can be reduced but not eliminated. Thus changes in composition between different commodity groups may be recognized by a system of appropriate weights; however, changes

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1. U.N. Relative Prices of Exports and Imports of Under-developed Countries, op. cit., p. 134.

in composition that may occur under individual commodity descriptions cannot be accounted for. By limiting the scope of the commodity group through more detailed subdivisions of commodities according to such criteria as size or quality, the degree of non-homogeneity may be reduced and with it the distortions from true price indices introduced by the use of unit value indices. But this will not completely solve the problem at hand. "Even the finest breakdown, however, in any classification... does not represent articles so strictly specified that prices may be quoted or contracts obtained in trade transactions.... Accordingly, the changes over a period of time in the average unit value may reflect changes in price of the particular items in the group, or changes in the composition of the group or commodity, or a combination of the two."[1] Hence, it is better to omit the items or the group of items which are extremely non-homogeneous from any calculation of terms of trade indices based on unit values. But no matter what is done, it remains true that "the value recorded in trade aggregates will not be derived from any single price quotation."[2]

Price indices based on actual price quotations will reflect more accurately changes in the prices of imports

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1. Ibid., p. 135.

2. R.G.D. Allen, "Index Numbers of Volume and Price", International Trade Statistics, ed. R.G.D. Allen, et al., (New York: John Wiley and Sons, Inc., 1953), p. 190.

and exports than indices based on unit values. This is so because, "generally... price data refer to classes of greater homogeneity than do unit values, and price data are, for this reason and to the extent that this is true, of greater accuracy."[1] A change in the index will reflect a change in prices and not a change in the composition of imports or exports or a combination of the two. However, indices based on price quotations have their own limitations. It is possible to question the validity of comparisons of price quotations for individual primary commodities:" Prices fluctuate widely from year to year and often during the years as well. The choice of the base date affects the index materially. Moreover, prices for various grades and sources of supply of the same commodity do not necessarily move together. Further, especially since the war, market prices in different currency areas may diverge. In addition, prices are often different under varied types of sales contracts and arrangements."[2]

There are, however, other considerations of accuracy that work in favor of using unit values. On the assumption of correct reporting of quantities and values and similar degrees of homogeneity, unit values may be more accurate than wholesale or retail prices of import-type goods or

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1. Kindleberger, The Terms of Trade, op. cit., p. 317.

2. U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., p. 28.

exports goods in the domestic markets as a measure of the prices paid to or received from foreigners. This may be so because of differences in prices charged at home and in the foreign markets and because the transport of goods from the interior of a country and port handling facilities may be expensive as the case usually is in the underdeveloped countries. In addition, "wholesale prices or retail prices reported in the markets of a country, may differ from the prices actually paid and received internationally because of taxes and subsidies, price discriminations, and transport charges."[1]

Unit values derived from official trade statistics are subject to a number of doubts[2] even when they refer to commodity classifications which are of a high degree of homogeneity. They are based on price declarations made to customs officials at the time of import or export. If an ad-valorem tax is imposed, an incentive is created for the exporters and importers to understate the values of their imports and exports. The discrepancy between the declared and real values will depend, in many instances, on the efficiency of the customs officials. Where foreign exchange controls exist, exporters may undervalue the prices of their

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1. Kindleberger, The Terms of Trade, op. cit., p. 317.

2. U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., pp. 136-37.

exports in order to escape surrendering their foreign exchange proceeds; similarly, importers may overvalue their imports in order to receive additional foreign exchange. In addition, where export and import controls exist and a license is required, the prices declared to the customs may differ from actual prices if the import or export license has to meet certain price specifications before it is given, and so the price declared is such as to fit the price criterion required. And where the import or export of a commodity is controlled or limited, an article subject to control may be listed under a different category to avoid the controls.

Such deficiencies of unit values, added to those arising from the inclusion of non-strictly homogeneous commodities, will impair the accuracy of terms of trade indices, based on them, to a large extent.

b. Coverage and Timing

On grounds of coverage, indices based on unit values are in a better position than indices based on price quotations. More material is available to construct unit value indices than to construct price indices. A unit value can be obtained for any commodity imported or exported which is not true in the case of market prices. It may be that direct market price quotations are more available in the case of primary products than for manufactures and one may use them despite their shortcomings. However, there may be no scope

for choice despite the fact that unit values may relate to non-homogeneous commodity classifications. "In some fields, as machinery, however, little price material of any sort exists."[1]

Due to lag of shipments behind contracts, there may exist differences in timing between indices based on price quotations and those based on unit values; this will be the case in periods characterized by considerable price change. For example, a rise in market prices in a given year may not appear as a change in unit values until perhaps a considerable time has elapsed.

c. Common Drawbacks

Terms of trade indices, whether based on price quotations or unit values, generally fail to reflect changes in the quality of traded commodities. This is important particularly when considering the terms of trade between a developed and an underdeveloped country.

In normal times, improvements in the quality of manufactured commodities are more frequent than improvements in the quality of primary commodities. By failing to reflect improvements in quality, terms of trade indices will have a bias in favor of the developed and against the underdeveloped country since quality changes will usually be to the benefit of the latter. Changes in the terms of trade are made to appear less

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1. Kindleberger, The Terms of Trade, op. cit., p. 317.

favorable or more unfavorable to an underdeveloped country than would have been the case if the terms of trade indices could incorporate in them quality changes which, normally, are advantageous from the point of view of the underdeveloped country.

On theoretical grounds, changes in the quality of imports and exports may be important and indices failing to take account of them are deficient. However, practical considerations make it difficult or rather impossible to incorporate quality changes in terms of trade indices. "Such qualitative criteria cannot be easily isolated; in general, in analyzing the relative price trends of primary materials and manufactured goods, it is assumed that quality is unchanged, or at least, in the case of aggregates, that changes in quality are cancelled out."[1]

Further, terms of trade indices cannot be expected to take account of goods imported or exported without the knowledge of the customs authorities. That is smuggling, which may be considerable in an underdeveloped country, is left out. Moreover, government imports and exports may not be registered in the official trade statistics of a country. Hence terms of trade indices will provide less than a complete picture of how the prices of imports and exports have changed.

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1. U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., pp. 133-34.

d. Price Indices or Unit Value Indices?

The weight of the above arguments seems to favor the use of indices based on price quotations on grounds of accuracy and indices based on unit values on grounds of coverage. Price indices may be more accurate but they do not go too far.

In general unit value indices are used and price data is used to close the gaps and to provide a check on the use of unit values. "As a practical matter, index numbers must be derived from trade aggregates as recorded. Prices are then to be taken and interpreted as unit values.... It can be noticed, however, that some countries use price quotations instead of unit values in some of the computations; but this is seldom done in more than a small section of the whole, and it does not generally alter the basic nature of the computation built up from unit values."[1]

2. Problems of the Base

In studying the terms of trade of a country, one is usually interested in the change of these terms over a period of time. Thus terms of trade indices are written as relatives of a base period magnitude which is taken to be equivalent to 100 making it easier to interpret and compare these indices. This base period magnitude may refer to one year or to an average of two or three years which will give a broader base for the indices.

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1. Allen, op. cit., p. 190.

Two principles must be kept in mind when choosing a base period. The first is that the base magnitude chosen should not be an extreme magnitude. For if the base magnitude is an extreme one, high or low, the series may appear to be depressed or elevated in as much as it is usual to regard the base period magnitude as normal. The second principle is that the base of an index should not be too far in the past. Several reasons may be given for this preference. "1) As the base period recedes into the past the individual prices, or quantities in a physical quantity index, may come to diverge widely from their base period values.... 2)... Weighting patterns for index numbers can become obsolete rather quickly and should not be frozen in the distant past.... 3)...The need to keep the commodity list current may be considered another reason for the use of a recent base period."[1]

In theory, one may distinguish between two types of index numbers: fixed base and chained index numbers and one of the problems that presents itself when constructing index numbers is to choose between a fixed base and a chained index. Each system has its supporters and its advantages as well as its disadvantages.

In a fixed base system, the comparison of a current

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1. William A. Neiswanger, Elementary Statistical Methods, (revised ed.; New York: The Macmillan Company, 1956), pp. 403-04.

period with the base period is made directly and all indices will be given as relatives of the base period magnitude. For instance, if the base period is designated by o, and the successive periods by 1, 2 ... n, the series of the fixed base indices will be given as follows:

Po1, Po2, ... Pon

In a chained system of index numbers, the comparison is made between the current period and the previous one and then the current period will be compared with the base period by having the index numbers linked by multiplication to the base period as follows:

Po3 = Po1 . P12 . P23 = Po2 . P23 (since Po2 = Po1 x P12) and so on.

The main advantage claimed for the fixed base system is its ease of calculation as compared with the chained system, while the main advantage claimed in favor of the latter is that it is better suited when additions, subtractions, or substitutions in the commodity list are to be introduced. Fisher[1] prefers the fixed base to the chained system. He points out that the chief arguments in favor of the chained system are: "1) That it affords more exact comparisons than the fixed base system between the current year and the years immediately preceding,... 2) That it makes less complicated the necessary withdrawal, or entry, or

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1. Irving Fisher, The Making of Index Numbers, (Boston: Houghton Mifflin Company, 1922), pp. 308-12.

substitution of commodities, as time and change constantly require." Despite these advantages, "the chain system is of little or no real use." He thinks that "on the whole, therefore, the fixed base system... is slightly to be preferred to the chain, because, 1) it is simpler to conceive and to calculate, and means something clear and definite to everybody, 2) it has no cumulative error as does the chain system."

3. A System of Weights

In order to calculate import and export price indices, it is required that the separate prices be expressed as price relatives and then combined by a process of averaging into index numbers. This process of averaging, however, requires the assignment of appropriate weights to the various commodities whose prices enter into the process of computation. This is so because it is wrong to treat all commodities in the imports or exports of a country as if they were of equal importance and hence the need to choose an appropriate weighting system. However, "in assigning weights to individual commodities, the difficulty arises that the relative importance of different commodities in exports and imports is not constant over periods of time and may be subject to extreme variation."[1]

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1. U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., p. 137.

a. Different Weighting Systems

Index numbers may be constructed by utilizing anyone of three types of weights. An index number may be given current period weights; this is known as a Paasche index. Or it may be given base period weights and such an index is known as a Laspeyres index. Alternatively, a cross-weighted index may be constructed; this is known as Fisher's ideal index (or formula) and represents a compromise between the Laspeyres and Paasche indices. It is obtained by combining the two indices and is a geometric mean of the two.

Each one of the above differently weighted indices serves to give an answer to a meaningful but different question. Hence the choice between a Paasche, Laspeyres, or the ideal index must depend on the question to be answered. Viner in this connection writes: "there may be no rational basis for choice between base-year weights and end-year weights in constructing an index number of terms of trade where the problem consists of determining the effect of a particular disturbance on the terms of trade."[1] Kindleberger, writing about the same thing says: "Each of these different methods of construction has its uses, dictated by the intellectual preferences of the constructors, the purposes for which the indexes are intended, or convenience and economy."[2]

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1. Viner, Studies in the Theory of International Trade, op. cit., p. 568.

2. Kindleberger, The Terms of Trade, op. cit., p. 318.

A fixed base index with base period weights will show - assuming that the composition of exports and imports have remained unchanged - how imports and exports have changed in price since the base period. This would be fine if it were not for the fact that the composition of trade is always changing and thus the quantities of the base period whose prices are being measured will not correspond to actual trade taking place.

A current weighted index (Paasche index) answers a question of this type: with the composition of trade as it is in the current period, how did the prices of these goods develop since the base period? Such an index "has the advantage of comparing what has happened to the unit values with the base period of a series of quantities of goods traded which reflect exactly current quantities. Useful as this may be for the current year and the base period, however, comparisons of two years which do not include the base period refer to different quantities of trade and involve compositional as well as unit-value changes."[1]

The ideal index has the advantage of giving a partial answer to both types of questions answered by the other two indices but the disadvantage of giving no direct answer to either of them. The ideal index "has the advantage of resulting in a single figure for presentation, but the dis-

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1. Ibid., p. 319.

advantage of presenting a figure which is not based on any clear-cut historical composition of trade."[1] In addition, it requires more calculation than either the Laspeyres or Paasche indices as it combines both in a geometric mean formula.

b. Analytical Implications

Price or unit value indices will usually differ according to whether base period or current year weights are used. This difference between the Laspeyres and Paasche indices makes it rather impossible to determine a single "true" index number and hence what are the "true" changes in the terms of trade. "There can be no single 'true' index number of export or import prices. The impossibility of finding and presenting a single 'true' index number and therefore a single 'true' figure for changing terms of trade is not due to any deficiency in the statistical data used or the statistical technique employed. It is a logical impossibility."[2] It is possible to find this "true" figure but highly improbable. "The only case where a single 'true' index number could be calculated would occur where either the relative weights of the various commodities combined in an index number remained completely unchanged or where the prices of individual articles included in the index changed

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1. U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., p. 139.

2. Ibid., p. 137.

in the same direction and in exactly the same degree. Such a case is so improbable as to border the impossible."[1]

Though the Laspeyres and Paasche indices will usually differ in value, they are of equal significance as each gives an answer to a meaningful question. "One rests on just as solid a logical foundation as the other."[2] This difference between the two indices, however, can be of analytical value. "It is therefore desirable to calculate both indices, not only because they are both significant answers to meaningful questions, but also because the relationship of the two indices conveys information about the inter-connection between price changes and shifts in the composition of exports and imports...; in short, the relation of the two indices becomes a useful instrument of analysis."[3]

The Paasche index may be higher, lower, or may coincide with the Laspeyres index. Whether it will be higher or lower will depend on whether the source of change in the composition of trade derives from demand or supply shifts. In foreign trade as well as in domestic trade,[4] there will be a positive correlation between price changes and quantity changes if the

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1. Ibid.
2. Bruce D. Mudgett, Index Numbers, (New York: John Wiley and Sons, Inc., 1951), p. 21.
3. U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., p. 138.
4. See Viner, Studies In The Theory of International Trade, op. cit., pp. 567-68.

cause is a change in demand; negative correlation if the cause is a change in the cost of production. Thus, the Paasche index will have an upward bias if the change in prices and quantities is positively correlated and downward bias if negatively correlated. These principles apply both to imports and exports. "Thus, comparisons of the results obtained by the alternative methods of weighting in particular cases may be made... to serve as a check on the conclusions otherwise reached as to the nature of the disturbance."[1]

Hence, if the Paasche index is higher than the Laspeyres index, one may conclude that the composition of exports or imports has shifted towards commodities whose prices rose more than the average; the opposite being true when the Paasche index is lower than the Laspeyres. It may happen also that the two indices may coincide or almost do so. In such a case, "the changes in the composition of exports and imports are not systematically related to the changes in prices themselves."[2]

4. A Formula for Computing Price and Unit Value Indices

The distinction was made between two systems of index numbers: the fixed base and chained system of index numbers. For each system in turn, it is possible to construct a Laspeyres index (base period weights), a Paasche index (current

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1. Ibid., p. 568.

2. U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., p. 138.

period weights), or an ideal index (cross weights). Table 7 below gives formulas showing how to compute the two types of index numbers using the three types of weighting systems.

TABLE 7

TYPES OF PRICE INDEX NUMBERS

Type	Price Index
A. Fixed base index numbers	
Base weights	$P_1(o,n) = \frac{\Sigma Pnqo}{\Sigma Poqo}$
Current weights	$P_2(o,n) = \frac{\Sigma Pnqn}{\Sigma Poqn}$
Cross weights	$P_3(qn) = \sqrt{P_1 \times P_2}$ $= \sqrt{\frac{\Sigma Pnqo}{\Sigma Poqo} \times \frac{\Sigma Pnqn}{\Sigma Poqn}}$
B. Chained index numbers	
Moving anterior weights	$P_1(n-1, n) = \frac{\Sigma Pnqn-1}{\Sigma Pn-1qn-1}$
Moving current weights	$P_2(n-1, n) = \frac{\Sigma Pnqn}{\Sigma Pn-1qn}$
Moving cross weights	$P_3(n-1, n) = \sqrt{P_1 \times P_2}$ $= \sqrt{\frac{\Sigma Pn\ qn-1}{\Sigma Pn-1qn-1} \times \frac{\Sigma Pn\ qn}{\Sigma Pn-1qn}}$

Each of these index numbers can be chained to give an index comparing period n with period o.

Source: Allen, op. cit., Table 2, p. 193.

In the above table, the base period weights are the base quantities, the q_o's, and the current weights are the current quantities, the q_n's. P_1, P_2, P_3 refer to Laspeyres, Paasche, and the ideal index numbers respectively; o and n refer to the base period and current period respectively.

B. GROSS BARTER AND INCOME TERMS OF TRADE - MEASUREMENT

The gross barter terms of trade may be expressed as $\frac{q_i}{q_e}$ or $\frac{q_e}{q_i}$ where q_e and q_i is an export volume index and an import volume index respectively. The income terms of trade[1] are given as $Tc.q_e$ where Tc is the commodity terms of trade and q_e an index of the volume of exports. Hence the problem of measurement of these two concepts reduces itself to computing import and export volume indices (assuming that Tc is available).

The problems of changes in the quality and composition of imports and exports, of choosing a base and weights, and that of choice between a fixed base and a chained system of index numbers pointed to above, apply equally to the construction of volume indices as well as to the construction of price (unit value) indices.

Table 8 below gives formulas showing how to compute

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1. The income terms of trade can be calculated using a formula other than $Tc.q_e$; this formula will be given in section "C" below.

volume indices of the fixed base and chained types and using different weighting systems.

TABLE 8

TYPES OF VOLUME INDEX NUMBERS

Type	Volume Index
A. Fixed base index numbers	
Base weights	$q_1(o,n) = \frac{\Sigma P_o q_n}{\Sigma P_o q_o}$
Current weights	$q_2(o,n) = \frac{\Sigma P_n q_n}{\Sigma P_n q_o}$
Cross weights	$q_3(o,n) = \sqrt{q_1 \times q_2}$ $= \sqrt{\frac{\Sigma P_o q_n}{\Sigma P_o q_o} \times \frac{\Sigma P_n q_n}{\Sigma P_n q_o}}$
B. Chained index numbers	
Moving anterior weights	$q_1(n-1, n) = \frac{\Sigma P_{n-1} q_n}{\Sigma P_{n-1} q_{n-1}}$
Moving current weights	$q_2(n-1, n) = \frac{\Sigma P_n q_n}{\Sigma P_n q_{n-1}}$
Moving cross weights	$q_3(n-1, n) = \sqrt{q_1 \times q_2}$ $= \sqrt{\frac{\Sigma P_{n-1} q_n}{\Sigma P_{n-1} q_{n-1}} \times \frac{\Sigma P_n q_n}{\Sigma P_n q_{n-1}}}$

Each of these index numbers can be chained to give an index comparing period n with period o.

Source: Allen, op. cit., p. 193.

In the above table, the base period weights are the base period prices, the Po's, and the current weights are the current prices, the Pn's. q_1, q_2, and q_3 refer to volume indices using base period weights, current period weights, and cross weights respectively. 0, and n refer to the base period and current period respectively. In the case of chained index numbers, n refers to a current period, n-1 to the previous period which is taken as the base.

C. THE RELATION BETWEEN PRICE, QUANTITY, AND VALUE INDICES

The fact that between any two periods, a change in the value of exports or imports is composed of a change in price and a change in quantity makes it possible to link price (or unit value) indices with volume and value indices, thus saving in the amount of calculation required.[1]

A change in value is the product of a change in price and a change in quantity. With a fixed base index numbers system the following relationship between price (or unit value), quantity, and value indices holds:
$V = P_1 \cdot q_2 = P_2 \cdot q_1 = P_3 \cdot q_3$; where V is a value index, P_1 q_1, P_2 q_2, P_3 q_3, are price (or unit value) and volume indices with base period weights, current period weights, and cross weights respectively. The same relationship holds for chained index numbers.

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1. Ibid., p. 194.

This relationship between value indices on the one hand, and price (or unit value) and volume indices on the other, serves to reduce the amount of calculation needed in constructing terms of trade indices. One can start by finding base period price (or unit value) indices and then divide them into the corresponding value indices to obtain current weighted volume indices; or one may start by finding current weighted price (or unit value) indices and then proceed to obtain base period weighted volume indices. Similarly, one can start by finding volume indices and then proceed to calculate price (or unit value) indices.

Reference was made in the previous section to the existence of a formula other than Tc.qe for calculating income terms of trade. Income terms of trade may be calculated by dividing the value index of exports by the import price (or unit value) index. Symbolically this is given as: $\frac{Vx}{Pi}$, where Vx refers to the exports value index, and Pi to the import price (or unit value) index.

Both formulas for calculating income terms of trade give the same results. It must be pointed out, however, that Pi may be calculated with the use of either Laspeyres or Paasche formula. Hence one expects to get one of two series of income terms of trade indices depending on whether a Laspeyres or Paasche import index was used. Similarly the use of Tc.qe for calculating income terms of trade will result in two income terms of trade series. In this connection, one must note

that if Tc is based on Laspeyres formula, then q_e must be based on Paasche formula and vice versa.

That both formulas will give the same results, on condition that when Tc is based on current weights, q_e must be base period weighted and vice versa, can be proved with the help of the formula given in the beginning of this section on the relationship of value, prices and volume indices. The proof is as follows:

$V_e = P_{1e} \cdot q_{2e} = P_{2e} \cdot q_{1e}$, where V_e, P_{1e}, q_{1e}, P_{2e} and q_{2e} refer to export value index, price (or unit value) and volume indices with base period and current weights respectively. By substitution, $q_{1e} = \frac{V_e}{P_{2e}}$ and $q_{2e} = \frac{V_e}{P_{1e}}$. Substituting for the value of q_e in $T_i = T_c \cdot q_e$ we have:

$$T_i = \frac{P_{1e}}{P_{1i}} \cdot \frac{V_e}{P_{1e}} = \frac{V_e}{P_{ie}}, \quad \text{or } T_i = \frac{P_{2e}}{P_{2i}} \cdot \frac{V_e}{P_{2e}} = \frac{V_e}{P_{2i}}$$

D. INDEX NUMBERS AND LONG RUN COMPARISONS

Index numbers covering long periods of time are subject to doubts. With a fixed base system of index numbers, questions arise relating to the validity of comparing a current period with a remote base period. With the passage of time, the structure of imports and exports will change, new commodities will be introduced and many will be dropped out. In addition, the weights will become less and less representative as the base period recedes into the past. "Whatever form is selected for the index, there is always the risk that it will

develop a bias in the course of time. In any case, the index must be expected to become less reliable as a measure of volume or price changes as the run becomes longer."[1] Thus it becomes necessary to change the base and weights of an index number series from time to time.

A solution to the above difficulty is sought in changing the base of an index from time to time. The result is a series of index numbers each with a different base and providing a satisfactory comparison for the interval it covers. However, to have comparisons extending for a longer period than the one at which the base is changed, the various separate series must be linked together. In the presence of any bias in one of the links, it will remain and may be amplified.

This problem is not usually solved by the use of a chained index numbers system. This system may result in more valid comparisons of the adjacent years. But "any lack of representativeness in such an index may become cumulative, however, and distort comparisons of years at a considerable distance from each other even more than do the fixed-base indexes."[2]

The above remarks imply that index numbers covering

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1. Allen, op. cit., pp. 203-04.

2. Kindleberger, The Terms of Trade, op. cit., p. 321.

long periods of time can only provide rough comparisons. Too much is usually asked from index numbers which they cannot answer. "There is one kind of information of great validity and of great importance that can be obtained from an index series and another that cannot be obtained and should not be sought. The valid and accurate information which the index series will give is a measurement of the direction of change from period to period.... The measurements of doubtful value are the actual levels attained by the index at great distances from the base and the comparison of these levels for different periods."[1]

The difficulties encountered in the construction and interpretation of index numbers referred to in this section and other sections of this chapter reduces the significance to be attached to terms of trade indices. One can feel confident in the absence of these difficulties that small changes in terms of trade indices do reflect a change in price or volume. However, in their presence, "relatively small statistical differences cannot be accorded significance; and care must be taken to validate the apparently significant statistical differences... by considering related facts as they may support or qualify the statistical findings."[2]

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1. Mudgett, op. cit., p. 75.

2. U.N., Relative Prices of Exports and Imports of Under-developed Countries, op. cit., p. 131.

PART II

SYRIA'S TERMS OF TRADE - MEASUREMENT AND ANALYSIS

CHAPTER IV

MEASUREMENT

This chapter is devoted to the measurement of Syria's terms of trade. Only commodity and income terms of trade indices, along with export and import volume indices, will be constructed. The reason is that in practice, and with the exception of the gross barter terms of trade which are of limited use, it is impossible or very difficult to measure the other types of terms of trade cited in Chapter I.

Originally, Syria's commodity and income terms of trade, with its export and import volume indices, were meant to be constructed only for the years 1951-1960 inclusive. This is because before March 14, 1950, Syria and Lebanon formed a customs union, and foreign trade statistics were not available for each country separately. Notwithstanding this fact, however, it was decided for the purpose of providing a long run comparison, to extend the coverage of the indices to the pre-war years of 1938 and 1939 and adopt the foreign trade figures of the Syrio-Lebanese customs union as that of Syria.

One further remark: the process of constructing Syria's terms of trade indices will be described below in detail. This is because the statistical data used in the construction of the indices will not be reported fully in here - only the key findings, however.[1]

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1. This is because the statistical material is voluminous and costly to type.

A. GENERAL CONSIDERATIONS

The construction of Syria's commodity terms of trade indices reduces itself in practice to the construction of export and import unit value indices; its income terms of trade indices can be obtained in one of two ways: either as a product of the commodity terms of trade and the appropriate export volume indices, or alternatively, as the quotient of an export value index divided by the appropriate import unit value index. All in all, therefore, one needs to construct export and import unit value and volume indices and, perhaps, export value indices.

Before starting the construction of the required indices, there are some general considerations which apply to all the indices and hence will be dealt with first. These considerations have to do with choosing a formula, a base period, and those export and import items which will enter into the construction of the various indices.

1. The Choice of a Formula

The construction of the various indices referred to above may be done by the use of any one of the three following formulas, each with its own system of weights: first, there is the Laspeyres formula using base period weights; secondly, the Paasche formula which uses current period weights; and thirdly, Fisher's ideal formula utilizing a system of cross weights and is the geometric mean of the

other two formulas.

Regarding Syria's terms of trade indices, only those based on the Laspeyres and Paasche formulas will be calculated. The ideal formula will be discarded as it gives an average value which is not based on any clear cut historical composition of trade.

A distinction was made in Chapter III between two systems of index numbers: the fixed base and the chained system. It was also mentioned that for each system it is possible to construct a Laspeyres or a Paasche index number, and that the fixed base system is preferred to the chained on the basis of ease of calculation, while the latter is preferred in cases where the items entering into the construction of an index number are not fixed. In the construction of Syria's terms of trade indices, however, the fixed base system of index numbers was used because of computational convenience.

2. The Choice of a Base Period

The year 1953 was chosen as the base period for the following three reasons. First, by that year, the effects of the Korean War had receded thus eliminating the effects of the Korean boom on the prices of Syria's imports and particularly those of its exports. Secondly, the year 1953 is considered rather normal in the sense that no droughts, such as those witnessed between 1958 and 1961, occurred. Thirdly, to facilitate international and national comparisons, because the year 1953 is used by the United Nations as a base period for most economic statistical data.

3. The Choice of Items and Sources of Data[1]

Two things ought to be made clear in connection with the choice of export and import items which were included in the construction of the various import and export indices. The first relates to the sources of data and their general characteristics; the second, relates to the general principles that were followed in choosing export and import items.

a. Sources of Data

Syria's terms of trade indices were derived from data given in its annual Foreign Trade Statistics. The various export and import items were chosen from Syria's "Special Trade"[2] where imports are recorded c.i.f. and exports f.o.b. "Special Imports" are defined as the combined totals of goods imported for domestic consumption, whether directly imported from abroad or after a direct transit or movement from one ship to another, or when removed from warehouses, or after being put under the status of temporary importation. "Special Exports" are defined to include all exports of domestic origin in addition to foreign goods which have been nationalized through the payment of import duties.

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1. More will be said about this subject when dealing with the choice of export and import items.

2. It must be noted in connection with Syria's "Special Trade" that it excludes certain imports and exports such as those of the various concessionaries and military imports. For a complete list of the exclusions from imports and exports see the "General Observations" of the annual Foreign Trade Statistics of Syria.

Syria's exports and imports are classified according to the League of Nations Tariff Nomenclature. Thus, foreign trade is divided into twenty-one sections; these sections are divided in turn into eighty-six chapters containing nine-hundred and ninety-one items, many of which are further subdivided into their respective components. All in all, Syria's foreign trade is classified into a number, by far, exceeding a thousand tariff (and therefore commodity) items.

b. Choice of Items

Having chosen the formula and base period, the next step was to choose the items to be included in the construction of the import and export indices. This was a necessary step as it was not possible to include every item in either the import or the export indices. The amount of statistical work involved, if all the items were to be included, is a major task which would take a research worker a rather long period of time.

Two principles governed the choice of items. The first relates to the question of accuracy; the second to the question of coverage. It must be pointed out, however, that these two questions are not completely distinct and separate from each other but are interrelated. The ability of a unit value index to reflect accurately price changes is affected by the characteristics of the items that enter into its construction. Changes in a unit value index whose construction is based on

non-homogeneous items, or on items where each is in reality composed of several items, may reflect changes in the composition of the items as well as changes in their prices. To reduce this possibility, non-homogeneous items were excluded and only items that appeared under a single tariff number were included with few exceptions to be pointed out later. This is not to claim, however, that under each tariff number only one commodity was listed, or that the commodity, if one, was perfectly homogeneous.

In addition to being accurate, import and export unit value and volume indices must be representative. This means that the value of the items entering into their construction must represent as high a percentage as possible of the total value of imports and exports. An index could be made more representative by enlarging its coverage which could be done by increasing the number of items that enter into its construction, or by including items each of which is in reality a combination of many items and thus has a high value.

Increasing the number of items would have entailed additional effort to be spent on calculation which it was not possible to give. And widening the coverage of the indices by including Tariff Chapters instead of Tariff Items would have impaired the accuracy of these indices. Hence, the best way out seemed to be a compromise between accuracy, coverage, and practical considerations.

To ensure as high a degree of accuracy as possible, non-homogeneous items and items which in reality are groups of items, were excluded. The dictates of practical considerations were taken into account by limiting the number of items entering into the construction of the indices. But at the same time, it was made sure that the value of the selected export and import items did not fall below 72 and 65 percent of their respective totals.[1]

B. EXPORT UNIT VALUE INDICES

1. Choice of Export Items

The choice of export items was done on a trial and error basis. At first, any item equal to or exceeding L.S. 750,000 in the base year 1953 was chosen. However, on trying to find out the value of these items in 1960, it was found out that the percentage that these items constituted of the value of total exports in that year was much less than the percentage these same items occupied in the value of 1953 exports.

Finally, it was decided to include any item which was equal to or exceeded L.S. 750,000 in both 1953 and 1960. The result was a relatively low number of items, but at the same time representative of Syria's exports between 1951 and 1960. The number of items, that met the above specified requirement of being equal to or exceeding L.S. 750,000 in 1953 and 1960,

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1. With the exception of the years 1938 and 1939.

was 84. The tariff number and description of each of these items is given in Schedule 1 of the Appendix.

The tariff number and description of each of the 84 export items given in Schedule 1 is that of 1953 though these items were chosen from both 1953 and 1960. The description of items in 1953 was the basis of choosing any item in the other years as the tariff number of some items sometimes varied from year to year. In some cases, items each of which appeared under a single tariff number in 1953 were combined and represented as one item; this occurred only once in the case of the export items. In other cases, an item which was given in 1953 under a single tariff number appeared under more than one tariff number in some of the other years; in other words, it was decomposed and split into its respective components. In such instances, the procedure was to group the components together for the year under consideration so that the description of the newly formed item corresponded to the original item as given in 1953. And sometimes an item was listed in a specific year under a tariff number which differed from that under which it was listed in 1953. Such items entered into the construction of the export unit value indices. Schedule 2 - given in the Appendix - indicates all the changes which were brought about in accordance with the previous explanation.

Not all of the 84 export items that are given in Schedule 1 of the Appendix entered into the construction of the export

unit value indices. For reasons to be given below, ten items were eliminated from all years and thus did not enter into the construction of any of the yearly indices; in addition, other items were eliminated from certain years. Of the 84 items, the following 10 were eliminated from all years: 206-III-2, 292-a-4, 472-b-1, 671-c-1, 685, 691-a-2, 691-b, 693, 698, and 722.[1]

Syria's exports of items 206-III-2 and 671-c-1 were nil in 1953 which means that the base year unit value and quantity of each, Po and q_o, were nil. To prevent any undue overvaluation of the Paasche index, $\frac{\Sigma Pnqn}{\Sigma Poqn}$, these two items had to be eliminated as their base year unit values were equal to zero. In the case of the Laspeyres index, $\frac{\Sigma Pnq_o}{\Sigma Poq_o}$, both the base year unit values and quantities were equal to zero. Item 472-b-1 was eliminated as its description or content varied from 1938, 1939, 1951-1955, where it was given as: "Other fabrics of pure artificial silk, unbleached or bleached or dyed over 50 grs./m^2", to: "Other fabrics... over 75 grs./m^2" between 1955-1960. Items 685 and 693 were eliminated as they do not form part of a productive process in Syria and as they are usually separated from merchandise trade as they affect the economy indirectly through their effect on foreign exchange reserves. Item 698 was eliminated because it is a non-homogeneous item and formed no part of

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1. For a description of these items refer to Schedule 1 of the Appendix.

the productive process in Syria. The remaining items: 292-a-4, 691-a-2, 691-b, and 722 were eliminated on grounds of non-homogeneity.[1]

With the above 10 items eliminated, 74 export items were left having a value of L.S. 344,814,593 in 1953, and representing 91.71 percent of the value of total exports in that year. Not all of the 74 items, however, entered into the construction of the yearly export unit value indices. The following items were eliminated from each of the following years.

1938 and 1939 = 59-a, 83-b-2, 105-g-b, 493, 522-a-1, and 522-a-2. These items were eliminated from these two years as the commodity listed under each of these tariff numbers was not the same as that listed under the corresponding tariff number in 1953.

1959 and 1960 = Items 68 and 71 did not enter into the construction of the 1959 export unit value index; items 68 and 90 were eliminated from the 1960 index. The reason for eliminating these items was that their unit values, in 1959 and 1960, were abnormally high compared with those of other years in the period under consideration as can be seen from the figures given in Table 9 below. This can be explained perhaps by the fact that in these two years, the quantities exported of these items, as compared with previous years'

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1. It must be noted that the decision was rather arbitrary.

TABLE 9.

VALUE, QUANTITY, AND UNIT VALUES OF EXPORT ITEMS 68, 71, and 90

Year	68			71			90		
	Value In L.S.	Quantity In Kg.	Unit Value In L.S.	Value In L.S.	Quantity In Kg.	Unit Value In L.S.	Value In L.S.	Quantity In Kg.	Unit Value In L.S.
1951	871,747	2,747,738	0.317	4,167,094	17,175,164	0.243	218,564	8,071,210	0.027
1952	29,758,398	100,227,175	0.297	29,399,798	140,135,378	0.210	373,505	13,196,947	0.028
1953	46,035,290	180,194,821	0.255	24,793,437	153,267,952	0.162	765,195	24,420,680	0.031
1954	70,342,499	233,013,402	0.302	85,534,723	430,990,436	0.198	1,018,255	39,415,081	0.026
1955	10,600,499	32,774,635	0.323	7,545,713	29,218,999	0.258	312,453	14,448,685	0.022
1956	56,687,489	179,541,438	0.316	65,625,111	302,069,096	0.217	456,882	23,233,685	0.020
1957	88,624,303	352,807,073	0.251	51,971,631	331,416,004	0.157	1,093,570	43,768,449	0.025
1958	44,748,708	177,833,823	0.252	12,900,624	89,559,623	0.144	264,935	10,037,843	0.026
1959	104,018	237,237,730	0.438	54	60	0.90	-	-	-
1960	217	1,415	0.153	-	-	-	205	235	0.872

- = Nil

Source: Syria, Statistiques Du Commerce Exterieur, various issues.

exports, were abnormally low. Recalling the Laspeyres formula, $\frac{\Sigma Pnq_o}{\Sigma Poq_o}$, it becomes clear that the 1959 and 1960 indices would have been unduly overvalued if the above referred to items were included in their construction because of the fact that the quantities exported of these items were quite considerable in 1953. The inclusion of these items in the Paasche index would have affected the results very slightly; they were excluded, however, from this index to make it consistent and comparable with the Laspeyres index.

Needless to say of course, that several of the 74 items had zero value in some years, and to that extent, they had zero weights in those years.

Having eliminated 10 items from all years and certain items from specific years, the value of the remaining items in each year, i.e. ΣPnq_n, ranged from a minimum of 43.24 percent in 1938 to a maximum of 92.08 percent, of the value of total exports, in 1952. The ratio of the value of selected items, on which the indices of the various years were based, to the value of total exports is given in Table 10 below.

TABLE 10

RATIO OF SELECTED EXPORT ITEMS TO TOTAL EXPORTS

	(1)	(2)	(3)
Year	Value of Total Exports in L.S.	Value of Selected Items in L.S.	(2)÷(1)
1938(1)	29,278,000	12,660,773	43.24%
1939(1)	36,517,000	16,438,418	45.02%
1951	277,134,414	252,610,470	91.15%
1952	319,392,937	294,094,606	92.08%
1953(2)	375,979,134	344,814,593	91.71%
1954	465,728,571	428,031,898	91.91%
1955	473,542,505	422,468,205	89.21%
1956	515,923,712	460,635,577	89.28%
1957	547,985,315	489,347,764	89.30%
1958	436,578,288	381,750,552	87.44%
1959	424,600,525	351,441,706	82.77%
1960	405,190,252	337,538,204	83.30%

(1) Value given in L.L.S.

(2) The value of selected items, $\sum P_0 q_0$, on which the yearly indices were based, differed from year to year and is given in Table 11 below.

Source: Syria, Statistiques Du Commerce Exterieur, various issues.

The elimination of the previously mentioned ten items, left the value of the selected items in 1953, $\Sigma P_o q_o$, equivalent to L.S. 344,814,593 or 91.71 percent of the total value of exports in that year. This figure, however, was not used in conjunction with each of the yearly indices; the elimination of some items from certain years affected the value of $\Sigma P_o q_o$ as well as that of $\Sigma P_n q_n$. An item eliminated from a particular year was automatically eliminated from the Paasche index, $\frac{\Sigma P_n q_n}{\Sigma P_o q_n}$, as q_n was made equivalent to zero. The same item had to be eliminated from the Laspeyres index, $\frac{\Sigma P_n q_o}{\Sigma P_o q_o}$, as P_n was made equivalent to zero and hence had to be eliminated from the denominator, $\Sigma P_o q_o$.[1] Consequently, the value of the selected export items in 1953, $\Sigma P_o q_o$, as a ratio of the total value of exports in that year, varied from year to year and is given in Table 11 below.

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1. Items of which Syria's exports in any year were nil were also eliminated from the denominator to prevent any undue deflation of the indices.

TABLE 11

VALUE OF SELECTED EXPORT ITEMS IN 1953
AS A PERCENTAGE OF THE TOTAL VALUE
OF EXPORTS IN 1953

	(1)	(2)	(3)
Year	Value of Selected Items in 1953 on which the Yearly Indices were Based in L.S.	Value of Total Exports in 1953 in L.S.	(1) ÷ (2)
1938(1)	296,590,102	375,979,134	78.88%
1939(1)	303,380,927	"	80.69%
1951	343,922,895	"	91.47%
1952	344,719,789	"	91.69%
1953	344,814,593	"	91.71%
1954	344,814,593	"	91.71%
1955	344,795,689	"	91,71%
1956	344,814,593	"	91.71%
1957	344,795,689	"	91.71%
1958	344,814,593	"	91.71%
1959	273,220,671	"	72.67%
1960	273,220,671	"	72.67%

(1) Value given in L.L.S.

Source: Syria, Statistiques Du Commerce Exterieur, various issues.

2. Application of Formula and Results

The choice of items being over, the next step was to construct Laspeyres (base period weighted) and Paasche (current period weighted) indices for each of the years under consideration. As we saw in Chapter III, to construct a Laspeyres index we need to find $\frac{\Sigma Pnqo}{\Sigma Poqo}$, where Pn and Po refer to unit values of the current and base period respectively, and qo referring to the corresponding base period quantities. To construct a Paasche index, $\frac{\Sigma Pnqn}{\Sigma Poqn}$ must be calculated, where qn refers to current period quantities.

The qn's and qo's were directly available from Syria's annual Foreign Trade Statistics; the Pn's and Po's had to be derived. This was done by dividing the value of an export item by its quantity and the result rounded to the nearest three decimals. In the case of the years 1958-1960 inclusive, where Syria's exports to Egypt were recorded in a separate table, an additional step was performed before the value could be divided by the corresponding quantities. The value and quantity of each of Syria's export items to all the world was added to those of its exports to Egypt before dividing the values by the corresponding quantities.

With the Pn's and Po's available, $\Sigma Pnqo$ and $\Sigma Poqn$ were arrived at by multiplying each unit value[1] by the corresponding

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1. The figures were rounded to the nearest zero decimal. This could not have affected the results significantly but at the same time it facilitated the process of addition that was involved in obtaining $\Sigma Pnqo$ and $\Sigma Poqn$.

base period or current quantity and adding all the products. As for $\Sigma P_n q_n$ and $\Sigma P_o q_o$, all that was needed was to add the value of each item in the base period and each of the current years.

With all the required data available, Laspeyres and Paasche indices were obtained by dividing, $\Sigma P_n q_o$ by $\Sigma P_o q_o$, and $\Sigma P_n q_n$ by $\Sigma P_o q_n$ respectively; the quotient multiplied by 100 to change it into percentage form and rounded to the nearest two decimals. The final steps in the construction of these indices are given below in Table 12.

TABLE 12

SYRIA'S EXPORT UNIT VALUE INDICES; 1938,1939, 1951-1960
(1953 = 100)

Year	Laspeyres Unit Value Indices			Paasche Unit Value Indices		
	$\sum P_n q_o$	$\sum P_o q_o$	$\frac{\sum P_n q_o}{\sum P_o q_o}$ x100	$\sum P_n q_n$	$\sum P_o q_n$	$\frac{\sum P_n q_n}{\sum P_o q_n}$ x100
1938	58,723,489	296,590,102	19.80	12,660,773	63,120,467	20.06
1939	59,010,086	303,380,927	19.45	16,438,418	79,495,583	20.68
1951	524,301,107	343,922,895	152.45	252,610,470	178,446,009	141,56
1952	419,492,058	344,719,789	121,69	294,094,606	243,507,369	120.77
1953	344,814,593	344,814,593	100.00	344,814,593	344,814,593	100.00
1954	376,618,183	344,814,593	109.22	428,031,898	392,102,058	109.16
1955	378,081,988	344,795,689	109.65	422,468,205	413,268,128	102.23
1956	376,572,395	344,814,593	109.21	460,635,577	424,708,792	108.46
1957	339,179,055	344,795,689	98.37	489,347,764	499,835,611	97.90
1958	329,565,516	344,814,593	95.58	381,750,552	405,708,903	94.09
1959	258,284,291	273,220,671	94.53	351,441,706	390,941,165	89.90
1960	263,956,541	273,220,671	96.61	337,538,204	351,477,186	96.03

Source: Calculated from data given in: Syria, Statistiques Du Commerce Exterieur, various issues.

C. IMPORT UNIT VALUE INDICES

The same steps that were followed in the construction of Syria's export unit value indices were followed in the construction of its import unit value indices. However, the nature of some of the problems that were met with in the construction of the export unit value indices differed; in addition, new problems came up.

1. Choice of Import Items

The choice of items to be included in the construction of Syria's import unit value indices presented a more difficult task than did the choice of the export items. The difficulty had its roots in the fact that - like many underdeveloped countries - Syria's imports were not concentrated on a relatively small number of items as was the case with its exports where relatively few items constituted a high percentage of the value of its exports. A conflict, therefore, arose between the aims of accuracy, representativeness (coverage), and practical considerations.

In one sense, an import unit value index is accurate if it is representative of a country's imports, which means that the value of the selected items on which it is based must constitute as high a percentage as possible of the total value of its imports. The coverage of Syria's import unit value indices could have been increased by increasing the number of items, or by including items - such as tariff

Chapters - having a high value, in the construction of these indices. The first solution was tried and the result was that the number of items increased appreciably when the value limit was lowered from L.S. 750,000 to L.S. 500,000, which meant increasing the amount of computational work required. And the second solution might have conflicted with the aim of accuracy as it would have been possible for the import unit value indices to reflect in addition to price changes, changes in the composition of imports.

A compromise was finally reached. All items having a value of L.S. 750,000 or more in 1953 and 1960 were chosen.[1] With few exceptions, the items chosen referred to single commodities which appeared under single tariff numbers. The question of representativeness (coverage) was taken care of - not as adequately perhaps as was the case with exports - by making sure that the ratio of the value of selected import items to the value of total imports in any year did not fall below 66 percent.[2] It must be noted, however, that though the coverage of the import selected items was less than that of the export items, the number of the former was more than double that of the latter. The number of items that were equal to or exceeded L.S. 750,000 in 1953 and 1960 was 187.

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1. Items were chosen from both 1953 and 1960 in order to take account of changes in the composition of Syria's imports that may have occurred between 1950 and 1960.

2. With the exception of 1938 and 1939.

The tariff number and description of each item is given in Schedule 3 of the Appendix.

As was the case in choosing the export items, the basis of choosing any item was the correspondence between the description or content of that item in the year under consideration and that of 1953. Thus the tariff number and description of each item as listed in Schedule 3 of the Appendix are those that appeared in 1953. But on looking for these items in the other years under consideration, the following types of deviations were noticed. First, some items had the same description as those of 1953 but appeared under a different or slightly modified tariff number. Secondly, there were few items which appeared in 1953 under one tariff number but were decomposed into their respective components in some of the other years; each component appearing under a separate tariff number. Thirdly, an item which was listed in some of the years under a single tariff number was found to be listed, in 1953, under more than one tariff number.

Such phenomena were dealt with by taking the item the description of which corresponded to the one given in 1953, though it was listed under a different or modified tariff number; by adding the values and quantities of an item which was decomposed in any year in order to arrive at values and quantities that matched the description of the item as it appeared in 1953; and where an item in any year, other than 1953, was

given in the base year under more than one tariff number, the procedure followed was to add the values and quantities of the separate components as given in 1953 so that the coverage of the two items corresponded to each other. All of these instances, which were met with when choosing the import items, are given in Schedule 4 of the Appendix where each column gives the tariff number(s) corresponding to that appearing under the 1953 column.

Not all of the 187 selected import items entered into the construction of Syria's import unit value indices. The following 14 items were eliminated from all years: 68, 71, 112, 206-1, 292-a-1, 292-a-4, 382-k, 491-b-2, 522-a-4, 685, 722, 834-c, 886, and 966-c.

Items 292-a-4, 685, and 722 were eliminated for the same reasons that they were eliminated from Syria's export unit value indices.[1] Items 68, 71, 382-k, 491-b-2, 886, and 966-c did not enter into the construction of the import indices since they were not imported in the base period. This meant that Po and qo of each of these items was equal to zero in 1953, and therefore were automatically eliminated from the Laspeyres indices, $\frac{\Sigma Pnqo}{\Sigma Poqo}$. And a zero base year unit value made it necessary to eliminate such an item from the Paasche indices, $\frac{\Sigma Pnqn}{\Sigma Poqn}$, to prevent any undue overvaluation of the indices . The same reasoning applies in the case of item 292-a-1 where only the

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1. Refer to pp. 104-05.

value of imports in 1953 was recorded; this made it impossible to derive the base period unit value of this item, Po.

Items 112, 522-a-4, and 834-c were eliminated as the description given under each of these tariff numbers varied through the years. Item 112 was described in the years 1938, 1939, 1951, and 1952 as follows: "Margarine, mixtures of nourishing greases and fats", while in the remaining years it was given only as: "Margarine". Item 522-a-4 was eliminated as it was not recorded in Syria's imports in 1938 and 1939 and because its description varied in the remaining years; between 1951-1955 inclusive, it was given as "Cotton threads, over count 1/40", while between 1956-1960 inclusive, it was given as: "Cotton threads, over count 1/30". As for item 834-c, it was part of an item having a wider coverage in 1938 and 1939; between 1951-1955 inclusive, its title was: "Sowing machines", while between 1956-1960 inclusive, the title changed to: "Other than agricultural tractors and wooden sowing machines".

Item 206-1 did not enter the construction of the import unit value indices because its base period unit value, Po, seemed to be abnormally high as can be seen from Table 13 below.

It is clear from these figures that the unit value of item 206-1 was not only abnormally high in 1953, but also in 1954, 1955, and 1957. But it is only in the case of 1953, that its high unit value would have significantly modified the 1959 and 1960 Paasche indices; Syria's imports of this

TABLE 13

VALUE, QUANTITY, AND UNIT VALUE OF IMPORT ITEM 206-1

Year	Value in L.S.	Quantity in Kg.	Unit Value in L.S.
1951	-	-	-
1952	-	-	-
1953	9,145	19,380	0.472
1954	50	40	1,250
1955	14,219	20,177	0.705
1956	200	3,500	0.057
1957	1,609	3,480	0.462
1958	5,098	47,471	0.107
1959	15,512,349	281,217,184	0.055
1960	37,549,491	695,134,800	0.054

Source: Syria, Statistiques Du Commerce Exterieur, various issues.

item in the other years was rather negligible. The Paasche indices of these two years, $\frac{\Sigma Pnqn}{\Sigma Poqn}$ would have been deflated appreciably as a result of multiplying Syria's imports of item 206-1, qn = 281, 217, 184 Kgs. and 695, 134, 800 Kgs. in 1959 and 1960 respectively by a base period unit value equal to L.S. 0.472, in the denominator, and by a current unit value, equal to L.S. 0.055 and 0.054 in 1959 and 1960, in the numerator.

With the above 14 import items eliminated, 173 items were left having a value of L.S. 217,702,406 and comprising 70.91 percent of the value of Syria's total imports in 1953. But for reasons that will be given below, some items were eliminated from particular years and therefore did not enter

into the construction of the import unit value indices of those years. The following items were eliminated from each of the following years.

1938 = 493, 522-a-2, 735-b, 834-a, and 839-b. Item 493 was given as 493-a and with the following description: "Wool - raw or worked", while its description in 1953 was given as: "Wool in masses"; hence it was eliminated. Item 522-a-2 was eliminated as the description falling under this tariff number was completely different from that given in 1953 of the same tariff number. Items 735-b, 834-a, and 839-b were eliminated as they were not given separately but formed parts of items having a wider coverage.

1939 = Items 493, 735-b, 834-a, and 839-b did not enter the construction of the 1939 index for the same reasons that they did not do so in 1938 and which are given above.

1951 and 1952 = Only item 834-a was eliminated and for the same reason that it was eliminated from 1938 and 1939.

Having eliminated 14 items from all years and some items from particular years, the value of the remaining selected import items on which the import unit value indices were based, i.e., $\Sigma P_n q_n$, ranged from 46.87 percent in 1938 to 74.18 percent in 1957 of the value of total imports. The ratio of the value of the selected import items to the total value of imports in each year is given in Table 14 below.

TABLE 14

RATIO OF SELECTED IMPORT ITEMS TO TOTAL IMPORTS

Year	Value of Total Imports in L.S.	Value of Selected Items in L.S.	(2) ÷ (1)
1938(1)	70,811,000	33,188,811	46.87%
1939(1)	75,567,000	40,669,357	53.82%
1951	303,951,025	202,097,090	66.49%
1952	313,334,195	207,435,848	66.20%
1953(2)	307,027,722	217,702,406	70.91%
1954	407,807,582	289,793,246	71.06%
1955	430,527,249	295,460,529	68.63%
1956	449,271,249	309,333,292	68.85%
1957	616,055,275	456,990,468	74.18%
1958	752,624,472	512,864,247	68.14%
1959	678,492,795	465,488,203	68.61%
1960	858,283,318	566,772,143	66.04%

(1) Value given in L.L.S.

(2) The value of selected import items in 1953, $\Sigma P_o q_o$, on which the yearly indices were based, differed from year to year and is given in Table 15 below.

Source: Syria, Statistiques Du Commerce Exterieur, various issues.

In addition to affecting the value of $\Sigma P_n q_n$, the elimination of some items from certain years had an effect on $\Sigma P_o q_o$.[1] It was no more possible to use L.S. 217,702,406, the equivalent of $\Sigma P_o q_o$ in 1953; the value of $\Sigma P_o q_o$ taken in conjunction with the yearly indices varied depending on the value of eliminated items and on those items which were not imported in each year and therefore their value was equal to zero. The value of

1. Refer to p. 109.

import selected items, $\sum P_0 q_0$, in 1953 as a ratio of the value of total imports in that year, varied from year to year and is given below in Table 15.

TABLE 15

VALUE OF SELECTED IMPORT ITEMS IN 1953 AS A RATIO OF THE TOTAL VALUE OF IMPORTS IN 1953

Year	(1) Value of Selected Items on Which the Yearly Indices Were Based in L.S	(2) Value of Total Imports in 1953 in L.S.	(1) ÷ (2)
1938	197,087,369	307,027,722	64.19%
1939	200,313,987	"	65.24%
1951	209,736,277	"	68.31%
1952	210,769,818	"	68.65%
1953	217,702,406	"	70.91%
1954	217,599,731	"	70.87%
1955	217,700,736	"	70.91%
1956	217,702,406	"	70.91%
1957	217,702,406	"	70.91%
1958	217,702,406	"	70.91%
1959	217,589,816	"	70.87%
1960	212,895,030	"	69.34%

Source: Syria, Statistiques Du Commerce Exterieur, various issues.

2. Application of Formula and Results

What has been said about the application of the formula in the construction of Syria's export unit value indices applies equally to the construction of its import indices. There is no need, therefore, to go again through the steps that were taken. But there is, however, a problem which only presented itself in connection with the construction of the import unit value indices which must be discussed.

This problem had to do with the method used by Syria in recording the value of its imports. During the period 1951-1956 inclusive, the value of imports in foreign currencies was converted into L.S. at the official rate of exchange (and entered into the annual Foreign Trade Statistics as such). This, however, undervalued the amount, in L.S., actually paid by the Syrian importers who obtained foreign exchange to pay for their imports at rates that were higher than the official rate of exchange.

With respect to the years 1938, 1939, and 1957-1960 inclusive, this problem did not present itself. In 1938 and 1939, the actual rate paid by the importers was equivalent to the official rate of exchange; and during 1957-1960, Syria converted the value of its imports in foreign currencies to L.S. at the free market rates for these currencies and recorded it as such.

These differences in the method followed by Syria in converting the value of its imports in foreign currencies to L.S. had to be resolved before attempting to construct the import unit value indices. This was done by multiplying the value of imports in L.S. as recorded by an appropriate conversion factor; the result was: Syrian imports in foreign currencies converted into L.S. at the free market rates for these currencies. These conversion factors are given below in Table 16.

TABLE 16

IMPORT CONVERSION FACTORS, 1951-1956

Year	Value of Imports at Official Rate / Value of Imports at Free Rate	Value of Imports at Free Rate	(2) ÷ (1)
1951	69.9%	100.0	1.431
1952	68.2%	100.0	1.466
1953	66.5%	100.0	1.504
1954	64.4%	100.0	1.553
1955	63.6%	100.0	1.572
1956	65.1%	100.0	1.536

Source: U.A.R., Syrian Region, Statistical Abstract, 1959, (Damascus: Government Press, 1960), p. 182.

With the conversion factors available, $\xi Pn q_n$, $\xi Po q_n$, $\xi Pn q_o$, and $\xi Po q_o$ needed for the construction of Syria's import unit value indices were multiplied by the appropriate conversion factors for each year during 1951-1956. This meant that wherever Po appeared, the conversion factor used was 1.504, and where Pn appeared, the conversion factor of the year for which "n" stood was used. This process and the resulting Laspeyres' and Paasche import unit value indices are given below in Tables 17 and 18 respectively.

TABLE 17

SYRIA'S (LASPEYRES') IMPORT UNIT VALUE INDICES; 1938, 1939, 1951-1960
(1953 = 100)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	$\Sigma P_n q_o$	Conversion Factor	(1) x (2)	$\Sigma P_o q_o$	Conversion Factor	(4) x (5)	Import Indices (3) ÷ (6) x 100
1938	62,125,006	-	62,125,006	197,087,369	1.504	296,419,403	20.96
1939	70,606,675	-	70,606,675	200,313,987	"	301,272,236	23.44
1951	231,477,955	1.431	331,244,954	209,736,277	"	315,443,361	105.01
1952	227,087,766	1.466	332,910,665	210,769,818	"	316,997,806	105.02
1953	217,702,406	1.504	327,424,419	217,702,406	"	327,424,419	100.00
1954	213,013,385	1.553	330,809,787	217,599,731	"	327, 269,995	101.08
1955	213,748,210	1.572	336,012,186	217,700,736	"	327,421,907	102.62
1956	215,240,512	1.536	330,609,426	217,702,406	"	327,424,419	100.97
1957	333,854,641	-	333,854,641	217,702,406	"	327,424,419	101.96
1958	324,760,001	-	324,760,001	217,702,406	"	327,424,419	99.19
1959	316,533,952	-	316,533,952	217,589,816	"	327,255,083	96.72
1960	337,580,120	-	337,580,120	212,895,030	"	320,194,125	105.43

Source: Calculated from data given in: Syria, Statistiques Du Commerce Exterieur, various issues.

TABLE 18

SYRIA'S (PAASCHE) IMPORT UNIT VALUE INDICES; 1938, 1939, 1951-1960
(1953 = 100)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	$\Sigma P_n q_n$	Conversion Factor	(2) x (1)	$\Sigma P_o q_n$	Conversion Factor	(4) x (5)	Import Indices (3)÷(6)x100
1938	33,188,811	-	33,188,811	131,012,722	1.504	197,043,134	16.84
1939	40,669,357	-	40,669,357	152,079,837	"	228,728,075	17.78
1951	202,097,090	1.431	289,200,936	195,929,343	"	294,677,732	98.14
1952	207,435,848	1.466	304,100,953	221,768,129	"	333,539,266	91.17
1953	217,702,406	1.504	327,424,419	217,702,406	"	327,424,419	100.00
1954	289,793,426	1.553	450,048,911	309,664,378	"	465,735,225	96.63
1955	295,460,529	1.572	464,463,952	317,373,690	"	477,330,030	97.30
1956	309,333,292	1.536	475,135,937	353,974,551	"	532,377,725	89.25
1957	456,990,468	-	456,990,468	319,444,636	"	480,444,732	95.12
1958	512,864,247	-	512,864,247	373,280,105	"	561,413,278	91.35
1959	465,488,203	-	465,488,203	357,993,269	"	538,421,877	86.45
1960	566,772,143	-	566,772,143	426,067,928	"	640,806,164	88.45

Source: Syria, Statistiques Du Commerce Exterieur, various issues.

D. EXPORT AND IMPORT VOLUME INDICES

The construction of volume indices for Syria's imports and exports became rather easy after constructing its export and import unit value indices of both types, Laspeyres and Paasche indices. This was so because whatever data was needed for the construction of the volume indices became available as a by-product of the process of constructing the export and import unit value indices. And what was said in sections "B" and "C" regarding the choice of items and application of formula, applies equally here and there is no need, therefore, to repeat it.

1. Export Volume Indices

Syria's export volume indices could have been constructed by any one of two methods. The first method requiring in addition to an export unit value index for each year based on both Laspeyres and Paasche formulas, an index of the value of exports in each year. With this data available all what was needed to be done, as was pointed in Chapter III, was to divide the export value index by the Laspeyres export unit value index to obtain a Paasche volume index for exports, and by dividing the same value index by the Paasche unit value index to obtain a Laspeyres volume index for exports.

The second method utilizes data similar to that used in the construction of the export unit value indices. According to this method, export volume indices could be constructed by

using either base year weights (Laspeyres' indices), or current year weights (Paasche indices). This is the method used below as all the data needed was available from the process of constructing the export unit value indices.

The formula for constructing export volume indices based on base year weights (Laspeyres indices) is the following: $\frac{\Sigma P_o q_n}{\Sigma P_o q_o}$, and that based on current year weights (Paasche indices) is: $\frac{\Sigma P_n q_n}{\Sigma P_n q_o}$.

$\Sigma P_o q_n$ and $\Sigma P_n q_n$ were calculated when constructing Syria's export unit value indices based on current year weights; $\Sigma P_o q_o$ and $\Sigma P_n q_o$ where calculated in connection with its export unit value indices based on base year weights. All that was needed was a division operation and this is shown below in Table 19 which gives Syria's export volume indices based on both the Laspeyres and Paasche formulas.

TABLE 19

SYRIA'S EXPORT VOLUME INDICES; 1938, 1939, 1951-1960
(1953 = 100)

Year	Laspeyres Volume Indices			Paasche Volume Indices		
	ΣP_0q_n	ΣP_0q_0	$\frac{\Sigma P_0q_n}{\Sigma P_0q_0} \times 100$	ΣP_nq_n	ΣP_nq_0	$\frac{\Sigma P_nq_n}{\Sigma P_nq_0} \times 100$
1938	63,120,467	296,590,102	21.28	12,660,773	58,723,489	21.56
1939	79,495,583	303,380,927	26.20	16,438,418	59,010,086	27.86
1951	178,446,009	343,922,895	51,88	252,610,470	524,301,107	48.18
1952	243,507,369	344,719,789	70.64	294,094,606	419,492,058	70.11
1953	344,814,593	344,814,593	100.00	344,814,593	344,814,593	100.00
1954	392,102,058	344,814,593	113,71	428,031,898	376,618,183	113.65
1955	413,268,128	344,795,689	119.86	422,468,205	378,081,988	111.74
1956	424,708,903	344,814,593	123.17	460,635,577	376,572,395	122.32
1957	499,835,611	344,795,689	144.96	489,347,764	339,179,055	144.27
1958	405,708,903	344,814,593	117.66	381,750,552	329,565,516	115.83
1959	390,941,165	273,220,671	143.09	351,441,706	258,284,291	136.07
1960	351,477,186	273,220,671	128.64	337,538,204	263,965,541	127.88

Source: Calculated from data given in Table 12.

TABLE 20

SYRIA'S IMPORT VOLUME INDICES; 1938, 1939, 1951-1960
(1953 = 100)

Year	Laspeyres Volume Indices			Paasche Volume Indices		
	ΣP_0q_n	ΣP_0q_0	$\frac{\Sigma P_0q_n}{\Sigma P_0q_0}$ x100	ΣP_nq_n	ΣP_nq_0	$\frac{\Sigma P_nq_n}{\Sigma P_nq_0}$ x100
1938	197,043,134	296,419,403	66.47	33,188,811	62,125,006	53.42
1939	228,728,075	301,272,236	75.92	40,669,357	70,606,675	57.60
1951	294,677,732	315,443,361	93.42	289,200,936	331,244,954	87.31
1952	333,539,266	316,997,806	105.22	304,100,953	332,910,665	91.35
1953	327,424,419	327,424,419	100.00	327,424,419	327,424,419	100.00
1954	465,735,225	327,269,995	142.31	450,048,911	330,809,787	136.04
1955	477,330,030	327,421,907	145.78	464,463,952	336,012,186	138.23
1956	532,377,725	327,424,419	162.60	475,135,937	330,609,426	143.72
1957	480,444,732	327,424,419	146.73	456,990,468	333,854,641	136.88
1958	561,413,278	327,424,419	171.46	512,864,247	324,760,001	157.92
1959	538,421,877	327,255,083	164.53	465,488,203	316,533,952	147.06
1960	640,806,164	320,194,125	200.13	566,772,143	337,580,120	167.89

Source: Calculated from data given in Tables 17 and 18.

2. Import Volume Indices

The same process that was followed in the construction of Syria's export volume indices was followed in the construction of its import volume indices; these are given in Table 20 above based both on base year weights (Laspeyres indices) and current year weights (Paasche indices).

E. SyriA'S COMMODITY TERMS OF TRADE

With Syria's export and import unit value indices available, the construction of its commodity terms of trade became easy; each year's export unit value index was divided by that year's import unit value index. This was done for the Laspeyres and Paasche indices and the result was to obtain a series of commodity terms of trade based on base year weights, and another series of indices based on current year weights. Syria's export and import unit value indices with its commodity terms of trade of both types, Laspeyres and Paasche, are given below in Table 21.

TABLE 21

SYRIA'S UNIT VALUE COMMODITY TERMS OF TRADE INDICES; 1938, 1939, 1951-1960
(1953 = 100)

Year	Laspeyres Commodity Terms of Trade			Paasche Commodity Terms of Trade		
	Export Indices	Import Indices	Commodity Terms of Trade Indices	Export Indices	Import Indices	Commodity Terms of Trade Indices
1938	19.80	20.96	94.47	20.06	16.84	119.12
1939	19.45	23.44	82.98	20.68	17.78	116.31
1951	152.45	105.01	145.18	141.56	98.14	144.24
1952	121.69	105.02	115.87	120.77	91.17	132.47
1953	100.00	100.00	100.00	100.00	100.00	100.00
1954	109.22	101.08	108.05	109.16	96.63	112.97
1955	109.65	102.62	106.85	102.23	97.30	105.07
1956	109.21	100.97	108.16	108.46	89.25	121.52
1957	98.37	101.96	96.48	97.90	95.12	102.92
1958	95.58	99.19	96.36	94.09	91.35	103.00
1959	94.53	96.72	97.74	89.90	86.45	103.99
1960	96.61	105.43	91.63	96.03	88.45	108.57

Source: Calculated from data given in Tables 12, 17, and 18.

F. SYRIA'S INCOME TERMS OF TRADE

Two methods were given in Chapter III for the calculation of income terms of trade.[1] Income Terms of Trade (Ti) could be calculated either by multiplying commodity terms of trade based on the Laspeyres and Paasche formulas by export volume indices based on the Paasche and Laspeyres formulas respectively, or by dividing an export value index by an import unit value index which may be based on either the Laspeyres or the Paasche formula. Each method, therefore, would give two income of trade series.

Concerning Syria's income terms of trade, the first method outlined above was used and the results are given in Table 22 below.

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1. Refer to Sections "B" and "C".

TABLE 22

SYRIA'S INCOME TERMS OF TRADE INDICES; 1938, 1939, 1951-1960
(1953 = 100)

Year	(1) Laspeyres Commodity Terms of Trade Indices	(2) Paasche Export Volume Indices	(3) Income Terms of Trade Indices (1) x (2)	(4) Paasche Commodity Terms of Trade Indices	(5) Laspeyres Export Volume Indices	(6) Income Terms of Trade Indices (4) x (5)
1938	94.47	21.56	20.37	119.12	21.28	25.35
1939	82.98	27.86	23.12	116.31	26.20	30.47
1951	145.86	48.18	70.28	144.24	51.88	74.96
1952	116.02	70.11	81.34	132.47	70.64	93.76
1953	100.00	100.00	100.00	100.00	100.00	100.00
1954	108.05	113.65	122.80	112.97	113.71	128.46
1955	106.85	111.74	119.39	105.07	119 .86	125.94
1956	108.16	122.32	132.30	121.52	123.17	149.68
1957	96.48	144.27	139.19	102.92	144.96	149.19
1958	95.83	115.83	111.00	103.00	117.66	120.98
1959	96.80	136.07	131.72	103.99	143.09	148.46
1960	91.58	127.88	117.11	108.57	128.64	139.69

Source: Calculated from data given in Tables 19 and 21.

CHAPTER V

ANALYSIS AND CONCLUSION

This chapter is mainly devoted to the analysis of the statistical findings that were given in Chapter IV. In addition, Syria's export and import unit value and volume indices, along with its commodity terms of trade indices, will be compared with similar figures obtained from other studies.

A. ANALYSIS OF THE STATISTICAL FINDINGS

Before starting the analysis of the statistical findings, it may prove worthwhile to examine the original data from which they were calculated as the meaning and significance of these findings may be affected by the characteristics of this data. In addition, some other useful conclusions may be derived from such an examination.

1. The Basic Data

While 173 items entered into the construction of the import indices, only 74 items entered into the construction of the export indices.[1] And with the exception of 1938 and 1939, the ratio of the value of selected export items to the total value of exports - in each year - was higher than the

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1. The elimination of some items from specific years does not alter the general picture as this occurred while constructing the import and export indices.

import ratio as can be seen from Tables 10 and 14. The export ratio ranged from a minimum of 82.77 percent in 1959 to a maximum of 92.08 percent in 1952; the import ratio ranged from a minimum of 66.04 percent in 1960 to a maximum of 74.18 percent in 1957. These findings support the proposition, usually given, that the exports of an underdeveloped country are usually concentrated on a few items, while its imports are more diversified.[1]

Information on changes in the position (percentage wise) occupied by the selected export and import items (as a group), during the period under consideration, is revealed by a further examination of the basic data. For the purpose of illustrating this point, column "3" of Tables 10, 11, 14, and 15 is reproduced below in Table 23.

Comparing column (1) with column (2) in Table 23 shows that, during 1951-1958, there were slight changes in the position occupied by the selected export items as compared with 1953.[2] Export items, which formed about 90 percent of the total value of exports in 1953, occupied about the same position in each year's exports during 1951-1958.

As for 1959 and 1960, it is evident from the figures

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1. The fact that the import ratio was somewhat higher in 1938 and 1939 than the export ratio, does not change the nature of the conclusion as the number of import items was more than twice that of the export items.

2. This does not mean that no changes could have occurred in the composition of these items in the sense that no item grew to be more or less important. All it means is that the/export items, as a group, occupied about selected the same position in each year's exports.

TABLE 23

DATA REVEALING CHANGES IN THE POSITION OF SELECTED EXPORT AND IMPORT ITEMS; 1938, 1939, 1951-1960

Year	(1) Exports	(2)	(3) Imports	(4)
	Ratio of Selected Items to Total Exports	Value of Selected Items in 1953 as a Percentage of Total Value of Exports in 1953	Ratio of Selected Items to Total Imports	Value of Selected Items in 1953 as a Percentage of the Total Value of Imports in 1953
1938	43.24	78.88	46.87	64.19
1939	45.02	80.69	53.82	65.24
1951	91.15	91.47	66.49	68.31
1952	92.08	91.69	66.20	68.65
1953	91.71	91.71	70.91	70.91
1954	91.91	91.71	71.06	70.87
1955	89.21	91.71	68.63	70.91
1956	89.28	91.71	68.85	70.91
1957	89.30	91.71	74.18	70.91
1958	87.44	91.71	68.14	70.91
1959	82.77	72.67	68.61	70.87
1960	83.30	72.67	66.04	69.34

Source: Tables 10, 11, 14, and 15.

given in columns (1) and (2) of Table 23 that there has been a change in the position of the selected export items when compared with 1953. While the value of the export items that entered into the construction of the 1959 and 1960 indices formed 82.77 and 83.30 percent of the total value of exports in these two years respectively, the same items constituted

only 72.67 percent of the total value of exports in 1953. Hence it is possible to conclude that some of the selected export items have grown in importance since 1953 and now form a higher percentage of the total value of exports than they did in that year. On further examination, however, one may get a completely different picture namely, that some items which were important in Syria's exports in 1953 have ceased to be so in 1959 and 1960; more specifically, item 68 (wheat) and item 71 (barley) as can be seen from Table 9. These items did not enter into the construction of the 1959 and 1960 indices; if they did, they would have raised the value of the selected items, in 1953, from 72.67 to about 90 percent of the total value of exports in that year without significantly altering the percentage that these same items would have occupied in the total value of exports in 1959 and 1960.

Export items, which in 1953 were responsible for 78.88 and 80.69 percent of the total value of export in that year, formed only 43.24 and 45.02 percent of the value of total exports in 1938 and 1939, respectively. This implies that some items, other than those that entered into the construction of the 1938 and 1939 indices, must have been important in Syria's exports in these two years. Put differently, some of the selected export items must have grown in importance since 1938 and 1939.

What has been said about changes in the position of the

selected export items does not apply equally, nor to the same extent, in the case of the selected import items. With the exception of 1938 and 1939, one does not find much difference between the percentage that the value of selected import items formed of the total value of imports in each year during 1951-1960, and that occupied by the same items in 1953. Thus it is permissible to conclude that the selected import items, as a group, maintained their position in Syria's imports (percentage wise) during the fifties. On the other hand, import items which constituted 64.19 and 65.24 percent of the total value of imports in 1953, were responsible for only 46.87 and 53.82 percent of the total value of imports in 1938 and 1939, respectively. This implies that some import items, other than those that entered into the construction of the pre-war indices, must have been important in Syria's imports in these years but no longer so in 1953. Put differently, some of the selected import items have grown in importance between the pre-war years and 1953.

Further examination of the original data reveals some useful information on how much significance one may attach to the export and import unit value and volume indices. During 1951-1960, the export indices were based on a number of items which were more representative of exports, than were the import items on which the import indices were based, in the sense that they formed a higher percentage of the total value of exports than did the import items as can be seen from columns (1) and (3)

of Table 23. Hence, other things being equal,[1] it is more logical to regard Syria's export unit value and volume indices as reflecting more accurately what has happened to export prices and volume than its import unit value and volume indices.

What has been said about the significance that may be attached to the export and import indices during 1951-1960, needs to be modified for 1938 and 1939. In both years, the items that entered into the construction of the import indices formed a higher percentage of the total value of imports, than did the export items as a percentage of the total value of exports as can be seen from columns (1) and (3) of Table 23. It must be pointed out, however, that though the import indices had a higher coverage than the export indices, both remain relatively unrepresentative of Syria's exports and imports in 1938 and 1939. Hence, one cannot say that changes in these indices reflect changes in the prices and volume of Syria's exports and imports with the same degree of accuracy as the 1951-1960 indices do.

Having examined the original data from which the export and import unit value and volume indices were calculated, we turn to examine the indices themselves. The commodity terms of trade indices, in conjunction with the export and import

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1. Namely, changes in the quality of imported and exported commodities, and changes in unit values reflecting changes in the composition of imported and exported commodities.

value
unit/indices, will be taken up first.

2. Syria's Commodity Terms of Trade

Syria's commodity terms of trade, export and import unit value indices - both Laspeyres and Paasche - with the percentage variation of these indices from 1953 and from year to year are given below in Tables 24 and 25, respectively.

TABLE 24

PERCENTAGE VARIATION OF SYRIA'S COMMODITY TERMS OF TRADE INDICES FROM THE BASE YEAR AND FROM YEAR TO YEAR 1938, 1939, 1951-1960

Year	Laspeyres Indices			Paasche Indices		
	Commodity Terms of Trade	Percentage Variation From 1953	Year to Year Percentage Variation	Commodity Terms of Trade	Percentage Variation from 1953	Year to Year Percentage Variation
1938	94.47	- 5.5		119.12	+19.1	
			-12.2			-2.4
1939	82.98	-17.0		116.30	+16.3	
			+75.0			+24.0
1951	145.18	+45.2		144.24	+44.2	
			-20.1			- 8.2
1952	115.87	+15.9		132.47	+32.5	
			-13.7			-24.5
1953	100.00	0.0		100.00	0.0	
			+ 8.1			+13.0
1954	108.05	+ 8.1		112.97	+13.0	
			- 1.1			- 7.0
1955	106.85	+ 6.8		105.07	+ 5.1	
			+1.2			+15.7
1956	108.16	+ 8.2		121.52	+21.5	
			-10.8			-15.3
1957	96.48	- 3.5		102.92	+ 2.9	
			- 0.1			+ 0.1
1958	96.36	- 3.6		103.00	+ 3.0	
			+ 1.4			+ 1.0
1959	97.74	- 2.3		103.99	+ 4.0	
			- 6.3			+ 4.4
1960	91.63	- 8.4		108.57	+ 8.6	

Source: Calculated from figures given in Table 21.

TABLE 25

PERCENTAGE VARIATION OF SYRIA'S EXPORT AND IMPORT UNIT VALUE INDICES FROM THE BASE YEAR AND FROM YEAR TO YEAR; 1938, 1939, 1951-1960

Year	Export Unit Value Indices						Import Unit Value Indices					
	Laspeyres Indices			Paasche Indices			Laspeyres Indices			Paasche Indices		
	Export Indices	Percentage Variation from 1953	Year to Year Percentage Variation	Export Indices	Percentage Variation from 1953	Year to Year Percentage Variation	Import Indices	Percentage Variation from 1953	Year to Year Percentage Variation	Import Indices	Percentage Variation from 1953	Year to Year Percentage Variation
1938	19.80	-80.2		20.06	-79.9		20.96	-79.0		16.84	-83.21	
			- 1.8			+ 3.0			+11.8			+ 5.6
1939	19.45	-80.6		20.68	-79.3		23.44	-76.6		17.78	-82.2	
			+684.0			+584.0			+348.0			+452.0
1951	152.45	+52.5		141.56	+41.6		105.01	+ 5.0		98.14	- 1.9	
			- 20.0			- 14.7			+ 0.2			- 7.1
1952	121.69	+21.7		120.77	+20.7		105.02	+ 5.0		91.17	- 8.8	
			- 17.8			- 17.2			- 4.8			+ 9.7
1953	100.00	0.0		100.00	0.0		100.00	0.0		100.00	0.0	
			+ 9.2			+ 9.2			+ 1.1			- 3.4
1954	109.22	+ 9.2		109.16	+ 9.2		101.08	+1.1		96.63	- 3.4	
			+ 0.4			- 6.3			+ 1.5			+ 0.7
1955	109.65	+ 9.6		102.23	+ 2.2		102.62	+ 2.6		97.30	- 2.7	
			- 0.4			+ 6.1			- 1.6			- 8.4
1956	109.21	+ 9.2		108.46	+ 8.5		100.97	+ 1.0		89.25	-10.8	
			- 9. 9			- 9.7			+ 1.0			+ 6.6
1957	98.37	- 1.6		97.90	- 2.1		101.96	+ 2.0		95.12	- 4.9	
			- 2.8			- 3.9			- 2.7			- 4.0
1958	95.58	- 4.4		94.09	- 5.9		99.19	- 0.8		91.35	- 8.6	
			- 1.1			- 4.5			- 2.5			- 5.4
1959	94.53	- 5.5		89.90	-10.1		96.72	- 3.3		86.45	-13.6	
			+ 2.2			+ 6.8			+ 9.0			+ 2.3
1960	96.61	- 3.4		96.03	- 4.0		105.43	+ 5.4		88.45	-11.6	

Source: Calculated from figures given in Tables 12, 17, and 18.

a. Paasche and Laspeyres Indices Compared

First, in every year - with the exception of 1951 and 1955 - the Paasche commodity terms of trade indices were higher than the Laspeyres.[1] The cause of such differences may be learned from an examination of the export and import unit value indices, the two components of the commodity terms of trade indices.

In every year of the period under consideration, the Paasche import unit value indices were lower than the Laspeyres. At the same time - with the exception of 1951, 1955, and 1959 - the Paasche and Laspeyres export unit value indices were about equal; it seems, therefore, that the Paasche commodity terms of trade indices were higher than the Laspeyres indices because the Paasche import unit value indices were lower than the Laspeyres indices. And though the Paasche import unit value indices were lower than the Laspeyres indices in 1951 and 1955, the latter export unit value indices exceeded the former enough to result in higher commodity terms of trade indices.

Secondly, the two series did not show a continuous movement in any one direction - favorable or unfavorable - for more than three years and two years in the case of the Paasche and

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1. For the analytical implications arising from differences in the magnitudes of the Paasche and Laspeyres indices, refer to section A-3-b of Chapter III.

Laspeyres commodity terms of trade indices, respectively. This absence of a trend could be attributed to the absence of one in the export and import unit value indices and to the fact that, though there was no trend, these indices did not fluctuate in a manner that could have produced a trend in the commodity terms of trade indices.

Thirdly, despite the year to year fluctuations, the Paasche commodity terms of trade indices compare favorably with the base year. The same is true of the Laspeyres indices only in 1951, 1952, 1954, 1955, and 1956. Except for 1958 and 1960, the two series moved in the same direction from year to year though their absolute magnitudes differed.

With the Paasche and Laspeyres commodity terms of trade indices compared, we turn now to examine each separately.

b. Laspeyres Commodity Terms of Trade

Up to 1953, the indices showed a marked degree of variation from year to year. Between 1954-1956 inclusive, the indices were relatively stable around the level of 108 after which they exhibited a downward trend which brought them to a level below 100. Despite these fluctuations, however, one can say that, after 1951, the trend of the commodity terms of trade indices was definitely downward though an appreciable improvement did occur in 1954 and was maintained in the following two years. The indices fell from 145.18 in 1951 to 91.63 in 1960.

The fluctuations that occurred in the commodity terms of

trade indices were not of a uniform magnitude. This is true of the percentage fluctuations from the base year and from year to year. Comparing the yearly indices with 1953, the unfavorable movement varied from a maximum of 17 percent in 1939 to a minimum of 2.3 percent in 1959. The favorable movement showed a wider degree of variation with a maximum improvement of 45.2 percent in 1951, and a minimum of 6.8 percent in 1955. The year to year improvements varied from a maximum of 8.1 percent in 1954, to a minimum of 1.2 percent in 1956. Similarly, the year to year deterioration varied from a maximum of 20.1 percent in 1952, to a minimum of 0.1 percent in 1958.

Compared with 1953, the 1938 and 1939 commodity terms of trade indices were unfavorable, with the 1939 index dropping sharply from its 1938 level. The increase in the export unit value index in 1951 by 52.4 percent, as compared with 1953, was the factor responsible for the abnormal level (145.18) reached by the commodity terms of trade index in that year; the import unit value index acted as a moderator for the rise in the export unit value index, but was not very effective as it was only 5 percent above the 1953 index. Between 1951-1953, there was a sharp drop in the commodity terms of trade indices. The drop in the 1952 index could be solely attributed to a 20 percent drop in the export unit value index as the import unit value index increased by 0.2 percent only. A drop of 17.8 percent in the export unit value index, combined with a 4.8 percent drop in the import unit value index, produced a 13.7 percent drop in the commodity terms of trade index in 1953.

The increase in the export unit value index in 1954 by 9.2 percent which was combined with a 1.1 percent increase in the import unit value index, produced the 8 percent increase in the commodity terms of trade index. This level was about maintained in the two subsequent years as the export and import unit value indices were rather stable.

The deterioration in the commodity terms of trade indices during 1956-1959 inclusive was mainly produced by the sharp drop of 9.9 percent in the 1957 export unit value index. In 1958 and 1959 the export and import unit value indices were falling, with the result that the effect of one was almost cancelled by the other. The further deterioration in the commodity terms of trade index in 1960 was caused mainly by a 9 percent deterioration in the import unit value index as the export unit value index improved by 2.2 percent.

c. Paasche Commodity Terms of Trade

Up to, and including 1957, the Paasche commodity terms of trade indices showed a marked degree of fluctuations from year to year and from the base year. After 1957, and for the following two years, the indices were rather stable. In 1960, the index again showed some improvement. As in the case of the Laspeyres indices, and despite the appreciable improvements that occurred in 1954, 1956, and 1960, it is safe to conclude that, after 1951, the Paasche series revealed a downward trend.

The year to year favorable movement of the Paasche indices varied from a maximum of 15.7 percent in 1956, to a minimum of

0.1 percent in 1958. Likewise, the year to year deterioration varied from a maximum of 24.5 percent in 1953, to minimum of 2.4 percent in 1939. In addition, marked fluctuations in the indices occurred in 1954 and 1957 with an improvement of 13 percent and a deterioration of 15.3 percent respectively. The percentage variation of the indices was always favorable when compared with the base year; it reached a maximum of 44.2 percent in 1951 and a minimum of 2.9 percent in 1957.

Unlike the Laspeyres indices, the Paasche indices of the pre-war years compare favorably with the base year. In 1951, the commodity terms of trade index reached the peak level of 144.24. This was the result of a sharp rise in the export unit value index accompanied by a small drop in the import unit value index as compared with 1953. But this exceptionally high level was not maintained in subsequent years. The index dropped by 8.2 and 24.5 percent in 1952 and 1953, respectively. The 8.2 percent drop in 1952 was produced by a sharp drop of 14.7 percent in the export unit value index - partly offset by a 7.1 percent drop in the import unit value index. The sharp drop of 24.5 percent that occurred in 1953 was the product of an unfavorable movement in the import and export unit value indices, with the former rising by 9.7 percent and the latter dropping by 17.2 percent.

A rise of 9.2 percent in the export unit value index, combined with a 3.4 percent drop in the import unit value index, explain the sharp rise of 13 percent in the commodity terms of trade index in 1954. This improvement was partly

lost in 1955 and the index dropped by 7 percent. In 1956, however, the index rose sharply by 15.7 percent as a result of a favorable movement of 6.1 percent in the export unit value index and 8.4 percent in the import unit value index. This sharp rise was reversed in 1957 and the index dropped by 15.3 percent as a result of an unfavorable movement in the export and import unit value indices, the former dropping by 9.7 percent and the latter increasing by 6.6 percent.

The 1957 level was almost maintained in 1958 and 1959 despite a yearly drop of about 4 percent in the export unit value indices as it was matched by a similar drop in the import unit value indices. In 1960, however, the commodity terms of trade index rose by 4.4 percent despite a 2.3 percent rise in the import unit value index because the export unit value index rose by 6.8 percent.

3. Syria's Export and Import Volume Indices

The analysis of changes in Syria's export and import volume indices is divided into four parts. The first will analyze changes in the export volume indices; the second will be concerned with the import volume indices; the third and fourth will, briefly, compare the export with the import volume indices, and the export and import volume indices with the export and import unit value indices,respectively.

a. Syria's Export Volume Indices

Syria's export volume indices - Laspeyres and Paasche - with the percentage variation of these indices from the base

year and from year to year are given below in Table 26.

With the exception of 1951, 1955, and 1959, the yearly indices of the Paasche and Laspeyres series stood at about the same level. This is not, however, contrary to any expectations if one remembers that the export unit value indices behaved in the same fashion. In 1951, 1955, and 1959, the Laspeyres indices were higher than the Paasche because the Laspeyres export unit value indices were higher in each of these years.

Though there were some fluctuations in the indices, the two series indicate that the volume of Syria's exports was expanding during the period under consideration. It is also evident from the figures given in Table 26 that the two series moved in the same direction from year to year - with the exception of 1955 - though at times differing in their absolute magnitudes. It is also important to note in connection with the two series, that the year to year percentage variation of the indices - whether positive or negative - was quite high.

An examination of the Laspeyres series reveals the following. First, over the period under consideration, the volume of Syria's exports showed a definite upward trend despite some interruptions that occurred in 1958 and 1960. The indices reached their highest level in 1957 and 1959 and stood at 144.96 and 143.09, respectively. Secondly, before 1953, the indices were lower than the 1953 index, being lowest in 1938. However, during this period the indices were increasing from year to year

TABLE 26

PERCENTAGE VARIATION OF SYRIA'S EXPORT VOLUME INDICES FROM THE BASE YEAR AND FROM YEAR TO YEAR 1938, 1939, 1951-1960

Year	Laspeyres Indices			Paasche Indices		
	Export Volume Indices	Percentage Variation from 1953	Year to Year Percentage Variation	Export Volume Indices	Percentage Variation from 1953	Year to Year Percentage Variation
1938	21.28	-78.7		21.56	-78.4	
			+23.1			+28.4
1939	26.20	-73.8		27.86	-72.1	
			+98.0			+72.9
1951	51.88	-48.1		48.18	-51.8	
			+36.2			+45.5
1952	70.64	-29.4		70.11	-29.9	
			+42.0			+42.6
1953	100.00	0.00		100.00	0.00	
			+13.7			+13.7
1954	113.71	+13.7		113.65	+13.6	
			+ 5.4			- 1.7
1955	119.86	+19.9		111.74	+11.7	
			+ 2.8			+ 9.5
1956	123.17	+23.2		122.32	+22.3	
			+17.7			+17.9
1957	144.96	+45.0		144.27	+44.3	
			-18.8			-19.7
1958	117.66	+17.7		115.83	+15.8	
			+21.6			+17.5
1959	143.09	+43.1		136.07	+36.1	
			-10.1			- 6.0
1960	128.64	+28.6		127.88	+27.9	

Source: Calculated from figures given in Table 19.

at very high rates. Thirdly, after 1953 and in every year, the indices were above their 1953 level though they exhibited some marked fluctuations in the latter years of the period. The pre-base year trend was continued during 1954-1957 inclusive. In 1958, the index dropped sharply from its 1957 maximum level by 18.8 percent; this drop was almost recovered by 1959 as the index increased by 21.6 percent. This sharp recovery was partly lost in 1960 as the index dropped by 10.1 percent from its 1959 level. Fourthly, the year to year percentage variation of the indices was considerable. It varied from a maximum of 42 percent in 1953 to a minimum of 2.8 percent in 1956 for the positive variation, and from a maximum of 18.8 percent in 1958 to a minimum of 10.1 in 1960 for the negative variation. High positive year to year percentage variation of 23.1, 36.2, 17.7, and 21.6 percent also occurred in 1939, 1952, 1957, and 1959, respectively.

What has been said about the Laspeyres indices applies equally to the Paasche indices, with of course differences in the details; hence there is no need to repeat the same things again.

b. Syria's Import Volume Indices

Syria's import volume indices - Laspeyres and Paasche - with the percentage variation of these indices from the base year and from year to year are given below in Table 27.

TABLE 27

PERCENTAGE VARIATION OF SYRIA'S IMPORT VOLUME INDICES FROM THE BASE YEAR AND FROM YEAR TO YEAR; 1938, 1939, 1951-1960

Year	Laspeyres Indices			Paasche Indices		
	Import Volume Indices	Percentage Variation from 1953	Year to Year Percentage Variation	Import Volume Indices	Percentage Variation from 1953	Year to Year Percentage Variation
1938	66.47	-33.5		53.42	-46.6	
			+14.2			+ 9.0
1939	75.92	-24.1		57.60	-42.4	
			+23.1			+51.6
1951	93.42	- 6.8		87.31	-12.7	
			+12.6			+ 4.6
1952	105.22	+ 5.2		91.35	- 8.6	
			- 5.0			+ 9.5
1953	100.00	0.0		100.00	0.0	
			+42.3			+36.0
1954	142.31	+42.3		136.04	+36.0	
			+ 2.4			+ 1.6
1955	145.78	+45.8		138.23	+38.2	
			+11.5			+ 4.0
1956	162.60	+62.6		143.72	+43.7	
			- 9.8			- 4.8
1957	146.73	+46.7		136.88	+36.9	
			+16.9			+15.4
1958	171.46	+71.5		157.92	+57.9	
			- 4.0			- 6.9
1959	164.53	+64.5		147.06	+47.1	
			+21.6			+14.2
1960	200.13	+100.1		167.89	+67.9	

Source: Calculated from figures given in Table 20.

An examination of the Laspeyres and Paasche series shows that, in every year, the Paasche indices were lower than the Laspeyres indices. This is because, in every year, the Laspeyres import unit value indices were higher than the Paasche indices. Both series, however, indicate that there was a definite upward trend in the volume of Syria's imports despite some interruptions, particularly after 1956. And though differing in their absolute magnitudes, the two series moved in the same direction from year to year with the exception of 1953.

During the period under consideration, the trend revealed by the Laspeyres indices was unmistakably upward. By 1953 the index was 50 percent above its 1938 level; by 1960 it was 100 percent above its 1953 level. This upward trend, however, did not proceed at the same rate, nor was it continuous. The year to year percentage increase of the indices varied from a maximum of 42.3 percent in 1954, to a minimum of 2.4 percent in 1955. The percentage decrease varied from a maximum of 9.8 percent in 1957 to a minimum of 4 percent in 1959.

Between 1938-1952 inclusive, the indices expanded rapidly to drop by 5 percent in 1953. During 1953-1956 inclusive, the indices increased by about 63 percent to reach the level of 162.60 in 1956. After 1956, the upward trend was interrupted in 1957 and 1959 where the indices dropped by 9.8 and 4 percent, respectively. However, the recovery that occurred in 1958 and 1960 of 16.9 and 21.6 percent respectively, was high

enough to push the 1958 and 1960 indices to levels that more than compensated for the drop in the 1957 and 1959 indices; by 1960 the index stood at 200.13.

The Paasche indices also showed an upward trend during the period under consideration. By 1953 the index was about double its 1938 level, and by 1960 it was 68 percent above its 1953 level. From 1938-1956 inclusive, the indices continuously moved upward with the greatest positive increase of 36 percent occurring in 1954. After 1956, the indices started to fluctuate. In 1957, the index fell from 143.72 to 136.88 - a fall of 4.8 percent - but more than recovered in 1957 as it increased by 15.4 percent and reached 157.92. Again in 1959 the index dropped by 6.9 percent and reached 147.06; however, it more than recovered by 1960, increasing by 14.2 percent to attain the peak level of 167.89.

c. Export and Import Volume Indices Compared

An examination of Tables 26 and 27 reveals the following. First, during the period under consideration the volume of Syria's exports and imports expanded quite rapidly but not to the same extent. The volume of exports showed the greater expansion - percentage wise - up to and including 1953; after that, the volume of imports expanded more rapidly. In 1953, the volume of exports was about five times its 1938 level; by 1960, the volume of imports had expanded more than the volume of exports, with the Laspeyres index being 100 percent above its 1953 level and the Paasche being 68 percent above that

level. Secondly, prior to 1957 - with the exception of the 1953 Laspeyres and 1955 Paasche indices - the direction of movement of the import volume indices paralleled that of the export volume indices. This parallelism, however, stopped after 1956.

d. Export and Import Unit Value and Volume Indices Compared

Putting the pre-war indices aside, one can say that the unit value indices were relatively stable when compared with the volume indices as can be seen from an examination of Tables 25 and 27. This leads to the following conclusion: that between 1951-1960 inclusive, changes in the value of imports could be attributed mainly to changes in the volume of imports; as for the change in the value of imports from the pre-war years to the post-war period, the change in prices played the dominant role.

On comparing the export unit value with the volume indices, one can say that changes in the value of exports could safely and mainly be attributed to changes in the volume of exports with changes in export prices playing a minor role. The preceding generalization does not apply to changes in the value of exports from the pre-war to the post-war period, and in 1951, where changes in prices played an equally important role in determining changes in the value of exports.

4. Syria's Income Terms of Trade

Syria's income terms of trade indices, with the percentage variation of each index from the base year and from year to year, are given below in Table 28.

TABLE 28

PERCENTAGE VARIATION OF SYRIA'S INCOME TERMS OF TRADE INDICES FROM THE BASE YEAR AND FROM YEAR TO YEAR; 1938, 1939, 1951-1960

Year	Laspeyres Commodity Terms of Trade Indices x Paasche Export Volume Indices			Paasche Commodity Terms of Trade Indices x Laspeyres Export Volume Indices		
	Income Terms of Trade	Percentage Variation from 1953	Year to Year Percentage Variation	Income Terms of Trade	Percentage Variation from 1953	Year to Year Percentage Variation
1938	20.37	-79.6		25.35	-74.6	
			+13.5			+20.2
1939	23.12	-76.9		30.47	-69.5	
			+204.0			+146.0
1951	70.28	-29.7		74.96	-25.0	
			+15.7			+25.1
1952	81.34	-18.7		93.76	- 6.2	
			+22.9			+ 6.7
1953	100.00	0.0		100.00	0.0	
			+22.8			+28.5
1954	122.80	+22.8		128.46	+28.5	
			- 2.8			- 2.0
1955	119.39	+19.4		125.94	+25.9	
			+10.8			+18.9
1956	132.30	+32.3		149.68	+49.7	
			+ 5.2			- 0.3
1957	139.19	+39.2		149.19	+49.2	
			-20.3			-18.9
1958	111.00	+11.0		120.98	+21.0	
			+18.7			+22.7
1959	131.72	+31.7		148.46	+48.5	
			-11.1			- 5.9
1960	117.11	+17.1		139.69	+39.7	

Source: Calculated from Figures given in Table 22.

The two series given above indicate that there was an upward trend in the income terms of trade of Syria despite some marked fluctuations that occurred after 1957. It must be pointed out, however, that the indices which were based on the Paasche commodity terms of trade and Laspeyres export volume indices were, in each year, higher than those built from the Laspeyres commodity terms of trade and Paasche export volume indices.

As was mentioned above, the indices based on the Laspeyres commodity terms of trade and Paasche export volume indices showed a marked improvement during the period under consideration. Aside from a small drop in the 1955 index, this series exhibited a continuous upward trend and reached in 1957 its peak level of 139.19. After 1957, the series started to fluctuate. This series also showed high year to year percentage variation. The positive percentage variation was above 10 percent in 1939, 1952, 1953, 1954, 1956, and 1959 being 13.5, 15.7, 22.9, 22.8, 10.8, and 18.7 percent, respectively. The negative year to year percentage variation exceeded 11 percent in 1958 and 1960 being 20.3 and 11.1 percent, respectively.

Despite the marked fluctuations that occurred prior to 1958 in the commodity terms of trade indices, the income terms of trade indices moved upward except for a small drop in the 1955 index. This was so because the Paasche export volume indices were increasing at such rates that ironed out the fluctuations in the Laspeyres commodity terms of trade indices and

resulted in the expansion of the income terms of trade indices. After 1957, the fluctuation of the income terms of trade indices was governed by that of the export volume indices with perhaps 1960 as an exception; in 1960, both the commodity and volume indices dropped.

The expansion in Syria's income terms of trade is evident also in the series based on the Paasche commodity terms of trade indices and the Laspeyres export volume indices. The indices attained their peak level of 149.68 in 1956; this same level was almost reached in 1957 and 1959.

The year to year percentage positive variation in this series varied from a maximum of 28.5 percent in 1954, to a minimum of 6.7 percent in 1953. However, this variation was nearer to the upper limit being 20.2, 25.1, 18.9, and 22.7 percent in 1939, 1952, 1956, and 1959, respectively. The year to year percentage decrease varied from a maximum of 18.9 percent in 1958, to a minimum of 0.3 percent in 1957.

Prior to 1958, the income terms of trade indices showed a continuous upward trend, which was interrupted only in 1955 by a slight drop in the index. This upward trend was maintained despite the fluctuations that characterized the Paasche commodity terms of trade indices. This was so because the expansion of the Laspeyres export volume indices ironed out those fluctuations and produced an upward trend in the income terms of trade indices. The fluctuations that occurred in the income terms of trade indices after 1957 were mainly an outcome of

the fluctuations that occurred in the Laspeyres export volume indices.

B. COMPARISON WITH OTHER STUDIES

Data on Syria's export and import unit value and volume indices are available from three studies besides this one. Two of these studies give also commodity terms of trade indices. None, however, cover all the twelve years that were covered by this study.

One set of indices was prepared by M. Halabi.[1] In this study, export and import unit value and volume indices, along with commodity terms of trade indices, were constructed for Syria and Lebanon for the period 1938-1949. These indices were based on Fisher's ideal formula and the chained system of index numbers. Furthermore, the value of export and import items that entered into the construction of these indices was about 90 percent of the total value of exports and imports in each year. Halabi's study, however, covered only two years which were covered by this study namely, 1938 and 1939. This limits the scope of comparison; nevertheless, it is possible to derive some useful conclusions on the direction and extent of change of the indices between 1938 and 1939.

To have a meaningful comparison, the 1938 and 1939 indices which were computed in this study were recomputed using

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1. Musa J. Halabi, Terms of Trade for Syria and Lebanon, (M.A. Thesis, Beirut: American University of Beirut, 1952).

Fisher's ideal formula and shifted to the same base year as those of Halabi namely, 1938. Halabi's indices and the corresponding ones from this study - as recomputed - for 1938 and 1939, are given in Tables 29 and 30, respectively.

TABLE 29

SYRIA'S EXPORT AND IMPORT (UNIT VALUE AND VOLUME) AND COMMODITY TERMS OF TRADE INDICES AS COMPUTED BY M. HALABI, 1938 AND 1939
(1938 = 100)

Year	Export Indices		Import Indices		Commodity Terms of Trade Indices
	Unit Value	Volume	Unit Value	Volume	
1938	100.0	100.0	100.0	100.0	100.0
1939	106.9	116.7	112.5	94.9	95.9

Source: M. Halabi, Terms of Trade for Syria and Lebanon.

TABLE 30

SYRIA'S EXPORT AND IMPORT (UNIT VALUE AND VOLUME) AND COMMODITY TERMS OF TRADE INDICES AS RECOMPUTED FROM THIS STUDY, 1938 AND 1939
(1938 = 100)

Year	Export Indices		Import Indices		Commodity Terms of Trade Indices
	Unit Value	Volume	Unit Value	Volume	
1938	100.0	100.0	100.0	100.0	100.0
1939	100.5	126.2	108.5	110.9	92.5

Source: Figures were computed from data given in Tables 12, 17, 18, 19, 20 and 21.

Comparing the two sets of indices given in Tables 29 and 30 above, the following can be observed. The commodity terms of trade index, of both sets, dropped in 1939 from its 1938 level; this drop, however, was not of the same magnitude being 4.1 and 7.5 percent according to Halabi and this study, respectively. This difference could be explained by the fact that while Halabi's 1939 export unit value index rose by 6.9 percent and his import unit value index by 12.5 percent, the recomputed export and import unit value indices rose by only 0.5 and 8.5 percent, respectively. The 1939 export volume indices moved in the same direction, with Halabi's index rising by 16.7 percent and the recomputed index by 26.2 percent. On the other hand, the import volume indices moved in opposite directions, with Halabi's index dropping by 5.1 percent and the other rising by 10.9 percent.

Thus it seems that the two sets of indices - with the exception of the import volume indices - moved in the same direction from the 1938 index though not to the same extent. However, it seems logical to attach more significance to Halabi's indices than to the corresponding ones as recomputed on the basis of the data given in this study. This is because the coverage of Halabi's indices makes them more representative of Syria's exports and imports than does the coverage of this study's indices for 1938 and 1939.

Another set of commodity terms of trade, export and import

unit value and volume indices was prepared by E. Asfour,[1] covering the period 1950-1956 inclusive, and part of 1957. These indices were calculated from data given in the Statistical Abstract of Syria (1950-1956) and Summary of Foreign Trade (1957) and were based on a selected group of eighteen main items of exports (representing 87 percent of total value of exports in 1952) and twenty-two items of imports (representing 76 percent of total value of imports in 1952), Changes from the base year were weighted by the relative value (percent of total) of the items in the selected group in 1952.[2] In other words, base year weights were used.

In order to compare the indices given by Asfour with those that were calculated in this study, the former - excluding 1950 as this year was not covered by this study - were shifted to a new base year namely, 1953, and are given below in Table 31.

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1. Edmund Y. Asfour, Syria: Development and Monetary Policy, (Cambridge, Massachusetts: Harvard University Press, 1959).

2. Ibid., p. 43.

TABLE 31

INDICES OF QUANTUM, PRICES AND TERMS OF TRADE
1951-1957
(1953 = 100)

Year	Export Indices		Import Indices		Commodity Terms of Trade Indices
	Unit Value	Volume	Unit Value	Volume	
1951	151.8	46.5	106.5	92.1	143.3
1952	120.5	70.4	108.7	87.7	111.1
1953	100.0	100.0	100.0	100.0	100.0
1954	109.6	112.7	95.6	140.4	114.4
1955	107.2	122.5	94.6	142.1	113.3
1956	108.4	119.7	100.0	140.4	108.9
1957(1)	98.8	-	96.7	-	102.2

- = Not available.

(1) = January - September.

Source: Asfour, Syria: Development and Monetary Policy, Table 13, p. 43.

Let us start by comparing the commodity terms of trade indices as given in Tables 21 and 31. The two series show no continuous trend though the year to year movements between 1951-1955 were in the same direction. The two series attained their maximum and minimum levels in the same years. In 1951, the commodity terms of trade index in Tables 21 and 31 stood about the same level, being 145.18 and 143.3, respectively. But though the indices reached their lowest level in 1957,

Asfour's index was favorable as compared with 1953, being 102.2, while the 1957 index computed in this study was unfavorable, being equal to 96.48. And with the exception of 1951 and 1952, the commodity terms of trade indices computed by Asfour were higher than the ones computed in this study.

Comparing the export and import unit value indices given in Table 31 and Tables 12 and 17, the following can be observed. The export unit value indices show a very close resemblance ranging in both studies from a maximum of about 152 in 1951, to a minimum level of about 98 in 1957. The indices during the interval, 1952-1956 inclusive, were above their 1953 level and of almost identical magnitudes. On the other hand, the import unit value indices hardly show any resemblance. Asfour's indices varied from a minimum of 96.7 in 1957, to a maximum of 108.7 in 1952; the indices computed in this study varied within narrower limits, being 100.97 in 1956 and 105.02 in 1952. And beside differing in their absolute magnitudes, the two sets of indices do not move from year to year in the same direction, with Asfour's indices showing wider year to year fluctuations.

The export volume indices, computed by Asfour and given in Table 31, and the ones computed in this study and given in Table 19, indicate that the volume of Syria's exports was expanding between 1951-1956. In 1953 the index was about twice its 1951 level; and by 1956, it was about 20 percent above its 1953 level. In three of the years, the indices stood at about the same level, being about 70, 100, and 113 in 1952, 1953,

and 1954, respectively. And during all of the years-with the exception of 1956 - the indices moved from year to year in the same direction.

Turning to the import volume indices, given in Tables 20 and 31, the two series indicate that the volume of Syria's imports was expanding during 1951-1956 with the indices computed in this study showing the greater expansion, particularly in 1956. Starting from the magnitude of 92.1, Asfour's indices dropped to 87.7 in 1952 and then recovered to 100 in 1953. The indices computed in this study started from about the same level, improved in 1952, and dropped in 1953. In 1954 and 1955 the two series stood at about the same level, being between 40-45 percent above the 1953 level. In 1956 the index computed by Asfour maintained its 1954 level of 140.4, while the index computed in this study rose from 145.78 to 162.60.

The third set of export and import unit value and volume indices is given by the United Nations. No attempt is made, however, to compute commodity terms of trade indices. But this is not a difficult thing to do, and commodity terms of trade indices were computed by dividing each year's export unit value index by the import unit value index. This series is computed using base year weights and covers eight years which were covered in this study, 1952-1959 inclusive,and is given below in Table 32.

TABLE 32

SYRIA'S EXPORT AND IMPORT (UNIT VALUE AND VOLUME) AND COMMODITY TERMS OF TRADE INDICES AS COMPUTED BY THE UNITED NATIONS, 1952-1959 (1953 = 100)

Year	Exports		Imports		Commodity Terms of Trade Indices
	Unit Value Indices	Volume Indices	Unit Value Indices	Volume Indices	
1952	120	71	103	96	116.5
1953	100	100	100	100	100.0
1954	107	116	97	140	110.3
1955	108	125	95	145	113.7
1956	110	130	104	148	105.8
1957	100	147	96	120	104.2
1958	96	133	98	152	98.0
1959	104	121	99	145	105.1

Source: U.N., Statistical Office, Department of Economic and Social Affairs, Year Book of International Trade Statistics, 1958, Vol. 1, (New York: U.N. Publication, 1959), for the years 1952-1958; and U.N., Department of Economic and Social Affairs, Economic Developments in the Middle East, 1959-1961, (New York: U.N. Publication, 1962), for the year 1959.

Two things must be noted in connection with the figures given in Table 32 above. First, from 1958 onward, trade with Egypt is excluded; in this study it was included. Secondly, Syria's exports and imports of gold entered into the construction of the United Nations indices while they were excluded in this study.

Since the United Nations indices were computed using

base year weights, they will be compared below with similarly computed indices in this study. More specifically, the United Nations figures given in Table 32 above, will be compared with the corresponding figures given in Tables 12, 17, 19, 20, and 21 of Chapter IV.

From 1952-1954 inclusive, the commodity terms of trade indices as given by the United Nations and this study[1] moved in the same direction from year to year; not only that, they also stood at about the same level of 116.5 and 110.3 in 1952 and 1954 according to the United Nations study, and at 115.87 in 1952 and 108.05 in 1954 according to this study. While in 1955 the United Nations index increased to 113.7 to drop in 1956 to 105.8, the 1955 index dropped to 106.8 in 1955 and increased to 108.16 in 1956 according to this study. After 1956, the two series fluctuated from year to year in the same direction but were of different magnitudes. The United Nations index dropped slightly in 1957, and appreciably in 1958, and then recovered in 1959 to almost its 1956 level. On the other hand, the index computed in this study dropped sharply in 1957 from 108.16 to 96.48, and then slightly in 1958, but only made a slight recovery in 1959.

The export unit value indices given in Tables 12 and 32 show a good deal of resemblance to each other. With the ex-

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1. See Table 21.

ception of 1959, the indices were of about equal magnitudes. In 1959 the export unit value index, as given by the United Nations, rose from 96 to 104; on the other hand, the index computed in this study dropped slightly from 95.58 to 94.53.

What has been said about the export unit value indices does not apply to the import unit value indices. One thing which is common to both series is that they fluctuated between relatively narrow limits, with the United Nations indices varying from a minimum of 95 in 1955 to a maximum of 104 in 1957, and the indices computed in this study varying from a minimum of 96.72 in 1959 to a maximum of 105.02 in 1952. With the exception of the movement between 1952-1953, the year to year direction of change differed. And while the United Nations indices were only favorable in 1952 and 1956 as compared with 1953, the indices computed in this study were always above their 1953 level, with the exception of 1958 and 1959.

The export volume indices given in Tables 19 and 32 show a good deal of similarities, though not to the same extent as the export unit value indices. The two series varied within almost the same range; the United Nations indices varying from a minimum of 71 in 1952 to a maximum of 147 in 1957, and the indices given in Table 19 varied from a minimum of 70.64 in 1952 to a maximum of 144.96 in 1957. In other words, the two series attained their minimum and maximum levels in the same years. In three of the years namely, 1952, 1954, and 1957, the indices attained about the same level. And in every year,

the United Nations indices were higher than those computed in this study with the exception of 1959. Furthermore, the two series moved from year to year in the same direction, with the exception of 1959. The two series showed an upward trend from 1952-1957 which was discontinued in 1958 and 1959.

Regarding the import volume indices given in Tables 20 and 32, the two series indicate that the volume of Syria's imports was expanding between 1952-1959 though not continuously. However, the indices computed in this study showed the greater expansion as they varied from a minimum of 100.0 in 1953 to a maximum of 171.46 in 1958; the United Nations indices, on the other hand, varied from a minimum of 96 in 1952 to a maximum of 152 in 1958. This shows that the maximum level attained by the indices in the two series occurred in 1958. With the exception of 1954 and 1955, where the indices in the two series were close to each other, the United Nations indices were, in every year, lower than those computed in this study. However, the two indices fluctuated in the same direction from year to year with the exception of the movement between 1952-1953.

C. CONCLUDING REMARKS

The contents of this brief section will not exactly be in line with its title. This is because whatever conclusions relating to Syria's terms of trade and other indices that needed to be made, were mentioned in the course of the statistical analysis of these indices in the first section of this chapter;

hence, there is no need to reproduce them again. There are, however, few points which the reader must keep in mind when trying to interpret changes in Syria's terms of trade.

(1) The indices were based on items in the merchandise account of Syria's balance of payments to the neglect of other items in the current account.

(2) Only the commodity or net barter terms of trade were calculated;[1] other useful and meaningful terms of trade concepts, such as the single and double factoral terms of trade, were not calculated.

(3) The terms of trade indices computed for Syria in this study relate to its overall terms of trade. This is so - despite the fact that not every export and/or import item entered into the construction of these indices - because the indices were based on export and import items which represented a cross section of Syria's exports and imports. The criterion adopted for the inclusion of any item was meant to include items at random, and not particular ones such as those classified as primary or manufactured.

(4) Like all unit value indices, the ones computed for Syria do not claim that they reflect any or all of the quality changes that might have occurred in Syria's exports and imports during the period under consideration.

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1. The income terms of trade were based on the commodity terms of trade and therefore do not present an independent or a separate concept.

(5) Though an effort was made to reduce the possibility of having Syria's unit value indices reflect compositional changes in addition to changes in the prices of its exports and imports, the success of such an effort cannot be determined. Hence, such a possibility remains.

(6) The problems and difficulties faced in the construction of terms of trade indices - particularly unit value indices - that were mentioned in Chapter III render the following caution necessary: it may not be correct to attach a great deal of significance to small statistical differences when interpreting changes in Syria's terms of trade and volume indices.

The above caution is justified on other grounds. Though every step of the statistical process was checked, the possibility of having committed some mistakes remains. However, such a possibility could have led to small, as well as large, statistical differences in Syria's terms of trade and volume indices.

APPENDIX

SCHEDULE 1

EXPORT ITEMS - TARIFF NO. AND DESCRIPTION

Tariff No.	Description of Item
3-	Cows, young bulls, young cows, calves, bulls, steers and helfers and buffalo
4-b	Rams, ewes, and wethers
5-b	He-goats and she-goats
12-b	Camels
25-b	Melted butter (Samneh)
26-a	White cheese
31-a	Guts, bladders and stomachs of animals - fresh and salted
46-a	Olives, fresh
48-a	Onions
51-a	Haricot beans, and broad beans
51-b	Peas and lentils
51-c	Vetch and lupins
57-a	Grapes, fresh
59-a	Apples
61-c	Watermelons
68	Wheat, spelt, and meslin
71	Barley
73	Maize
74-b	Millet
75-a-1	Flour, hard wheat
77	Bran
83-b-2	Cotton seed
83-c	Ground nuts and other seeds
84-a	Seeds and fruits for sowing
88-c	Liquorice, powder and extract
89	Plants and parts, seeds and fruits not mentioned elsewhere
90	Straws of cereals
105-d	Cotton oil
105-g-b	Olive oil not for soap making
125	Sugar manufactures (confectionery)
142-a-1	Apricot paste
165	Oil cakes and other residues from the extraction of vegetable oils
171-b	Tobacco leaves
192-a	Natural or artificial cement
206-III-2	Petroleum essences in other containers
292-a-4	Other pharmaceutical products
320-b	Ordinary soap-block, bars and sheets
348-a	Sheep hides
348-b	Goat hides
348-c	Other raw hides (soft, salted, dried, etc.)
352	Sheep skins and goat skins tanned or prepared

Tariff No.	Description of Item
393	Plywood
427	Cigarette paper
443-b	Yarns of worked natural silk
462	Artificial silk threads - pure or mixed with wool - not for retail sale
471-a	Crepes of artificial silk, unbleached or bleached or dyed
471-b	Crepes of artificial silk, printed, goffered or figured
472-b-1	Other fabrics of pure artificial silk; unbleached or bleached or dyed over 50 grs. per m^2
472-b-2	Other fabrics of pure artificial silk; printed, goffered or figured over 75 grs. per m^2
476	Fabrics of artificial silk mixed with other textile materials
480-b-2	Fabrics of artificial silk waste and artificial textile fibres - printed, goffered or figured
493	Wool in masses
507-a(1)	Fabrics of pure wool
518	Raw cotton
519	Cotton waste and lint
522-a-1	Cotton yarns, single ply up to count 1/12
522-a-2	Simple cotton threads raw 1/12 - 1/24 inclusive
527-a-3	Cotton fabrics, not figured weighing from 100-150 grs. per m^2
527-a-4	Cotton fabrics, not figured, over 150 grs. per m^2
527-c-3	Cotton tissues (dyed after fabrication) not figured and weighing from 100-150 grs. per m^2
527-c-4	Cotton tissues (dyed after fabrication) not figured and weighing over 150 grs. per m^2
527-d-4	Cotton fabrics, printed, over 150 grs. per m^2
566	Cables, ropes and cords
581-a-2-c	Men's socks made of nylon
581-a-3	Other pure artificial silk hosiery
582-a-2	Hosiery of pure wool, other than stockings
583-a-4-1	Underwear and outwear clothin of pure cotton
584-b	Men's clothing made of artificial silk or other artificial fibre
584-c	Men's clothing made of wool
584-d	Men's clothing made of cotton
585-b	Women's clothing of artificial silk yarns or of other artificial fibre
585-c	Wool clothings for women
589-d	Covers made of cotton tissues
590	Handkerchiefs and neckerchiefs
591	Shawls and scarves
602	Shoes of leather uppers and soles of leather or rubber

(1) Combined of items 507-a-1, a-2, a-3, and a-4.

Tariff No.	Description of Item
666-b	Unworked glass with thickness more than 2.2 mm. and less than 4 mm.
671-c-1	Colored bottles with capacity more than 50 $cm.^3$ with special stoppers
685	Gold; unworked ingots, bars, powder, waste and scrap
691-a-2	Jewelry made of gold
691-b	Gold smithery
693	Gold coins
698	Scrap iron
722	Receptacles: iron or steel, for compressed or liquified gas

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Source: Syria, Statistiques Du Commerce Exterieur, issue of 1953.

SCHEDULE 2

EXPORT ITEMS WITH DIFFERENT TARIFF NUMBERS FROM 1953

1953	1938	1939	1951	1952	1954	1955	1956	1957	1958	1959	1960
31-a	31	31	-	-	-	-	-	-	-	-	-
51-a	51a1, 51a2,	51a1, 51a2	-	-	-	51-a, 51-b	51-a, 51-b	51-a, 51-b	51-a, 51-b	51-a, 51-b	51-a, 51-b
51-b	51b1, 51b2	51b1, 51b2	-	-	-	51-c, 51-d	51-c, 51-d	51-c, 51-d	51-c, 51-d	51-c, 51-d	51-c, 51-d
51-c	51c1, 51c2	51c1, 51c2	-	-	-	51-e, 51-g	51-e, 51-g	51-e, 51-g	51-e, 51-g	51-e, 51-g	51-e, 51-g
83-c	83-a-4	83a-4	-	-	-	-	-	-	-	-	-
88-c	88c1	88c1	-	-	-	-	-	-	-	-	-
89	89-1	89-1	-	-	-	-	-	89-b	89-a, b,c	89-a, b,c	89-a, b,c
125	125-1	125-1	-	-	-	-	-	-	-	-	-
142-a-1	142-a-2	142-a-2	142-a-2	142-a-2	-	-	-	-	-	-	-
493	493-a	493-a	-	-	-	-	-	-	-	-	-
507[1]-a	-	-	-	-	-	-	-	507-a	507-a	507-a	507-a
581-a-3	581-a-c	581-a-c	-	-	-	-	-	-	-	-	-
582-a-2	582-a, 582-b	582-a, 582-b	582-a-1	582-a-1	-	-	-	-	-	-	-
584-b	584-b-1, b-2, b-3	584-b-1, b-2, b-3	-	-	-	-	-	-	-	-	-

SCHEDULE 2 (CONTINUED)

1953	1938	1939	1951	1952	1954	1955	1956	1957	1958	1959	1960
584-c	584-d	584-d	-	-	-	-	-	-	-	-	-
584-d	584-c	584-c	-	-	-	-	-	-	-	-	-
585-b	585-b-1, b-2,b-3	585-b-1, b-2,b-3	-	-	-	-	-	-	-	-	-
566	-	-	-	-	-	-	-	-	566-a, b	566-a, b	566-a, b
585-b	585-b-1, b-2,b-3	585-b-1, b-2,b-3	-	-	-	-	-	-	-	-	-
590	-	-	-	-	-	-	-	590-a, 590-b	590-a, 590-b	590-a, 590-b	590-a, 590-b
602	602-a-1, a-2, b1, b2, c1	602-a-1, a-2, b1, b-2, c1	-	-	-	-	-	-	-	-	-

- = Same as in 1953.

(1) Combined of 507-a-1, a-2, a-3, and a-4.

Source: Worksheets.

SCHEDULE 3

IMPORT ITEMS - TARIFF NO. AND DESCRIPTION

Tariff No.	Description of Item
3	Cows, young bulls, young cows, calves, bulls, steers, helfers, and buffalo
4-b	Rams, ewes, and wethers
24-1	Milk powder for industrial purposes
24-2	Milk powder not for industrial purposes
25-b	Melted butter (Samneh)
47	Tomatoes
49	Potatoes
54-a-2	Dates other than in tins of 1 kilo or less
54-b	Bananas
55-a	Oranges and mandarines
55-b	Lemons
59-a	Apples
61-c	Watermelons
63-a	Coffee, not roasted
64	Tea
68	Wheat, spelt, and meslin
70-b	Rice, husked
71	Barley
75-a-1	Hard wheat flour
75-a-2	Soft wheat flour
83-a	Copra, cotton and jute seeds
83-b-1	Sesame seeds
84-b-2	Pumpkins, gourds, and marlow seeds
89	Plants and parts, seeds and fruits not mentioned elsewhere
105-g-b	Olive oil not for soap making
105-i-1	Palm oil, containing less than 20% acidity
105-i-2	Palm oil, containing 20% of acidity or more
109	Fatty acids, containing 30% or more of acidity for soap making
112	Margarine
117-b	Other preparations and preserves of meat other than ham
120	Preserved fish
122-a	Raw Sugar
123-b	Glucose
125	Sugar manufactures (confectionery)
171-b	Tobacco leaves
178	Sea salt and rock salt
183-b	Wastes of marble
192-a	Natural or artificial cement

Tariff No.	Description of Item
192-b	Cement portland, white or colored
206-1	Oil, crude
206-2-a-1	Petroleum, 125° in barrels or tins
206-2-a-2	Petroleum, 125° in other containers
206-III-1	Benzine in barrels or tanks
206-III-II	Benzine in other containers
206-IV-1	Heavy mineral oils for lubrication in barrels
206-IV-2	Heavy mineral oils for lubrication in other containers
206-V-1	Thick crude mazout oil for combustion
206-V-3	Distilled mazout oil
223-b-a-2	Hard citric acid - not for pharmaceutical purposes
234-a	Sodium carbonate in all its forms
279-a	Artificial plastic materials with plenol and urea foundation
281-a	Disinfectants for agricultural purposes
287-b	Chemical products not mentioned elsewhere
292-a-1	Streptomycine and peniciline and their derivatives
292-a-4	Other pharmaceutical products
293-a-3	Cinematographic films synchronized with sonorous films
298	Tanning extracts of vegetable origin
302	Coloring material derived from coal-tar
308-b	Prepared paints of all kinds, other than printing ink
319-g	Other perfumes
321	Washing powders
332-a	Preparation products used in textile manufacturing
343	Nitrogeneous mineral or chemical fertilizers
344	Phosphated mineral or chemical fertilizers
348-a	Sheep hides
348-c	Other raw hides - (soft, salted, dried, etc.)
370	Waste, powder, and scrap of rubber and gutta-percha
374	Articles of unhardened rubber for industrial uses
375-b	Rubber tubes and tyres for automobiles, motor cycles, bicycles, and other transport vehicles
381	Charcoal
382-k	Mahogany wood
384-b	Fir-tree wood
384-c	Pine wood
384-d	Oak-tree wood
384-i	Other woods, sawn lengthwise
412-b	Mats made of straw
419+420-a	Packing paper, not decorated nor sulphured, nor glazed on both or one side
419+420-b	Kraft paper destined to be used exclusively for making bags to be filled with cement, orche, asphalt, coal, salt, fertilizers of animal origin and similar products

Tariff No.	Description of Item
421-e-2	Other kinds of worked paper
426-d	Other kinds of paper for certain uses
462	Artificial silk threads - pure or mixed with wool - not for retail sale
465	Artificial textile fibres - masses and bundles
467	Threads of artificial silk waste - pure or mixed with wool - not put for retail sale
472-b-2	Other fabrics of artificial silk weighing over 75 grs per m^2 - printed or decorated or figured
491-b-2	Silver plated threads - 30 thousand meters long and over per kg.
493	Wool in masses
495-a	Goats hair
500-b	Combed dyed wool
502	Combed woollen threads
506-b	Woollen threads other than fine hair for retail sale
507-a(1)	Fabrics of pure wool
507-b(2)	Woollen fabrics mixed with textile materials
511-a(3)	Carpets
511-c	Carpets - other than oriental
522-a-2	Cotton threads - simple count 1/12-1/24 inclusive
522-a-4	Over 1/40
523-4-a	Cotton yarn, twisted double or more, over 40 counts
527-b-2	Cotton tissues, bleached not figured - 50-100 grs. per m^2
527-b-3	Cotton tissues, bleached not figured - 100-150 grs. per m^2
527-c-3	Cotton tissues, dyed after fabrication or made of dyed yarn not figured over 100 grs. and not exceeding 150grs. per m^2
527-c-4	Cotton tissues, dyed, over 150 grs. per m^2
527-d-3	Cotton tissues, printed over 100 grs. and not exceeding 150 grs.
527-d-4	Cotton tissues, printed and over 150 grs. per m^2
556-a	Jute carpets
573	Fabrics and felt coated with cellulose derivatives
577	Fabrics and felt covered with rubber
590	Handkerchiefs and neckerchiefs

(1) Combined of 507-a-1, a-2, a-3, and a-4.

(2) Combined of 507-b-1 and b-2.

(3) Combined of 511-a-1, a-2, and a-3.

Tariff No.	Description of Item
594-a	Bags or sacks for packing of jute fabrics
599-a	Worn clothing and underwear
641	Articles made of asbestos cement
650	Fireproof bricks
655	Paving and facing tiles of stoneware
657	Fixed appliances for sanitary or hygienic purposes of ceramic material
662-a	Wares of porcelain for the table and decoration
675-a	Table and ornamental glassware
685	Gold; unworked ingots, bars, powder, waste and scrap
701-a	Iron and steel in bars; 4-25 mm. of diameter
701-b	Iron and steel bars in other diameters
701-d	Iron and steel in other shapes
702-a-1	Iron and steel wire, simply drawn in plain threads - 1 mm. diameter and less
702-b-1	Iron and steel wire, forged or coated with zinc or tin, diameter: not exceeding 6 mm.
703-a	Iron and steel sheets, flat and unworked; thickness: more than 1 mm.
703-b	Iron and steel sheets, flat and unworked; thickness: 1 mm. or less
704-a	Iron and steel sheets varnished or laquered, not exceeding 4/10 mm. in thickness
705-1-a	Iron and steel sheets, galvanized and corrugated
705-1-b	Iron and steel sheets, galvanized and uncorrugated
708-1	Pipes of cast iron
709-a	Tubes and pipes of cast iron with an internal diameter of 5 cm. or less
709-b	Other iron and steel tubes and pipes - straight and of uniform thickness
710-a	Iron and steel tubes and pipes galvanized and with internal diameter of 5 cms. or less
710-b	Other iron and steel tubes and pipes; special shape or worked
722	Receptacles: iron or steel for compressed or liquified gas
729	Bolts and screw-makers wares
733-b	Other locks and parts
734	Fittings and mountings of iron or steel - not mentioned elsewhere for furniture, doors, and windows
735-b	Other cooking stoves and heaters
740	Kitchen and other utensils for domestic uses
744	Hammers of all types
755	Articles made of iron, steel, or cast iron not mentionedelsewhere.
780	Unworked pieces of aluminum

Tariff No.	Description of Item
805-b-2	Razor blades
818-c	Small articles of metal other than buckles and metal frames for bags
819-b	Articles of adornment made of ordinary metal or ordinary metal plated with gold or other precious metals other than medals imported by government
820	Steam boilers, economizers, super-heaters and accumulators
822	Steam engines, separated of their boilers
823-b	Engines set for automobiles
823-d	Other engines
827-c-1	Pumps, other than fire engines or engines run by wind generators; diameter: 25 mm. or more
832	Pressers, not mentioned elsewhere
833	Machinery and apparatus for handling, lifting, loading, emptying, and lifting
834-a	Agricultural tractors
834-c	Sowing machines
835(4)	Machinery and apparatus for harvesting agricultural produce
839-b	Cooling machines other than for industrial uses
843	Machinery and apparatus for printing and for graphic arts, including printing presses
844	Machinery and apparatus for the preparation of textile material
845	Looms for weaving and hosiery, etc.
845-bis	And others
846	Machinery and apparatus for the dressing and finishing of threads not mentioned elsewhere
847-b	Other sewing machines of all types
849	Machines and tools
855-h-2	Machinery and apparatus for industrial purposes not mentioned elsewhere
855-h-3	Other machinery and apparatus
856-a	Taps made of brass
856-b	Other kinds of taps
857	Bearings of all types
858	Component and detached parts of mechanical machines and tools not mentioned elsewhere
859	Electric dynamoes and convertors, transformers and chocking coils and their parts
860-b	Other battery dy cells
861	Electric accumulators and their plates
866-b	Lamps of fine wire
868-a	Wireless receiving apparatus

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(4) Combined of 835-a, b, and c.

Tariff No.	Description of Item
868-d	Other wireless apparatus
869	Electric apparatus for telegraph and telephone
874	Insulated cables and wires for electric energy
878	Apparatus for regulating, stopping, protecting, and distributing electric current and their parts
886	Wagons - big and small - for transporting goods
890-a	Passengers' automobiles - ready to move-weighing less than 1500 kgs.
890-b	Passengers' automobiles - ready to move - weighing more than 1500 and less than 2000 kgs.
890-d-1	Other than passengers' automobiles: cisterns, and water cars fully equipped.
890-d-2	Trucks, specially for lifting, drawing, filling, emptying, extracting or digging
891	Chassis for automobiles
893-3	Detached parts and pieces of cars and tractors not mentioned elsewhere
928-c	Watches with cases of base metal, gold plated
966-c	Other
976	Toys and children's toys not mentioned elsewhere
982	Fountain pens and stylographic pens and their parts

Source: Syria, Statistiques Du Commerce Exterieur, issue of 1953.

SCHEDULE 4

IMPORT ITEMS WITH DIFFERENT TARIFF NUMBERS FROM 1953

1953	1938	1939	1951	1952	1954	1955	1956	1957	1958	1959	1960
24-1, 24-2	24	24	-	-	-	-	-	-	-	-	-
89	89-1	89-1	-	-	-	-	89-a, b	89-a, b	89-a, b,c	89-a, b,c	89-a, b,c
105-i-1, 105-i-2	105-i	105-i	105-i	105-i	-	-	-	-	-	-	-
112	112-1	112-1	-	-	-	-	-	-	-	-	-
125	125-1	125-1	-	-	-	-	-	-	-	-	-
206-2-a-1	-	-	-	-	-	-	-	-	206-1	206-1	206-1
206-2-a-2	-	-	-	-	-	-	-	-	206-2	206-2	206-2
308-b	308	308	-	-	-	-	-	-	-	-	-
319-g	319-e	319-e	319-f	319-f	-	-	-	-	-	-	-
332-a	332	332	332	332	-	-	-	-	332	332	332
426-d	426-c	426-c	426-c	426-c	-	-	-	-	-	-	-
467	-	-	-	-	-	-	467-a, b-1,b-2	467-a, b-1,b-2	467-a, b-1,b-2	467-a b-1,b-2	467-a, b-1,b-2
493	493-a	493-a	-	-	-	-	-	-	-	-	-
502	502-a, b	502-a, b	-	-	-	-	-	-	-	-	-
507-a(1)	-	-	-	-	-	-	-	507-a	507-a	507-a	507-a

SCHEDULE 4 (CONTINUED)

1953	1938	1939	1951	1952	1954	1955	1956	1957	1958	1959	1960
507-b(2)	-	-	-	-	-	-	-	507-b	507-b	507-b	507-b
511-a(3)	-	-	-	-	-	-	-	511-a	511-a	511-a	511-a
590	-	-	-	-	-	-	590-a, b	590-a, b	590-a, b	590-a, b	590-a,b
704-a	704	704	-	-	-	-	-	-	-	-	-
729	-	-	-	-	-	-	-	-	729-b	729-b	729-b
735-b	735	735	-	-	-	-	-	-	-	-	-
818-c	818-b	818-b	-	-	-	-	-	-	-	-	-
819-b	-	-	-	-	-	-	819-c	819-c	819-c	819-c	819-c
823-b	823-b-1	823-b-1	-	-	-	-	-	-	-	-	-
827-c-1	827-d	827-d	-	-	-	-	-	-	-	-	-
832	832-a,c, d, e, f	832-a,c, d, e, f	-	-	-	-	-	-	-	-	-
833	-	-	-	-	-	-	-	-	833-a, b	833-a, b	833-a,b
834-a,c	834	834	834	834	-	-	-	-	-	-	-
835(4)	-	-	-	-	-	-	835-a, b	835-a, b	835-a, b	835-a, b	835-a,b
839-b	-	-	-	-	-	-	-	-	-	839-2,3	839-2,3

SCHEDULE 4 (CONTINUED)

1953	1938	1939	1951	1952	1954	1955	1956	1957	1958	1959	1960
855-h-2	855-g-2	855-g-2	-	-	-	-	-	-	-	-	-
856-a,b	856	856	856	856	-	-	-	-	-	-	-
858	858-a, b,c,c2	858-a, b,c,c2	-	-	-	-	858-a, b	858-a, b	858-a, b	858-a, b	858-a,b
866-b	866-Ba1 ...Ba7	866-Ba1, ...Ba7	866-Ba1, ...Ba7	866-Ba1, ...Ba7	-	-	-	-	-	-	-
868-d	-	-	868-c	868-c	-	-	-	-	-	-	-
890-a	890-a-1, ... a-5	890-a-1, ... a-5	890-a-1, ... a-5	890-a-1, ... a-5	890-a-1, ... a-5	890-a-1, ... a-5	-	-	-	-	-
890-b	890-b-1, ... b-4	890-b-1, ... b-4	890-b-1, ... b-4	890-b-1, ... b-4	890-b-1, ... b-4	890-b-1, ... b-4					
890-d-1, d-2	890-d	890-d	-	-	-	-	-	-	-	-	-

- = Same as in 1953.
(1) Combined of 507-a-1, a-2, a-3, and a-4.
(2) Combined of 507-b-1, and b-2.
(3) Combined of 511-a, a-2, and 2-3.
(4) Combined of 835-a, b, and c.

Source: Worksheets.

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