LONG-TERM TRENDS IN TERMS OF TRADE AND ECONOMIC DEVELOPMENT

by

ABDOLAMIR TAVAKKOL

B. S., Pahlavi University, 1974

A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARTS

Department of Economics

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1975

Approved by:

Patrick J. Gormely

Major Professor

ACKNOWLEDGMENTS

I would like to express my appreciation to Dr. Patrick J. Gormely, Associate Professor of Economics at Kansas State University. I acknowledge special gratitude for his guidance throughout my graduate program and for numerous helpful suggestions in preparing this report.

To Dr. Krishna R. Akkina, Assistant Professor of Economics and to Dr. Edgar S. Bagley, Professor of Economics, I express thanks for their helpful suggestions through their constructive reading of the manuscript.

A. T.

State University, Kansas
November, 1975

THIS BOOK CONTAINS NUMEROUS PAGES WITH THE ORIGINAL PRINTING BEING SKEWED DIFFERANTLY FROM THE TOP OF THE PAGE TO THE BOTTOM.

THIS IS AS RECEIVED FROM THE CUSTOMER.

ILLEGIBLE

THE FOLLOWING DOCUMENT (S) IS ILLEGIBLE DUE TO THE PRINTING ON THE ORIGINAL BEING CUT OFF

ILLEGIBLE

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

WHAT IS TERMS OF TRADE?

Terms of trade has been defined in many different ways. The reason for variety of definitions is the different purposes that they serve in economic thinking. A common characteristic of all definitions is that they attempt to demonstrate the terms on which trade takes place between two inter-changing parties. It shows a relation between prices of commodities that are exchanged between two trading units.

The most common concept of terms of trade is net barter or commodity terms of trade. Other formulations are: gross-barter, income, single-factoral, double-factoral, real cost and utility terms of trade.[1]

Net-barter (or commodity) terms of trade can be calculated by dividing the index of export prices by the index of import prices. There are many different concepts of price index, depending on different weighing methods. A change in net-barter terms of trade of a country shows that the price index of the goods that the country is exporting has changed relative to the price index of its imports. Improvement of net-barter terms of trade is favorable in the sense that more units of imports can be obtained per unit of exports.

Gross-barter terms of trade (first introduced by Taussig) measures the rate at which the whole of a country's physical imports is exchanged with the whole of its exports. It is formulated as the ratio of the physical quantity index of a country's imports over the physical quantity index of its exports. A rise in gross-barter terms of trade represents a favorable change, because for a given volume of exports, ceteris paribus, the country is receiving more imports, compared to the base year. Gross-barter is mostly used for measuring the gains from unilateral or barter transactions, when there is no counter payment, though it is perfectly understandable in multilateral and monetary transactions. Allen calls that concept "the real gain" from trade, because it compares the imports "actually" received with exports "actually" dispatched.[2]

Income terms of trade is simply the net-barter terms of trade multiplied by the index of volume of exports of the country. This formulation shows the capacity to import of the country; what could be imported on export earnings. The capacity of the country to import based on export should be differentiated from the total capacity to import.

A rise in income terms of trade, at the same time when net-barter terms of trade is declining, is possible. This could happen if the country is increasing its exports in the face of an inelastic demand for its exports. The contrary case is possible too, when net-barter terms of trade is improving and the income terms of trade is declining.

What is inherent in economic development is technological improvement. Change in technology would improve the productivity and this in turn would reduce the cost of production. A decline in cost of production of exports that resulted in a decline in the price of exports would result in an unfavorable movement in commodity terms of trade, other things being constant. This could occur when changes in costs are in the same direction as changes in commodity terms of trade.[3] Thus a decline in net-barter terms of trade could be well caused by an improvement in productivity (provided that technological improvement and higher productivity reduces the prices of exports). To avoid such confusion, the factoral terms of trade were devised.

Single-factoral concept of terms of trade adjusts the net-barter terms of trade for the changes in productivity in producing exports. It is shown as the commodity terms of trade multiplied by an index of export productivity (in fact the index used represents the index of costs). If we take into account, the changes in productivity of both exports and imports, double-factoral terms of trade will be derived. Double-factoral terms of trade adjusts net-barter terms of trade for the changes in productivity of export production as well as import production, and shows the number of productive units embodied in exports exchanged for the number of productive units embodied in imports. Robertson calls the double-factoral terms, the "true" terms of trade, because it represents the terms of exchange of productive resources.

Factoral terms of trade, either single or double, have a closer relation to the analysis of process of economic development, in which productivity is under constant change. In both concepts, it should be noted, that it is assumed that improvements in productivity lower the costs of production. Despite the fact that factoral terms of trades fit better to development studies, because in practice the index of productivity is almost impossible to define operationally.[4] But in spite of this handicap, they are still preferred by some economists in the analysis of long-term improvements or deterioration in terms of trade.

Real-cost terms of trade is derived by multiplying the single-factoral terms of trade by the reciprocal of an index of "disutility coefficient". The disutility coefficient defined as the amount of disutility (irksomeness) per unit of technical coefficient, or the index of disutility caused by production of exports. This concept shows the index of the physical amount of foreign goods obtained per unit of real cost.[5]

If the relative desirability of the import commodities, compared to the desirability of goods that could have been produced by the resources allocated to purchase imports, taken into account, the utility terms of trade is derived. It can be derived by multiplying the real-cost terms of trade by an index of relative average utility of imported goods to the total sacrifice of utility of goods precluded by allocation of resources to imports. This index shows the total static gains from trade.

The practical significance of the last two definitions for terms of trade is negligible. In principle they are merely used in welfare interpretations of trade theory.

Variations in terms of trade in the short-run could come about as a consequence of changes in tariff policy, exchange rate or cyclical fluctuations in income and employment. In the long run, the factors influencing the terms of trade are structural characteristics of the economies, such as the pattern of consumption and production. Thus from the standpoint of development, it is more appropriate to analyze long-term movements of terms of trade, although short-run fluctuations in terms of trade could impede growth and development.

Among all concepts of terms of trade, the net-barter terms has been most widely used in economic literature, because like most empirical studies, statistical considerations, mainly availability of data and simplicity, have more significance. In this paper we are mostly concerned with commodity terms of trade and all references are made to this type, unless otherwise specified.

Footnotes

1. Jacob Viner, <u>Studies in Theory of International Trade</u> (New York, Harper and Bros. Publishers, 1937).

2. Roy G. D. Allen, <u>International Trade Statistics</u> (New York, John Wiley and Sons, Inc., 1953), pp. 207-208.

3. Jacob Viner, <u>op</u>. <u>cit</u>., p. 559.

4. <u>Ibid</u>., p. 561.

5. <u>Ibid</u>., p. 560.

CHAPTER II

TERMS OF TRADE AND UNDERDEVELOPMENT

On the Concept of Underdevelopment

Over two-thirds of the world's population live in underdeveloped countries, where they strive hopefully for the barest of essentials. These poor countries are basically different from those of the developed western world. Their economic institutions are different, their social structures and their cultures are different, and their histories are different from those of the advanced countries. Frank argues that the now-developed countries have never had such characteristics and have never been underdeveloped.[1] He says that ignorance of this point may lead us to think that the present economic situation of less developed countries is similar to the earlier stages of the history of the now-developed countries.[2]

Most of the less developed countries are newly independent states, and the years of foreign domination have left repercussions on their economies. Before the times of political domination, less developed countries of today were poor by today's standards. They were mostly self sufficient, producing agricultural products and some semi-manufactured goods such as culturally developed crafts. They were producing what they needed, and those needs were determined by their cultures, and were not influenced by what was happening in the other parts of the world. Many of the fundamental features of these countries are the same today, they have the same modes of production and consumption, health and shelter. "The economic interests of the old colonial powers were not to promote economic independence and industrial diversification in colonies, but to preserve them as the extention of their own home markets to establish and protect their colonial enclaves mainly in the extractive industry to promote the interests of their shelters".[3] Of course, this is by no means saying that the cause of their poverty is merely the colonization period.

Therefore, economic underdevelopment goes far behind mere "lower income" and stems, rather, from the existence of a set of economical, sociological, cultural and historical institutions, and particular types of economic relations.

Although the less developed countries are very diversified, there exist sufficient common problems and experiences to enable useful abstractions to be made. These countries have very similar economic characteristics. Among them is the structure of production and trade. Less developed countries are known as the producers and exporters of primary products. Primary products are defined as commodities that have undergone little or no processing: mainly agricultural products, raw materials and minerals.

Table (1) shows the importance of agricultural production and the importance of agricultural exports.

Table (2) shows that in 1968 primary products constituted approximately 78% of total goods exported from less developed countries (of this amount well above 75% was exported to the

Table 1

Share of Agriculture in Production and Trade of Selected Countries

Country	(Period in the 1960's) Agricultural production as a % of national income	Agricultural export as a % of total exports
Costa Rica	36	98
Dominican Rep.	n.a.	89
El Salvador	35	91
Honduras	48	91
Jamaica	14	43
Nicaragua	38	93
Panama	27	55
Argentina	24	95
Brazil	28	88
Colombia	38	81
Ecuador	40	98
Venezuela	10	1
Burma	51	95
Ceylon	49	99
Fed. of Malaysia	43	61
India	45	43
Indonesia	n.a.	68
Israel	10	34
Thailand	41	86
Turkey	43	89
Ghana	n.a.	83
United Arab Rep.	n.a.	81
Mauritius	57	94
Rhodesia-Nyasaland	22	27

Source: Leslie Stein, Economic realities in poor countries, (Australia: Angus and Robertson, 1972), p. 101.

industrial countries).

Table 2

LDC's Exports in 1968 ($Billions F.O.B.)

Food	12.15
Raw material	4.97
Ores and minerals	2.31
Fuels	14.74
Total primary products	34.22
Non-ferrous metals	2.81
Iron and steel	.31
Chemicals	.71
Engineering products	.84
Road motor vehicle	.04
Textiles and clothing	2.33
Other mfg.	2.6
Total manufacturing	9.64
Residue	.29
Total exports	44.15

Source: General Agreements on Tariffs and Trade, International Trade, 1969, p. 21.

Therefore, it is generally true that less developed countries are producers and exporters of primary products. This is not to say that no underdeveloped country produces manufactured goods, and on both sides of the developed-underdeveloped line countries could be found whose export structures do not agree with those of their group.

Less developed countries are the net importers of all kinds of manufactures both consumption and capital goods. They are dependent to industrial countries not only for capital goods and manufactured consumer goods, but also they import part of their food from other countries.

Table 3

Commodity Structure of Exports of Major Groups of Countries as a % of Total, 1969

	Developed market economies	Developing countries
Primary commodities	23.2	76.2
Manufactured goods	76.9	23.8
	100.00	100.00

Source: United Nations, Conference on Trade and Development, Handbook of International Trade and Development Statistics, 1972, p. 193.

Table 3 indicates that about 77% of exports of industrial countries are manufactured goods. A part of these exports goes to LDC's, and this part constitutes a bulk of imports of LDC's.

Most of the primary producing countries have a very narrow range of exporting items. This fact makes their economies weak and vulnerable. Table (4) shows the weight of a single commodity or two commodities in the total exports of some selected countries.

Table 4

The Share of One and Two Commodities in Total Exports of Some LDC's (1958)

Country	Commodity	% of Total Exports	Country	Commodities	% of Total Exports
Bolivia	Tin	58	Ceylon	Tea-Rubber	81
Brazil	Coffee	55	Colombia	Coffee-Petroleum	92
Burma	Rice	72	Ghana	Cacao-Wood	78
Cuba	Sugar	83	Honduras	Bananas-Coffee	71
Egypt	Cotton	67	Philippines	Coconut-Sugar	59
Venezuela	Petroleum	91	Thailand	Rice-Rubber	67

Source: IMF International Financial Statistics (Washington), Feb. 1960, pp. 28-32.

The situation is the same for nearly all underdeveloped countries. They are agricultural producers, and diversification in agricultural production is a difficult task. Furthermore change of specialization in this line of production for LDC's is impossible, due to the fact that they have inflexible economies. Such dependence on few items makes their supply very inelastic and in the case of any shift in demand (for example, by development of synthetic substitutes) causes a big price decline and damages their growth significantly.

LDC's have similar labor conditions, in most of these countries, there is a large agricultural sector of the economy (called by some economists the subsistence sector) which is the permanent source of labor supply.[4] The population in rural areas is crowded on cultivated land and gains its meager livelihood from backward, mostly self-subsistence, farming. The productivity in agriculture is very low and wages are determined by the physiological subsistence needs. People are constantly moving into the urban centers due to various reasons, and the industrial sector is incapable of absorbing such mass movements, hence redundant labor gravitates to minor and very poorly paid activities.[5] The wages in industrial sector are comparable to those of subsistence sector, and the existence of idle surplus labor tends to exert downward pressure upon wages constantly,[6] even when productivity in manufacturing sector is rising. The labor unions are either non-existent or weak or politically bounded.

On the Importance of Terms of Trade

Besides the static welfare impacts of changes in the terms of trade on any country, the LDC's have a special situation. There are two main reasons for such claim:

a) Resources are limited in underdeveloped countries, hence any kind of transfer of resources from these countries would impede their growth and development [greatly].

b) Imports of capital goods are vital, due to the technical poverty of these countries. Thus any reduction in their capacity to import is harmful.

Therefore in this section we deal with the long-run impacts of terms of trade, together with the welfare impacts and balance of payments effects.

A - The Welfare Impact

When the net-barter terms of trade is moving against a country, it means that the prices of the exports of the country are declining, relative to import prices. This implies that the country is getting fewer commodities in exchange for the same amount of its exports. Other things being constant this country is exchanging more of the domestic resources for less of foreign resources unless productivity is changing. If productivity changes there may not be any transfer of resources. The case will be worse if the country experiencing terms of trade deterioration has a slower rise in productivity than its trading partners.

Such deterioration in terms of trade causes a transfer of resources (natural and human embodied in production) from one country to another and thus contributes to unevenness of development. This applies to all countries alike, but in the case of underdeveloped countries it is more important. Due to their lower level of output, such transfer of value costs them relatively more.

B - Terms of Trade and Capital Formation

There exists a direct relation between the terms of trade and the rate of capital formation. On the one hand it should be considered that "a positive balance of trade is equivalent to investment, from the point of view of home country, ... and the trade balance is one of the influences which determine the level of income and consequently the level of saving, in the home country."[7] Therefore because improvement in terms of trade improves the balance of trade, it influences the capital formation. On the other hand improvement in commodity terms of trade makes it possible for the country to obtain a larger quantity of capital goods by providing more foreign exchange for a given amount of exports.

If terms of trade declines for a country, more exports should be given to obtain the same amount of imports, thus the country will have less access to imported capital. At the same time deterioration contributes to deficit in balance of trade, and would tend to reduce income, employment and saving. Even if in this situation the import coefficient for this country is not rising, the total saving will decline. If imports rise there will be a negative rate of saving, and if domestic saving could not reimburse the decline in foreign saving, investment will decline. Again this argument is more valid for less developed countries, because sources of saving are weak and investment is critical.

Table (5) shows the correlation between terms of trade and gross capital formation calculated for Latin America.

C - Terms of Trade and Purchasing Power

Commodity terms of trade simply depicts the purchasing power of a unit of export of a country (or a group of countries), very much like the price of any single commodity does for the participant in the market. When commodity terms of trade drops

Table 5

Terms of Trade Impact and Gross Capital Formation as a % of GDP

	Annual Averages for each Period		
	1946-49	1950-54	1955-61
Gross domestic product	100.00	100.00	100.00
Terms of trade effect	-2.9	-0.6	-2.9
Gross capital formation	18.9	17.6	17.2

Source: U. N. Economic Commission for Latin America, The Economic Development of Latin America in the Post-War Period, (1964), p. 33.

by a certain percentage in a long period of time, the country has lost as much of its purchasing power per unit of exports to buy goods and services from abroad. One study by UNCTAD revealed that less developed countries lost $13.1 billion between 1950 and 1960 due to decline in terms of trade.[7] Another calculation by the "Economist" magazine showed that the fall of 7½ % in prices of primary products between 1956-57 resulted in a loss of $3500 to 4000 million in annual export earnings of the less developed countries.[8]

Due to importance of the purchasing power of poor countries, such sharp declines will frustrate the development process, because they need to increase their export earnings to finance their increasing import of capital goods, having inelastic demand for such imports. The export earnings are the major source to finance the development projects undertaken by the public sector, hence a drop in these earnings will restrict the implementation of development projects.

Another drawback appears if we consider the functional relationship between the "external purchasing power", the "import coefficient" and the "level of production and income". If external purchasing power grows the production can grow at the same rate, provided that there is no change in import coefficient. If the terms of trade deterioration reduces the "purchasing power" and "import ratio" grows, the "growth rate" of output and employment could drop even below zero.[9]

D - Terms of Trade and Balance of Payments

Inability of exports to keep pace with imports is the main cause of balance of payments deficit. This deficit would, in turn, harass the stability and growth of income, output and employment internally and exchange rate externally, which the latter could discourage trade and production. Decline in relative value of exports to imports, either short run or secular, *ceteris paribus*, [lowers the value of exports relative to imports; value: P x Q], hence causing deficit to occur in current account, which is a major component in balance of payments.

This is the typical state of affair in less developed countries. The table below shows the deficit of exports over imports of the LDC's.

Table (6) shows the chronic deficit in balance of payments of LDC's. This deficit creates internal as well as

Table 6

LDC's Trade Gap (billions of dollars)

Period	Trade Gap
1960	1.75
1961	3.52
1962	1.74
1963	.75
1964	1.65
1965	.93
1966	2.29
1967	1.77
1968	1.87
1969	2.39

Source: GATT International Trade, 1969, p. 4.

external difficulties. Some examples of the particular regions of underdeveloped world confirm it.

Some other studies confirm the existence of persistent deficit in balance of payments of African countries and countries of Asia.

Table 7

Latin America's Balance of Payments of Current Account (Yearly average in millions of dollars)

	1945-50	1951-55	1956-60	1961
Latin America excluding Cuba and Venezula	-111.1	-625.2	-455.5	-1,471.6
Latin America excluding Cuba	-212.3	-617.7	-1,061.4	-1,024.3
Total Latin America	-129.3	-665.5	-1,148.3	n.a.

n.a.: Data not available
Source: U. N. Economic Commission for Latin America, The Economic Development of Latin American Post-War Period, (1964), p. 39.

Footnotes

1. Andre G. Frank, "The Development of Underdevelopment," in R. I. Rhodes (ed.), Imperialism and Underdevelopment (New York: Monthly Review Press, 1971), p. 3.

2. Ibid., pp. 3-4.

3. Gunnar Myrdal, An International Economy, Problems and Prospects, (New York: Harper and Bros. Publishers, 1956), p. 172.

4. Arthur W. Lewis, "Economic Development With Unlimited Supplies of Labor", Manchester School of Economics and Social Studies, 22 (1954), p. 140.

5. G. Myrdal, op. cit., p. 193.

6. Lewis, op. cit., p. 146.

7. Joan Robinson, Essays in the Theory of Employment, (Oxford: Basil Blackwell, 1947), p. 137.

8. United Nations, UNCTAD, Towards a New Trade Policy for Development, (1964).

9. The Economist, November 16, 1957, p. 515.

10. United Nations, Economic Commission for Latin America, The Economic Development of Latin America in Post-War Period, (1964), p. 44.

CHAPTER III

EMPIRICAL STUDIES OF TERMS OF TRADE

Early Studies on Terms of Trade

The oldest empirical study on the issue of terms of trade was done by Folke Hilgerdt in study for the League of Nations. He argued that in the period of 60 years before 1938, the primary product prices had fallen relative to prices of manufactures goods and that "the general trend of the relative movement...of the prices of these two classes of goods can be scarcely doubted".[1]

A United Nations study in 1949 also looked at the issue.[2] Table (8) is the main statistical evidence of the study.

Column (1) clearly indicates that during the period under study, which covers over 70 years, the prices of primary products relative to those of manufactures declined. With the same amount of primary products only 63.5% of the finished manufactures bought in the 1870's could have been bought in the 1930's.

The second and third series are indices of the prices of imports of the U.K. relative to the exports of the U.K. The U.K. accounted for a substantial proportion of total world trade, especially in the earlier days of the period. Further, the U.K.'s imports were largely primary commodities and its exports predominantly manufactured goods. The U.N. study mentioned "specialization in export of one or few primary

Table 8

Terms of Trade for Primary and Manufactured Articles and Terms of Trade for U.K., (1876-1948)

	(1)	(2)	(3)
		U.K. imports to exports based upon	
Period	Primary manufactured prices to in world trade	Current Weights	Board of trade index
1876-80	147	163	(a)
1881-85	145	167	(a)
1886-90	137	157	(a)
1891-95	133	147	(a)
1996-1900	135	142	(a)
1901-05	132	138	(a)
1906-10	133	140	(a)
1911-13	137	140	(a)
1913	137	137	143
1921	94	93	101
1922	103	102	109
1923	114	107	111
1024	121	122	117
1925	123	125	120
1926	121	119	117
1927	125	122	117
1928	121	123	120
1929	118	122	120
1930	105	112	109
1931	93	102	99
1932	89	102	99
1933	89	98	96
1934	96	101	99
1935	98	103	106
1936	102	107	103
1937	108	107	109
1938	100	100	100
1946	(a)	(a)	108
1947	(a)	(a)	116
1948	(a)	(a)	117

(a) mark - - indicating no data available.

Source: United Nations, Dept. of Economic Affairs, Relative Prices of Exports and Imports of Underdeveloped Countries. (1949), p. 22.

Column (1) is based on League of Nations: Industrialization and Foreign Trade. Column (2) is based on W. Schlote data.

products and the elasticities of demand for such goods" as the source of the evident price deterioration.

Raul Prebisch in 1950 published his famous book "The Economic Development of Latin America and its Principal Problems". He used the same sources of data as the U. N. study. The following table is taken from this book.

Table 9

Terms of Trade for Primary Products
(Data of Board of Trade)

Periods	The amount of finished industrial products obtainable with a given amount of primary products
1876-80	100
1881-85	102.4
1886-90	90.3
1991-95	90.1
1896-1900	87.1
1901-1905	84.6
1906-1910	85.8
1911-1913	85.8
----	----
1921-1925	67.3
1926-1930	73.3
1931-1935	62.0
----	----
1946-1947	68.7

Source: R Prebisch, Dept. of Economic Affairs, Economic Development of Latin America and its Principal Problems. (New York, 1950), p. 15.

Both Prebisch and the U. N. study eliminate the period 1913-1920 and 1935-1946 because of the World Wars and the hiking of prices of primary products, especially food, as the result of non-economic disturbances.

Prebisch presented the specific data of the long term trends of terms of trade and its impact on ecnomic development of Latin America. This study is the original presentation of what has come to be known as the Prebisch thesis. The thesis will be discussed in the next chapter.

One of the most comprehensive studies of the terms of trade issue was done by Kindleberger for industrial Europe. Because it was a study of Europe it might seem to relate to this study only indirectly, but his conclusions are worth citing.[5] Europe was selected by Kindleberger because of the availability of data. The countries under study were U. K., Germany, France, Italy, Netherland, Belgium, Sweden and Switzerland, for the period 1870 and 1952.

Kindleberger concluded that, in the European context, there was no long-run historical tendency for terms of trade to move against primary products. He also found no evidence for long-term deterioration of the terms of trade of agricultural products versus manufacturing goods at a world scale. But, for the countries of Europe he found an interesting relation between the "stage of development" and the "trend of terms of trade". Kindleberger asserts that those countries of Europe that are less developed than others have experienced a deterioration in terms of trade. Italy and France in this period have experienced declining terms of trade, while Sweden, Switzerland and Belgium, which are relatively more advanced, have gained in terms of trade.

Kindleberger says that in developed countries of Europe continued accumulation of capital, innovation in technology, substitution of capital for labor and land make their economies flexible in response to changes in demand and this turns the terms of trade more favorable to these economies. For underdeveloped countries, these factors work in reverse order.[6] Kindleberger concludes that the tendency of terms of trade to improve for the developed and to deteriorate for underdeveloped can be explained by "systematic differences of the two types of countries" and the important elements of these differences are: the demonstration effect, economy in use of raw materials and the flexibility and adaptability of resources on the one hand, and the elasticity of demand facing LDC's on the other.

Among the literature challenging the alleged tendency of terms of trade to move in a particular direction (either against the primary products or the underdeveloped countries and in favor of industrial products or the advanced countries) the works of Morgan and Lipsey are important.

Morgan's study[7] criticizes the widely held notion that terms of trade between agriculture and manufacture goods have been shifting historically to the advantage of manufacture. Morgan presents two main reasons:

1. Statistics covering a much longer period than those

used by U. N. report are available (from 1800). They show a huge rise and fall in terms of trade plus instability, but there is no single trend.

2. The British data used in U. N. studies do not reflect the changes in quality of goods and new goods. The data also neglect the decline of freight rates. Morgan uses six countries and measures the fluctuations in their terms of trade. The countries were the U. S., India, Japan, New Zealand, the Union of South Africa and Brazil. Of the six countries, two show a major relative price rise for primary products, the rest various changes or ambiguity. Morgan is positive about the absence of a general worsening of the price position of primary producers.

Lipsey used NBER (National Bureau of Economic Research) data accompanied by other studies to criticize the common belief on question of terms of trade.[9] He concentrates on two basic questions:

a. Whether there is a long-term trend in terms of trade favorable to highly developed countries and against the under-developed countries.

b. Whether there is a long-term trend favorable to manufactured goods against the agricultural products.

His method to search for answers to both questions is rather indirect. On the first question he asserts that the U. S. terms of trade has not shown any favorable movement, and that the experience of the U. K. (Lipsey refers to Kindleberger's study on terms of trade of Great Britain) cannot be taken as typical of developed countries. On the second question, comparison with exports of U. S. manufactures strongly contradicts the belief in relative decline in prices of primary products, but comparison with manufactures imported into the U. S. mildly confirm it.[10] On the whole there seems to be more instances of primary products relatively gaining in prices than losing. In answering both questions he has used the terms of trade of United States as the main ground, and because of this he asserts that his findings do not mean that LDC's have gained in terms of trade.[11]

Lipsey compared the purchasing power per unit of agricultural exports and manufactures exports for the U. S. and has recognized a noticeable drop in the price of the former, which he attributes to the possible rise in productivity of agriculture, thus probably no deterioration in income terms of trade.[12]

Recent Studies on the Terms of Trade

In this section some recent terms of trade studies will be reviewed, either for a group of countries or for a single country. United Nations Conference on Trade and Development (UNCTAD) is well known in such studies. Table (11) is taken from an UNCTAD annual publication.

Table (11) indicates that for the period 1953-1967 the terms of trade declined for developing areas, both including and excluding fuel. In the 14-year period the developing areas experienced a drop from 113 to 94, or over 17%. This series and similar series presented by UNCTAD, are very conclusive.

Table 10

Terms of Trade of Selected Trade Flows
1953-1967 (1963=100)

Trade Flows	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67
Developing areas/developed areas	113	120	119	116	111	107	104	104	100	98	100	101	97	97	94
Developing areas less fuel/developed areas[a]	114	125	119	115	109	103	102	103	99	96	100	102	99	100	96
Primary commodities/manufacturing[b]	114	119	115	111	111	105	105	101	98	97	100	101	98	96	94

Source: United Nations, Conference on Trade and Development, *Handbook of International Trade and Development Statistics*, 1972, p. 34.

a: United value index of exports from the first region to the second divided by the unit value index of exports from the second to the first.

b: Unit value of world exports of SITC sections 0-4 divided by unit value index of world exports of SITC sections 5-8.

These series distinguish the commodities exported by LDC's from the primary products produced in advanced countries.

To look at the terms of trade of primary vs. manufacture goods a GATT study will be cited.

Table (11) has the same clear pattern in the 12-year period 1953 to 1965. The series given for the group of commodities rather than countries have one major defect, they combine the agricultural products of the advanced countries with those of underdeveloped countries. This makes such

Table 11

Price Trends of World Exports (1953-65)

Unit value of world exports	1953	57	58	59	60	61	62	63	64	65
Total	100	103	100	99	100	99	99	100	102	103
Primary products	100	101	96	93	93	91	90	92½	95	94
Manufacturing goods	100	104	103	103	105	105½	105	105	107	109

Source: General Agreement on Tariffs and Trade, International Trade, 1972.

statistics less reliable in the case that the movement of terms of trade is theoretically based on the stage of development (as Kindleberger's study concluded). Also, in the case of such possibility, the movement of terms of trade may be reduced, due to aggregation of prices of products produced in countries at different stages of development.

Table (12) is distinguished from others in two ways. First, it is the most recent and reveals the very recent movements of terms of trade. Second, it compares the terms of trade of underdeveloped countries both in trading with the world as a whole and with developed countries. This table shows the difference mentioned above, even though it is not to say that the different methods of calculations of terms of trade will always be so distinguished for different time intervals and different country groupings.

Table 12

Terms of Trade of Developing Countries (1955-70), 1963 = 100

	1955	60	61	62	64	65	66	67	68	69	70
Developing countries trade with the world											
i - Export Unit Value[a]	113	103	100	97	103	103	104	103	103	107	108
ii - Import Unit Value[b]	101	99	99	100	101	102	102	102	101	103	104
iii - Terms of Trade	110	104	100	98	102	100	102	101	101	103	104
Developing countries trade with developed countries											
i - Export Unit Value	111	103	100	98	102	102	103	102	103	107	...
ii - Import Unit Value	97	100	100	99	102	104	105	105	106	108	...
iii - Terms of Trade	115	100	100	98	101	97	98	97	97	99	...

Source: U. N., Review of International Trade and Development, 1970, p. 20.
a: Exports are on c.i.f. prices.
b: Imports are based on f.o.b. prices.
...indicates the data is not available.

Table (12) shows that the terms of trade of developing countries deteriorated from 110 in 1955 to 104 in 1970, or slightly above 5% between those years, in trading with world as a whole (including trade among LDC's and trade between LDC's and socialist countries). The terms of trade moved against the underdeveloped countries in trading with developed countries more clearly, from 115 in 1955 to 99 in 1969.

Among the case studies for group of countries, Latin America has been often examined. An ECLA (Economic Commission for Latin America) general publication in 1964 showed that prices of agricultural products exported by Latin America had substantially declined.[13] Sugar, bananas, coffee, cocoa, cotton, meat, wheat, maize, hides, quebracho, wool and linseed oil constitute the major bulk of Latin America's exports. The simple average price for these countries declined from 113 in 1950 to 88 in 1960, a decline of more than 22%.

Table (13) is taken from averaging the terms of trade for individual countries of Latin America.

Table 13

Latin America: Terms of Trade (1948-1960) 1966=100

Group of Countries	1948	49	50	51	52	53	54	55	56	57	58	59	1960
Total Latin America	94	91	109	109	100	103	108	100	96	90	90	87	89
World Total	97	100	100	99	98	100	101	100	100	99	101	102	102

Source: U. N., Economic Commission for Latin America, The Economic Development of Latin America in the Post-War Period, 1964, p. 130.

Although this table shows that terms of trade for Latin American countries dropped from 94 to 89, this decline has no analytical significance. It should be remembered that such averaging, based on individual country terms of trade, could hide some of the deterioration that could happen for underdeveloped countries in trading with developed areas. Terms of trade for each single country includes the trade of an underdeveloped country with another one (intra-regional trade). Another drawback of such studies is the length of time which is not long enough to show the movement in the long run.

Another study evaluates the commodity terms of trade of Nigeria, which has 27.4% of her GDP in imports. Taking the price level of 1958 as the base, the net barter terms of trade declined continuously from 103 in 1960 to 88 in 1965. Even though the drop was substantial, due to shortness of time period it cannot be used to evaluate the Nigerian terms of trade in long run.[14]

A case study of Ecuador was more informative. The foreign trade of this country relies heavily on exports of three primary products, and 85% of Ecuador's imports are manufactured articles (mostly imported from U.S.).

The series (1) and (2) in table (14) are based on two different sources of data. Both show a substantial decline in net barter terms of trade during a 15 year period.

A case study for India covered a long period of time, 1903-04 to 1952-53. Table (15) is a brief form of the statistical evidence presented in this study.

Column (1) represents the commodity terms of trade of

Table 14

Net Barter Terms of Trade of Ecuador (1950-65) 1957=100

Period	1	2
1950	116	110
1951	106	103
1952	114	117
1953	106	109
1954	136	137
1955	106	106
1956	105	105
1957	100	100
1958	101	100
1959	95	94
1960	89	90
1961	82	83
1962	82	83
1963	71	75
1964	81	85
1965	78	83

Source: Charles R. Gibson, Foreign Trade in the Economic Development of Small Nation; The Case Study of Ecuador, (New York, Praeger Publishers, 1971), p. 184.

India based on Laspeyer's indexing method. Columns (2) and (3), respectively are index by Paasche's and Fisher's methods. Series "A", "B" and "C" are derived by dividing the export

Table 15

Commodity and Income Terms of Trade for India
1903-04 to 1952-53 (1923-24=100)

Period	Commodity Terms of Trade (1)	(2)	(3)	Income Terms of Trade (A)	(B)	(C)
1903-04	104.3	113.2	108.6	88.5	92.9	97.4
1910-11	113.1	121.8	117.4	106.9	111.2	115.7
1920-21	66.0	65.7	64.9	46.0	45.9	45.9
1930-31	107.8	111.9	109.8	101.2	104.3	107.5
1940-41	90.9	90.1	90.1	78.2	79.9	81.3
1950-51	72.3	120.0	93.1	50.2	67.6	91.1
1952-53	56.7	111.0	79.3	39.7	55.5	77.5

Source: Dennis R. Appleyard, "Terms of Trade and Economic Development, A Case Study of India", Ph.D. dissertation, University of Michigan, 1966. Also in American Economic Review 58, May 1968, p. 190.

value index by the Laspeyere's, Fisher's and Paasche's import price indices respectively. This study concluded that although the net barter terms of trade had not moved to any marked extent, the income terms of trade deteriorated sharply (columns A, B or C) for India after 1939-40.

Summary and Conclusions of the Empirical Findings

This chapter reviewed studies on the long term trends of terms of trade of LDC's versus advanced countries, or the products (primary commodities) that LDC's export versus those of MDC's (manufacturing products). It should be carefully borne in mind that the "primary commodities" which are used very often in the literature are used only because they are identified as the exports of LDC's, obviously not all primary or agricultural commodities are exported by LDC's.

A group of studies showed the tendency of terms of trade to deteriorate for LDC's [for the time period under study]. The U. N. and Prebisch studies encountered the problem directly, hence the answer they provide to the question was explicit and meaningful. The old time U. N. studies are reliable and comprehensive and cover long enough time to exclude the cyclical deviations, and the great bulk of these studies show a tendency for terms of trade to decline.

Kindleberger's finding, even though referring to Europe, contributes a lot to the theorization of the alleged terms of trade deterioration.

The more recent studies of GATT and UNCTAD cover shorter periods of time, and thus are more informative than generally conclusive. They are unbiased, and if taken together could be more meaningful. Case studies are few and have the chance to be biased and do not reflect the extent of deterioration or improvement of terms of trade for LDC's or MDC's. The case studies of Nigeria and Ecuador however, confirmed the widely held opinion about the terms of trade.

Among the empirical studies that did not conclude that the terms of trade had declined, the studies of Morgan and Lipsey will here be evaluated in terms of their explanatory power, relevancy and importance.

Morgan's study claimed that longer term data exists (beginning in 1800) which do not confirm the alleged tendency of terms of trade to move against LDC's. He refers to Kindleberger's conclusion that in European context, no such tendency was observed. As mentioned in the opening of this summary, the primary commodities were identified as the exports of LDC's, hence were investigated, and therefore, the primary products produced and traded in Europe may or may not show the sign of deterioration. However, Kindleberger confirmed that deterioration occured for the less developed countries of Europe.

Morgan also showed the problems of using very long term data, because they fail to reflect the changes in quality of goods. This argument was presented by Viner and Haberler too, and will be discussed in the next chapter. Morgan presented an analysis of terms of trade for six different countries, but due to its limitation to individual country cases I think this has little analytical importance to test this thesis. Morgan finally concluded that during the recent period the underdeveloped countries have experienced more extreme and violent fluctuations in terms of trade and more tendency to deterioration.[15]

Lipsey in answering both questions (about the tendency of terms of trade to move against primary producers or primary products) has employed an indirect approach, which could not be successfully generalized. The study of terms of trade of a few industrial countries <u>individually</u> may not be relevant to this thesis. That is, the terms of trade of U. S. might show no improvement while the terms of trade of advanced countries as a whole improves against the underdeveloped countries. In other words, the rise in export prices of U. S. may be well offset by the rise in import prices of U. S. from Europe, Canada and Japan.

To answer the second question (whether there is a trend of terms of trade deterioration against primary products) he considers the exports and imports of U. S. (manufacturing and primary). Lipsey's study found that U. S. manufacturing exports declined in price relative to total primary exports and imports. Compared to agricultural import prices they changed very little. Imported manufactures fell in price relative to U. S. agricultural exports but rose compared with total primary product imports and exports. "In summary, comparisons with exports of U. S. manufactures strongly contradict the belief in declining relative primary product prices; comparisons with manufactures imported into the U. S. mildly confirm it ... The scatter around the relationship among totals in large, and supports Kindleberger's view that the primary vs. manufactured product distinction is not a particularly useful one for the analysis of changes in terms of trade."[16]

Therefore, after reviewing studies mentioned in this report that contain evidence on long-term trends in the terms of trade, I conclude that terms of trade has been declining in a period under study (more than 70 years) for the <u>primary products exported by LDC's</u>. For primary commodities as a whole (either exported by LDC's or advanced countries) no conclusion could be made. For the terms of trade of individual LDC's, some improved, some deteriorated. Morgan's study revealed that in recent periods underdeveloped countries, individually, showed more tendency to deteriorate in terms of trade than the advanced countries.

Footnotes

1. League of Nations, Industrialization and Foreign Trade, (1945), p. 16.

2. United Nations, Dept. of Economic Affairs, Relative Prices of Exports and Imports of Underdeveloped Countries, 1949.

3. Charles P. Kindleberger, The Terms of Trade, A European Case Study, (New York: Published jointly by Technology Press of MIT and Wiley, 1956).

4. Ibid., p. 307.

5. T. Morgan, "Trends in Terms of Trade, and Their Repercussions on Primary Producers". In International Trade Theory in a Developing World, Edited by R. Harrod and D. Hague. (New York: St. Martin's Press, 1963), pp. 52-75.

6. H. G. Aubrey, "The Long-Term Future of U. S. Imports and its Implications for Primary Producing Countries", The American Economic Review 45, (May 1969), pp. 118-99.

7. Robert E. Lipsey, Price and Quantity Trends in the Foreign Trade of the U. S. (Princton, N. J.: Princeton University Press, 1963).

8. Ibid., p. 23.

9. Ibid., p. 76.

10. Ibid., pp. 76-77.

11. U. N., Economic Commission for Latin America, The Economic Development of Latin America in the Post-War Period, 1964.

12. Roy J. Hensley, "Trade and Development in Nigeria, 1960-65", Economia Internazionale 24, (May 1971), pp. 319-40.

13. Morgan, op. cit., p. 61.

14. Lipsey, op. cit., p. 23.

CHAPTER IV

THEORETICAL FOUNDATIONS

Two types of theories attempt to explain the terms of trade deterioration: those that attribute the deterioration mainly to the nature of commodities produced in LDC's, the primary products, and those that stress underdevelopment, or the institutions associated with it. Among the first group, the theories of Prebisch, Singer and Myrdal and in the latter, those of Emmanuel, Lewis and Kindleberger, are outstanding.

Deterioration Caused by Inherent Nature of Primary Production

The classical theory of international trade holds that the operation of free market forces - laissez faire - in international trade promotes income maximization. If each country concentrates its productive efforts and resources in lines of the greatest comparative advantage and enters freely into international transactions, the total world income tends to be maximized and so does the income in each country. The range of fluctuations in terms of trade is limited in the interval of respective costs of production of each commodity, hence no free trader in the market is in danger of any loss. The benefits of trade will be divided between the two trade participants.

Prebisch in his famous thesis questions the nature of the split of the benefits between underdeveloped countries and advanced countries. He considers the classical theory of international division of labor to be logical, but lacking in realistic assumptions... "but the fact is usually overlooked that this schema (classical theory of international division of labor) is based upon the assumption which has been conclusively proved false by the facts. According to this assumption the benefits of technological progress are passed on to the community either by lowering prices or raising incomes, therefore all countries get their share of progress",[1] and because the community goes further than the mere advanced countries the generalization comprises a serious error. Specifically, Prebisch says that underdeveloped countries have been getting a disproportionately small share of benefits from technological progress. In fact, the trade has been and is functioning to make the spread of benefits from technological advance highly disproportionate and unequal. Moreover, benefits are transferred from some countries to other countries.

The enormous benefits that derive from increased productivity have not reached the periphery,[2] but have gone largely to the industrial centers, thereby causing an increased gap in income and standard of living between countries of the center and those of the periphery. "Thus there exists an obvious disequilibrium, a fact which...destroys the basic premise underlying the schema of international division of labor".[3] The alleged defect in the theoretical establishment of trade manifests itself clearly in the technological progress and its consequences.

Prebisch's explanation for the deterioration of terms of trade, which is the significant cause of unequal and disproportionate share of "rising income", covers both the supply side (which deals with production problems of primary commodities in an underdeveloped country) and the demand side (demand conditions facing exports of raw materials and food). Most attention is paid to the demand for primary goods.

From the demand standpoint the explanation is fairly simple. In the context of an expanding world economy the root of the problem lies in the disparity of the income elasticity of demand (YED) for imports at the center and periphery. While the YED in periphery for imported goods (overwhelmingly manufactures) is quite high, the YED for primary commodities (exported by LDC's) is very low, that is less than one. Exports of periphery are partly foodstuff, the demand for which does not rise by as much as the increase in income (Engel's law). At the same time, there exists heavy protection against imports of these products, in the center countries. The other part of the exports of the periphery are raw materials. Technological advance at the center makes it possible to use raw materials more efficiently, hence the decline in "use" of imported raw material. Furthermore, there has been important progress in developing the synthetic substitutes for natural products. The total effect has been lagging demand for imports of primary products, which are the most important exports of countries of periphery.

In summary, the decline in the center's need for raw materials and foodstuff, relative to increase in the center's national income, has caused a lagging demand for primary goods. Taken together with increased production at periphery, keeps constant downward pressure on prices of primary commodities.

Technological progress has occurred more or less in both center and periphery, although it has been highly concentrated in the center; hence, the relative price decline was certainly not caused by greater improvement in productivity in periphery than at center. Prebisch asserts that at the center productivity improvement is always matched by rise in wage payments, thus making price reductions impossible. This is the result of organized labor power. However, even if labor power left some margin for price reductions, prices would not be reduced due to the monopolistic structure of the product markets in the center. "In centers when incomes increased more than productivity, prices rose instead of falling".[4]

Productivity improvement in periphery has a very slight chance to raise wages, even in the export sector, due to the pressure of an unlimited supply of labor in the economy. Prebisch believes that occurrence of productivity improvement does not increase wages; rather, it tends to lower labor input requirements, hence creating displacement of labor and placing more downward pressure on wages. In summary, the terms of trade has not moved concomitantly with changes in productivity. "Had this happend...the peripheric countries would have benefited from the fall in price of finished industrial products to the same extent as the countries of the center...".[5] As a result, some of the benefits from improved productivity in periphery were transferred to the center.

Prebisch pays some attention to business cycles in the center countries and their repercussions on peripheral countries. In the upswing phase of the cycle in the center, when aggregate demand is rising more than supply, prices tend to rise. Incomes will increase, including profits. In the downswing, profits start declining, but wages keep their level almost unchanged (wages are rigid because of powerful trade unions). In upswing phase the center's demand for imports from periphery will rise, hence prices of primary commodities will rise slightly but wages in the periphery countries will remain unaffected. In the downswing phase the decline in demand for the imports of primary goods puts downward pressure on wages and employment in underdeveloped countries. Therefore "...the greater ability of masses in centers to raise wages in upswing and the ability of the centers to divert the cyclical pressure to the periphery, thereby causing a greater price reduction in the profits of the latter than those of the centers, explains why incomes in the center tend to rise consistently more than those of periphery".[6]

Singer's opinion on deterioration of terms of trade for primary producing countries is supplementary to the Prebisch thesis and in most of the major points they present the same line of reasoning.

Regarding changes in productivity and reduction of costs, he presents the same argument. "All the evidence is that productivity has increased if anything less fast in the production of food and raw materials, even in the industrialized countries but most certainly in the underdeveloped countries, than has productivity in the manufacturing industries of the industrialized countries".[7] Therefore the possibility of deterioration of terms of trade, due to rise in productivity should be dismissed. He explains that the advantages of technical progress may be distributed either to producers in the form of rise in incomes, or to consumers through lower prices. On the latter case technical progress would tend to increase productivity, hence the same number of workers would produce more, or less amount of work is needed to produce the same, therefore lowering costs, then prices.

In a closed economy there is really no difference between the two methods in terms of the overall effects on income, but in an open economy they are fundamentally different. Producers and consumers are no longer the parts of the same body, the producers are in one country and the consumers are in another.[8] The first method (technological progress raises incomes) prevailed in industrial countries and the second in underdeveloped countries. "Generalizing, we may say that technical progress in manufacturing industries caused a rise in incomes while technical progress in the production of food and raw materials in underdeveloped countries showed in a fall in prices".[9] Furthermore, technological advance in these economies displaced labor and put more pressure on employment and reduced the wages. When prices of primary commodities decline in underdeveloped countries the hope to increase export earnings is doomed, due to price inelasticity of demand for primary commodities. When prices of manufacture articles rise, the demand does not decline very much because some are capital goods essential for development, and some are consumer items which are under the influence of the so-called demonstration effect.

"The industrialized countries have had the best of both worlds, both as consumers of primary commodities and as producers of manufactured articles, whereas the underdeveloped countries had the worst of both worlds, as consumers of manufactures and producers of raw material."[10]

As is the case of other proponents of deterioration theory, Myrdal believes that free trade, in the existing circumstances, would tend to perpetuate stagnation in the underdeveloped regions,[11] and "the free play of market forces cause cumulative accentuation of international inequalities".[12] Among other factors causing emerging inequality in world incomes, Myrdal mentions the secular deterioration of terms of trade.[13]

Myrdal names many factors that bring about deterioration, among which are the inability of primary producers to adjust to the changing circumstances (such as changes in demand), and the weakness of these lines of production to introduce new methods of production and new goods. Primary production is associated with low productivity hence would tend to cause lagging incomes. At the same time, there exists a large mass of unemployed agricultural workers with minimum subsistence wage which keeps the prices low, the subsistence wage level is actually permanent and very slow to rise. Unlike the Lewis model, the rise in productivity and the extention of capitalist sector barely affects employment and wages, due to substantial population growth which continuously increases the "reserve army" of agricultural workers.

Myrdal agrees with the Singer-Prebisch position that due to monopolistic elements in the product and factor markets, the industrial countries keep the benefits of their technological progress in the form of rising factor incomes, whereas in primary producing countries the gain from improved productivity is transferred to consumers by price reductions.[14]

As a hamper to extention of markets for primary products, when prices decline, Myrdal refers to inelastic nature of demand curve for the exports of LDC's. Myrdal employs the same argument as Prebisch did, to analyse the repercussions of cyclical fluctuations in advanced countries, by pointing out the ability of industrial countries to adapt to changes in demand and the lack of such ability in LDC's. Myrdal finally concludes that "by circular causation with cumulative effects a country superior in productivity and incomes will tend to become more superior while a country on an inferior level would deteriorate more".[15]

Among the critics of the Singer-Prebisch thesis, Haberler, Ellsworth and Bauer are the most prominent.[16]

Haberler starts with the common criticism of the false identification of underdeveloped countries with primary producers.[17] He points out that Denmark and Australia are net exporters of primary products. Thus such exceptions prevent generalization. Then Haberler questions the relevancy of net barter terms of trade to explain the static welfare impacts of international trade, and justifies the application of factoral terms of trade. It is asserted that because productivity is inherent in economic development, the net barter terms of trade could well deteriorate when productivity is increasing, while the single-factoral terms of trade will show the actual movement of the welfare position of the country.

For the identification error asserted by Haberler, the confusion will vanish if the analysis deals with the exports of the underdeveloped countries which happen to be mainly primary commodities. The second criticism holds true only when we are bound to static welfare impacts of trade (to prove that any trade is better than no trade). In this analysis the comparative gains of countries from trade is at stake, i.e. what creates the widening gap between incomes of different countries. In this line of argument double factoral terms of trade will be more appropriate, because at the same time when LDC's had positive rate of technological advance, the industrial countries experienced a far greater rate. Therefore double-factoral terms of trade will show a more drastic drop for underdeveloped countries. Furthermore, the single-factoral terms of trade will prove to be a handicap when we compare the impacts of technological improvement in industrial countries and underdeveloped countries. In the latter group single-factoral terms of trade tends to justify the deterioration in net-barter terms of trade, because change in productivity has lowered the prices. In the former group technical improvement will increase incomes, then prices, thereby the single-factoral does not even decline (ceteris paribus, it should decline, because change in productivity supposedly lowers the costs) but it will tend to further improve.

Haberler's major criticism is the data used by Prebisch. This deficiency is also mentioned by all other critics of the thesis. Haberler and other critics argue that these data (and similar commonly used data) neglect the changes in quality and introduction of new goods. While the quality of sugar or coffee has remained virtually unchanged, the quality of manufactured goods has improved substantially. He says that deterioration might be nothing than a switch from cheap imports to better quality manufactured items. These two arguments (which are basically the same) will lead to the same policy recommendation as Prebisch: industrialization in the LDC's. In other words, if primary products have undergone terms of trade deterioration because of inability to improve the quality of products and/or introduce new items, it seems to me that this by itself is a sound justification for industrialization in LDC's and for abandoning of international specialization and division of labor. If price increases are justified for manufacturing goods, the LDC's should break the vicious circle of poverty by switching to manufacturing lines of production. Industrialization has been the main policy conclusion of Singer, Prebisch and other proponents of this thesis.

Haberler finds the operation of Engel's law in market for primary goods unacceptable, because he believes that this is applicable only for food items and not raw materials. It should be mentioned that even in original appearance of Prebisch thesis, raw materials got a seperate explanation. It was revealed and confirmed that technological progress in advanced countries reduces the raw material content of the finished goods and in addition, allows substitution of imported natural materials by synthetic ones.

Haberler concludes that future is not known, and even assuming deterioration happened in past, there is no reason to believe the future will bring about further decline in price position of primary exports. He mentions the dangers of extrapolation due to existance of exogenous factors. This argument certainly could not guide policy makers in LDC's. It implies that the underdeveloped countries should wait for miraculous happenstances to improve their position. If the Prebisch thesis is theoretically acceptable, there is no reason to believe that the factors causing deterioration in the past would simply disappear in the course of time.

Ellsworth prefers to divide the time period studied by Prebisch, 1870 to 1933, into three different time intervals. In each period he links the cause of deterioration to distinct factors. "...It is my contention that each of these stages of decline in the terms of trade of primary commodities requires and is susceptible to distinct and specific explanation, and that when this is given, relatively little remains to be accounted for by any all encompassing theory such as that advanced by Prebisch".[18]

For the first period 1876-80 to 1901-05, the deterioration in large part is due to sharp decline in railway and shipping rates. Table (16) shows the decline in U. K. inward freight rates in the same time period.

Table 16

U. K. Inward Frieght Rates index number 1900=100

Period	Rate
1876-80	184
1881-85	143
1886-90	106
1891-95	86
1896-1900	89
1901-05	67
1906-10	68

This argument by Ellsworth sounds convincing for this period due to the fact that in the data used by Prebisch, the basic series used c.i.f. prices of imports in British markets as price index for exports of primary producing nations and f.o.b. prices of British exports for the periphery imports. It should be noted, however, that other studies which used other data showed comparable decline in terms of trade. It is also doubtful to estimate that the share of transportation in this period was so high relative to total value of goods traded that the decline in transport costs would negate the conclusion about declining terms of trade in the primary exporting countries.

For the second period, 1913-1929, Ellsworth finds it more difficult to explain why terms of trade declined, because the decline in freight rates slowed down, and he asserts that two possible reasons could be investigated.

i - Increase in labor payments in Britain which was retained in the succeeding depression.

ii - Manufacturing producers in developed countries contracted the output rather than accepting price reductions. Ellsworth also confirms sharp decline in prices of raw materials after the first World War. Therefore, for this period, he is given credit to Prebisch explanation.

In the third period, 1929-1933, he finds a drop in output in the centers and accepts the validity of Prebisch argument that resistance to cut wages and profits in the center with contraction of output, and decline in demand for agricultural products, lead to deterioration of prices of primary commodities, but he reminds us that in this period, relative decline in primary products prices was greatly aggravated by the inverse response of the agricultural producers to the fall in demand and prices. Instead of diminishing the output, the production of many crops increased.

Bauer, is the newest critic of Prebisch (he mainly refers to UN-UNCTAD ideas, which were developed, in fact, under the influence of Prebisch, one time Secretary General of UNCTAD).[19] Some of his views are shared by Ellsworth, Haberler and Meier. Bauer maintains that primary producing countries are not identical with exporting underdeveloped countries and "...any systematic discussion ought to take account of the extreme heterogeneity of both of primary producing countries and underdeveloped world, indeed for most purposes such a discussion should be confirmed to the experience of one country or of a very small group of countries".[20] At this point I would call attention to the fact that even though the heterogeneity exists in both groups, it does not deter the generalization, and it is still safe to believe that underdeveloped countries are known as the exporters of primary commodities, and insisting on limiting the study to the case of one single country will result in failure to see the forest, because of the trees. Moreover, the existence of heterogeneity - the fact that some advanced countries export unprocessed materials and some of the underdeveloped countries are net exporters of manufacturing articles - could reduce the full-fledged manifestation of decline of terms of trade for "primary exports of underdeveloped countries". Even the fact that terms of trade fluctuations may show a great diversity in LDC's, will leave the generalization unharmed and highly preferable to the single country case, in which disturbances by exogenous factors either in supply or demand is quite probable.

Bauer asserts that factoral terms of trade is more relevant than the commodity terms of trade because the commodity terms of trade does not reflect the changes in productivity. He uses the "single factoral" terms of trade to show that even if commodity terms of trade declined, the LDC's could have gained in trade, because possibly most of the price reduction is because of reduced costs which in turn resulted from higher productivity. But it should be recalled that if productivity is at stake, the developed countries experienced higher rates of rise in productivity and "double factoral" terms of trade would be even more relevant than the "single factoral" and will probably show the drop clearer.

Bauer's remaining criticisms, besides those revealed by other critics, are the invalidity of the assumption of existence of world monopolies to retain high prices (in Prebisch thesis the main role of keeping high level prices is laid on the domestic labor monopolies, and little if any on international monopolies), and the illegitimate elimination of some years (war periods and 1938 to 1950). For elimination of war periods some sound justification could be given, but for the latter period no argument was found.

Deterioration Caused by Weaknesses in Underdevelopment

It was observed that Singer - Prebisch thesis lays the main burden of the deterioration on the nature of primary commodities exported by less developed countries, weaknesses arising from production of these commodities, irresponsiveness of demand for primary goods to changes in incomes and prices, and furthermore the lagging nature of demand for such products. Some attention was paid to the production side by Myrdal, who found the cause in lack of flexibility of these economies and by Prebisch, who found that labor failed to get its fair share of benefits of technological progress.

Emmanuel attaches the greatest importance to level of wages. Unlike the previous positions, he maintains that the relative decline in price of "primary products" observed in research studies is an optical illusion. He maintains that what is really declining is the relative price of the commodities produced in the underdeveloped areas. In fact, whatever the LDC's produce, they always exchange a larger amount of their labor for a lesser amount of foreign labor.[21] Emmanuel maintains that the illusion results from a mistaken identification of exports of the rich countries with export of manufacturing goods and those of the poor countries with primary products.

In support for his standpoint Emmanuel writes "the copper of Zambia or the Congo are no more primary than coal which was yesterday one of the chief exports of the Great Britain. Sugar is about as much manufactured as soap or margarine and certainly more manufactured than scotch, whiskey or the great wines of France. Coffee, cocoa and cotton before they are exported are processed, much more than timber. Textiles were formerly among the pillars of the wealth of the industrialized countries and since they have become specialty of the poor countries, they hardly suffice to provide a starvation wage for the workers who produce them, even where the techniques are most up-to-date".[22]

He argues that the main cause of difference between the "price of production" of different goods originates from highly unequal wages in different countries. A major difference between the national setting and the international framework is the immobility of labor factor internationally, while capital is free to move. The movement of capital equates rates of profit around the world, while the existence of political boundaries makes labor immobile, hence wage differentials. Wages are rigid and remarkably stable and highly differentiated by geographical areas. In fact, fluctuations in international prices have little to do with wages. (Emmanuel asserts that the relation is one way, wages affect prices, but wages inturn are determined by exogenous factors).

Prebisch does not go deeply into wage system, but he argues that as a result of technological progress, wages will rise in advanced countries and only profits will rise in periphery, the reason being the existence of labor monopolies in center countries and the lack of them in the periphery countries. Emmanuel's thesis is more general than Prebisch's, and technological progress is only a special case in relation to wage structure. In Emmanuel's view inability of wages to rise is attributed to the existence of a set of socio-cultural and historical elements which will well could cover the labor institutions.

Emmanuel's theory leads to a policy guideline: in order for an underdeveloped economy to keep its comparative advantage position and avoid "unequal exchange", it should raise wages and internal prices, so that in international market the exchange become closer to "equal". He argues that if this policy is to work it is necessary at the same time that a process of change in specialization should take place to keep the economy flexible against foreign competition. If the country (or the group of countries cooperating in their development process) is not the unique producer (or nearly so) of the commodities traded in international markets, or if the price elasticity of the demand for its products is greater than unity, so that, when the country raises its wage level, there is a substantial decline in demand, the country then, must choose between "autarky" and "unequal exchange". If the produce of a country is facing a price elastic demand, the country must try to change its production specialization, or concentrate all its effort into new lines of production, so that it could have a better demand conditions for its exports. He things this task could be achieved by countries in groups.

The link between wages and worsening terms of trade is explained in a similar fashion by Arthur Lewis.[23] He maintains that the existence of a permanent "reserve army of unemployed" in the subsistence sector of the underdeveloped countries (predominantly agriculture) will prevent wages from rising, hence will cause the prices to remain constant and causing deterioration of terms of trade, in trading with a country which has a rising wage trends and prices. "Take for example the case of sugar. This is an industry in which productivity is extremely high by any biological standard. It is also an industry in which output per acre has about tripled over the course of the last 75 years, a rate of growth of productivity which is unparalled by any other major industry in the world - certainly not by wheat industry. Nevertheless workers in the sugar industry continue to walk bare footed and to live in shacks, while workers in wheat enjoy among the highest living standards in the world".[24] The reason, he believes, is the existence of a subsistence sector to keep the wages low in the sugar industry.

The Lewis position is that the reason for deterioration of terms of trade is not the nature of the product and demand for it (wheat and sugar in most respects are the same), but rather lies in production relations, especially the income structure. In the Lewis model when productivity increases in an underdeveloped open economy the benefits will accrue mostly to consumers or purchasers of primary goods. The capitalists do not get higher profits because the rate of profit is determined not by productivity in sugar industry, but by the general rate of profit on capital.[25]

Kindleberger's study, cited above, was mainly descriptive. Evidence of terms of trade deterioration was found for less developed countries of Europe (France and Italy) and improvement for more developed ones (Switzerland, Sweden and Belgium). Among the causes of such phenomenon, he mentions lack of flexibility of resources to adjust to economic disturbance in less developed countries. He did not consider or probe the importance of wage differentials between LDC's and more advanced countries.

Summary and Conclusions

In searching for the forces tending to turn the terms of trade against underdeveloped countries (or their products) two main positions were cited. The Singer - Prebisch thesis ascribed the decline to the inherent nature of primary products (raw materials and foodstuff) and the demand facing such products (operation of Engel's law to diminish demand for food items and technological progress to diminish demand for raw material). The existence of monopolistic elements was traced and found explanatory in determining the extent of spread of fruits of technical progress.

On the contrary, Emmanuel found the cause of deterioration solely in the characteristics of the underdeveloped countries (or generally underdevelopment). The most striking was the low wages in LDC's and high and continually rising wages in advanced countries. (Lewis attributes this wage level to the subsistence sector of the economy, which is the permanent source of cheap, competitive labor).

After reviewing both views, it is my conclusion that, by the existing evidence, both the nature of primary goods and the economic and non-economic institutions inseparable from underdevelopment have been in interaction to drive the terms of trade against these countries, each of these elements having a fair share. If industrialization takes place in the LDC's the future will demonstrate the "superiority" of one explanation or the other and not the "total insignificance" of one. Of course, it is quite possible that significance of each set of elements may change in the course of time, and even among different regions of the world today. Kindleberger confirmed that, in the European context, no evidence of deterioration was found between primary and manufactured commodities, while he recognized the deterioration occurring for lesser developed countries versus the more advanced nations of Europe. On the other hand Porter confirmed the danger of deterioration for primary producers even among the advanced countries. He showed that North-American and West-European countries (even when producing primary products) have concentrated on the export of those commodities which have high income eleasticity of demand and avoided producing those with lower YED.[26] This supports the importance of the demand side explanation. It is also obvious that the lag of demand for primary products due to the operation of Engel's law for food items and lagging demand for raw materials, which has been investigated thoroughly,[27] is working in the same direction to cause deterioration of the terms of trade. On the other hand, trends in general wage level and price level have been upward in developed countries (in an interactionary fashion), while the pattern for LDC's has been close to stagnation due to the influence of a large subsistence sector and probably some non-economic elements.

Lack of flexibility in production of the underdeveloped countries, limited range of products produced by each country, the operation of the so-called "demonstration effect" in LDC's, the inability of agricultural lines of production to improve quality of goods and introduce new items, and finally the high level of protection of agricultural products (and even some major manufactured goods exported by LDC's) in some of the industrial countries, are among the reasonable co-factors which explain the secular trend in terms of trade.

Footnotes

1. Raul Prebisch, _Economic Development of Latin America and its Principal Problems_ (Lake Success: U. N. Dept. of Economic Affairs, 1950), pp. 1-2.

2. Prebisch divides the world in two, center and periphery. The former consists of the industrial centers of the world and the latter comprises most underdeveloped countries, which specialize in agriculture and other primary products. This terminology is used by many U. N. and other economists, and is based on the "center-periphery" thesis of development.

3. R. Prebisch, _op. cit._, p. 2.

4. _Ibid._, p. 16.

5. _Ibid._, p. 16.

6. _Ibid._, p. 20.

7. Hans W. Singer, "The Distribution of Gains Between Investing and Borrowing Countries", _The American Economic Review_, Vol. XL, No. 2, May 1950, pp. 477-78.

8. _Ibid._, p. 479.

9. _Ibid._, p. 478.

10. _Ibid._, p. 479.

11. Gunnar Myrdal, _An International Economy: Problems and Prospects_, (New York: Harper, 1956), p. 2.

12. G. Myrdal, _Rich Lands and Poor_, (New York: Harper, 1957), p. 55.

13. Myrdal also considers the foreign capital and migration in the same line. Both of these factors create economic enclaves which does not serve the interests of the domestic economy.

14. G. Myrdal, _Economic Theory of Under-Developed Regions_ (London: Duckworth, 1959), p. 52. This is the British publication of "Rich Lands and Poor".

15. G. Myrdal, _The Challenge of World Poverty, A World Anti-Poverty Program in Outline_, (New York: Pantheon Books, 1970), p. 279.

16. Other writers attribute the deterioration of terms of trade to some other factors, rather than those explained by Prebisch-Singer thesis. Viner believes that population growth is the major influencing factor on deterioration of terms of trade. The influences of population growth if analysed specifically could be traced in both supply and demand side in the Singer-Prebisch view, and could inturn supplement this thesis. Viner eliminates the "inherent nature of primary products" from the list of factors tending to cause deterioration in terms of trade.

17. G. Haberler, "Terms of Trade and Economic Development", in H. S. Ellis (ed.), Economic Development for Latin America (London: MacMillan and Co. Ltd., 1961), pp. 275-97.

18. P. T. Ellsworth, "Terms of Trade Between Primary Producing and Industrial Countries", Inter-American Economic Affairs, 10 (Summer 1956), p. 51

19. P. T. Bauer, "A Critique of UNCTAD". In Dissent on Development, (Cambridge, Mass.: Harvard Univeristy Press, 1972), pp. 233-71.

20. Ibid., p. 239.

21. Aghriri Emmanuel, Unequal Exchange, A Study of Imperialism of Trade, trans. B. Pearce (New York: Monthly Review Press, 1972), p. xxxi.

22. Ibid., p. xxx.

23. A. W. Lewis, "Economic Development with Unlimited Supplies of Labor".

24. Ibid., p. 183.

25. Ibid., p. 183.

26. R. Porter, "Some Implications of Post-War Primary Products Trends" Journal of Political Economy, 78 (May-June 1970), pp. 586-97.

27. See G. L. Hyde, "A Critique of Prebisch Thesis", Economia Internazionale" 16 (August 1963), p. 468, also see, R. Nurkse, "The Export Lag of Primary Producing Countries", In International Economics and Business; Selected Readings, pp. 92-105 (Edited by W. Krause and F. J. Nathis), also see, U. S. President's Materials Committee, Resources for Freedom, Washington, D. C. (Vol. 1, 1952).

SELECTED BIBLIOGRAPHY

Books

Allen, Roy G. D., "Index Numbers of Volume and Price". In International Trade Statistics, pp. 186-211. Edited by R. G. D. Allen and J. E. Ely. New York: John Wiley and Sons, Inc., 1953.

Atallah, Muhammad K. The Long-Term Movement of the Terms of Trade Between Agricultural and Industrial Products. Rotterdam, Netherlands: Netherlands Economic Institute, 1958.

Bauer, Peter T. "A Critique of UNCTAD". In Dissent on Development, pp. 233-71. Cambridge, Mass.: Harvard University Press, 1972.

Emmanuel, Aghriri. Unequal Exchange: A Study of the Imperialism of Trade, translated by B. Pearce. New York: Monthly Review Press, 1972.

Frank, Andre G. "The Development of Underdevelopment". In Imperialism and Underdevelopment, pp. 3-17. Edited by R. I. Rhodes. New York: Monthly Review Press, 1971.

Furtado, Celso. "The Concept of External Dependence in Study of Underdevelopment". In The Political Economy of Development of Underdevelopment, pp. 118-25. Edited by Charles K. Wilbur. New York: Random House, 1973.

Gibson, Charles R. Foreign Trade in the Economic Development of Small Nations; the Case Study of Equador. New York: Praeger Publishers, 1971.

Haberler, Gottfried. A Survey of International Trade Theory, translated by W. M. Blumethal. Princeton, N. J.: Princeton University Press, 1955.

__________. "Terms of Trade and Economic Development". In Economic Development for Latin America, pp. 275-97. Edited by H. S. Ellis and H. C. Wallich. New York: St. Martin's Press, 1961.

Johnson, Harry G. "Analysis of Prebisch's Views on the Terms of Trade". In Economic Policies Toward Less Developed Countries, pp. 249-50. New York and Washington: Praeger Publishers, 1967.

Kindleberger, Charles P. The Terms of Trade; A European Case Study. Cambridge, Mass.: The Technology Press of MIT, 1956.

Krause, Walter. "The Desire for Development". In Economic Development, pp. 28-44. San Francisco: Wadsworth Publishing Co., Inc., 1961.

League of Nations. Industrialization and Foreign Trade, 1945.

Lipsey, Robert E. Price and Quantity Trends in Foreign Trade of the United States. Princeton, N. J.: Princeton University Press, 1963.

Meier, Gerald M. The International Economics of Development. New York: Harper, 1968.

__________. Leading Issues in Economic Development: Studies in International Poverty. Second Edition. New York: Oxford University Press, 1970.

Morgan, Theodore. "Trends in Terms of Trade, and their Repercussions on Primary Producers." In International Trade Theory in a Developing World, pp. 52-75. Edited by R. Harrod and D. Hague, New York: St. Martin's Press, 1963.

Myrdal, Gunnar. Asian Drama; An Inquiry into the Poverty of Nations. New York: Pantheon, 1968.

__________. The Challenge of World Poverty, A World Anti-Poverty Program in Outline. New York: Pantheon Books, 1970.

__________. Economic Theory of Under-Developed Regions. London: G. Duckworth, 1959. American edition titled: Rich Lands and Poor. New York: Harper, 1957.

__________. An International Economy, Problems and Prospects. New York: Harper, 1956.

Nurkse, Ragnar. "The Export Lag of Primary Producing Countries". In International Economics and Business; Selected Readings, pp. 92-105. Edited by W. Krause and F. J. Mathis. Boston, Mass.: Hiffin Co., 1968.

__________. Patterns of Trade and Development. New York: Oxford University Press, 1961.

Prebisch, Raul. The Economic Development of Latin America and its Principal Problems. Lake Success: U. N. Dept. of Economic Affairs, 1950.

__________. "The Inherent Weakness of the Peripheral Countries and the Terms of Trade." In Towards a Dynamic Development Policy for Latin America, pp. 78-88. New York: U. N. ECLA, 1963.

__________. Towards a New Trade Policy for Development. New York: U. N. (UNCTAD, 1964).

Robinson, Joan. Essays in the Theory of Employment. Oxford: Basil Blackwell, 1947.

United Nations, Economic Commission for Latin America. Economic Development of Latin America in the Post-War Period, 1964.

__________. Economic and Social Council. Repercussions of Changes in Terms of Trade on the Economies of Countries in Process of Development. 1953.

__________. Dept. of Economic Affairs, Economic Survey of Latin America. 1949.

__________. Dept. of Economic Affairs. Instability in Export Markets of Underdeveloped Countries in Relation to their Ability to Obtain Foreign Exchange from Exporting Primary Commodities, 1901-1950, 1952.

__________. Dept. of Economic Affairs. Relative Prices of Exports and Imports of Underdeveloped Countries. 1949.

__________. UNCTAD. Towards a Global Strategy of Development. 1968.

U. S. President's Materials Committee, Resources for Freedom. Washington, D. C., Vol. 1, 1952.

Viner, Jacob. Studies in Theory of International Trade. New York: Harper and Bros. Publishers, 1937.

Journal Articles

Appleyard, Dennis R. "Terms of Trade and Economic Development, A Case Study of India." The American Economic Review 58 (May 1968): 188-199.

Aubrey, Henry G. "The Long-Term Future of U. S. Imports and its Implications for Primary Producing Countries." The American Economic Review 45 (May 1955): 270-295.

Baer, Werner. "The Economics of Prebisch and ECLA." Economic Development and Cultural Change 10 (January 1962): 169-182.

Baldwin, R. E. "Secular Movements in Terms of Trade." The American Economic Review, Papers and Proceedings 45 (May 1955): 259-269.

Bhatia, B. M. "Terms of Trade and Economic Development: A Case Study of India, 1861-1939." Indian Economic Journal 26 (June 1969): 414-433.

Butler, G. J. "Prebisch's Rationale for Protection." Journal of Development Studies 7 (April 1971): 285-291.

Ellsworth, P. T. "The Terms of Trade Between Primary Producing and Industrial Countries." Inter-American Economic Affairs 10 (Summer 1956): 47-65.

Hensley, Roy J. "Trade and Development in Nigeria 1960-65." Economia Internazionale 24 (May 1971): 319-340.

Hyde, G. L. "A Critique of Prebisch Thesis". Economia Internazionale 16 (May 1963): 463-487.

Kindleberger, Charles P. "The Terms of Trade and Economic Development." Review of Economics and Statistics 40 Suppl. (February 1958): 72-90.

Lewis, Arthur W. "Economic Development with Unlimited Supplies of Labor." Manchester School of Economic and Social Studies 22 (1954): 139-191.

__________. "World Production, Prices and Trade, 1870-1960." Manchester School of Economic and Social Studies 20 (May 1952): 105-138.

Meier, Gerald M. "International Trade and International Inequality." Oxford Economic Papers 10 (October 1958): 277-289.

__________. "Myrdal on Commercial Policy of Underdeveloped Countries." Economia Internazionale 11 (May 1958): 247-256.

Morgan, Theodore. "The Long-Run Terms of Trade Between Agriculture and Manufacturing." Economic Development and Cultural Change 8 (October 1959): 1-23.

Myint, Hla. "An Interpretation of Economic Backwardness." Oxford Economic Papers 6 (June 1954): 132-163.

Porter, Richard. "Some Implications of Post-War Primary Products Trends." Journal of Political Economy 78 (May/June 1970): 586-597.

Prebisch, Raul. "The Commercial Policy in the Underdeveloped Countries." The American Economic Review 49 (May 1959): 251-273.

Rostow, W. W. "The Historical Analysis of the Terms of Trade." Economic History Review 5, Second Series (1951): 53-76.

__________. "The Terms of Trade and Economic Development." Economic History Review 3, Second Series (1950): 1-20.

Singer, Hans W. "The Distribution of Gains Between Investing and Borrowing Countries." The American Economic Review 40 (May 1950): 473-485.

LONG-TERM TRENDS IN TERMS OF TRADE AND ECONOMIC DEVELOPMENT

by

ABDOLAMIR TAVAKKOL

B. S., Pahlavi University, 1974

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARTS

Department of Economics

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1975

ABSTRACT

Net-barter (or commodity) terms of trade is defined as the ratio of a price index of exports to a price index of imports. Income terms of trade is the commodity terms of trade multiplied by an index of the quantity of exports. This is an indicator of the changes in capacity to import, based on export earnings. Factoral terms of trade take into account changes in productivity. The single-factoral terms of trade includes changes in productivity of the exporting country, while double-factoral includes changes in productivity of both exports and imports.

Some research studies that investigated the long-term movements of terms of trade for the less developed countries, or their major exports were reviewed. Many of the studies reviewed showed the existence of a long-term secular deterioration in terms of trade of primary commodities, which are the main exports of underdeveloped countries.

Some economists argue that the cause of deterioration of terms of trade is the nature of primary production that is, what causes deterioration is specialization in production of primary commodities. From the supply side there are problems of inflexibility of the production structure, lack of ability to improve quality of goods produced and to introduce new items. From the demand side, there are problems of the low income elasticity of demand for primary products, either through the operation of Engel's law for food items or through decreasing raw material content of industrial goods by substi-

tution or more efficient use of raw material inputs. These factors cause the prices of primary products to decline. On the other hand, prices of manufactured goods imported by underdeveloped countries have been rising through increase in incomes experienced by industrial countries, associated with any technological progress. Therefore the terms of trade has a tendency to deteriorate for countries producing primary products.

Some other economists have found the cause in existing institutions in underdeveloped countries and stated that primary production by itself is not the cause of terms of trade deterioration. Briefly, whatever the underdeveloped countries produce, they exchange more of their domestic resources for less of foreign resources, the sole reason being the differences in the wage levels between the two groups of countries. In a dynamic sense increases in wages overtime in the advanced countries, along with stagnation of wages in LDC's causes the terms of trade deterioration.

This report concludes that both sets of causes have been interacting to drive the terms of trade against underdeveloped countries and their products. While demand for their products has been lagging, they have also experienced a slow rise in technology in this line of production, and the same time labor structure has prevented any upward changes in wages and prices.