

A Note on the Terms of Trade and Economic Development

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I

Despite all the ambiguities obscuring their use, the terms of trade still receive considerable attention in discussions of economic development. This is not only because the terms of trade have sizeable quantitative significance for the less developed countries, but also because they are a convenient indication of the net result of many diverse forces, and may have important welfare implications.

In the first place, it is useful to say a few words about concepts of the terms of trade. Several different concepts¹ of the terms of trade may be distinguished: the gross barter, net barter or commodity, income, single-factoral, and double-factoral terms of trade. A higher price for exports with the same price for imports, a lower price for imports with the same price of exports, or a larger volume of imports for the same volume of exports or a smaller volume of exports for the same volume of imports is a favorable development in the terms of trade. The gross barter terms of trade become, on the whole, uninteresting since they may reflect less price movements than changes in the balance of payments, and even capital movements. Most reference, therefore, is to the net barter terms of trade, and when one reads "terms of trade" without qualification, one should think of the net barter terms of trade. Since it is especially important for a less developed country to take changes in its volume of exports into account, we may want to correct the movements in the net barter terms of trade for changes in export volume. A rise in the income terms of trade indicates that the country can obtain a larger volume of imports from the sale

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1 If we let $Q_x(Q_m)$ be the export- (import-) quantity index and $P_x(P_m)$ the export- (import-) price index, then the gross barter terms of trade are defined as Q_m/Q_x , the net barter or commodity terms of trade as P_x/P_m , and the income terms of trade as $\frac{P_x \cdot Q_x}{P_m}$. The single-factoral terms of trade are expressed as $\frac{P_x}{P_m} \cdot Z_x$ where Z_x stands for an export productivity index, while the double-factoral terms of trade as $\frac{P_x}{P_m} \cdot \frac{Z_x}{Z_m}$ where Z_m is an import productivity index.

of its exports; its "capacity to import"—based on exports—has increased. Income terms of trade is a superior concept to the net barter terms of trade for the less developed countries' purposes. The single-factoral terms of trade correct the net barter terms of trade for changes in productivity in producing exports. A rise in the single-factoral terms of trade is a favorable movement in the sense that a greater quantity of imports can be obtained per unit of factor-input used in the production of exportables. If the single-factoral terms of trade are corrected for changes in productivity in producing imports as well as exports, the result is the double-factoral terms of trade.

Widespread controversy has existed concerning the question whether the terms of trade of the less developed countries are secularly declining. This kind of controversy is some importance since it is generally believed that the economic growth and welfare of a country are directly connected with its terms of trade.

There are two different positions about the long-run movements of the terms of trade between the less developed countries and the advanced countries, and the factors which influence them.

The less developed countries and the primary producing countries or the advanced countries and industrial countries can not be indentified in a strict sense, since the advanced countries such as Australia, New Zealand and South Africa are comprised in the primary producing countries. However, since the less developed countries produce and export the primary products and the advanced countries produce and export the industrial products, as a whole, these will be used as the same in this paper.

II

The view that the terms of trade of the less developed countries have deteriorated over time was expressed in the writings of R. Prebisch,² H. W. Singer,³ and others. Opposite view was expressed by G. Haberler,⁴ J. Viner,⁵ P. T. Ellsworth,⁶ and others. The two different positions are worth reviewing.

Reasons for the deteriorating terms of trade of the less developed countries are summa-

2 R. Prebisch, "Commercial Policy in Underdeveloped Countries," *American Economic Review, Papers and Proceedings*, May 1959; R. Prebisch, *Towards a New Trade Policy for Development*, Report by the Secretary-General of UNCTAD, United Nations, 1964.

3 H. W. Singer, "The Distribution of Gains between Investing and Borrowing Countries," *A.E.A. Readings in International Economics*. Homewood, Ill.: Irwin, 1968.

4 G. Haberler, "Terms of Trade and Economic Development," H.S. Ellis, ed., *Economic Development for Latin America*, New York: St. Martin's Press. 1961.

5 J. Viner, *International Trade and Economic Development*, Glencoe, Ill.: Free Press. 1952.

6 P.T. Ellsworth, "The Terms of Trade between Primary Producing and Industrial Countries," *Inter-American Economic Affairs*, Summer 1956.

alized as follows. First, the deteriorating terms of trade are due to technical progress. Singer⁷ argues that technical progress in the manufacturing industries showed itself in a rise in incomes, while technical progress in the production of food and raw materials in the less developed countries showed itself in a fall in prices. The same argument was expressed by Prebisch.⁸ He says as a result of higher productivity due to technological progress in the less developed countries, the prices of the primary products fall in proportion to productivity increase. But in the industrial countries the relative shortage of labor and strong trade union organization, or protection enjoyed by the primary commodities of industrial countries allow wages not only to rise as productivity increases but to outstrip the increase. Prebisch argues that the fundamental disparity in these trends is a consequence of the structural differences. Secondly, the deteriorating terms of trade are due to substitution. Substitution is concerned with technological progress. Singer and Prebisch⁹ argue that in the case of raw materials, technical progress in manufacturing actually largely consists of a reduction in the amount of raw materials used per unit of output, which may compensate or even overcompensate the increase in the volume of manufactured output. This leads to large price falls of raw materials not only cyclical but structural. Thirdly, the slowness of growth of demand for primary commodities leads to the deteriorating terms of trade of the less developed countries. Prebisch and Singer say that the terms of trade of the less developed countries have deteriorated because of Engel's law.¹⁰ Prebisch¹¹ also argues that owing to the slowness of the growth of demand for primary commodities, economically active population has to be shifted to industry and other activities. This shift is a lengthy process, even in the advanced countries where the proportion of the economically active population employed in primary production is already small. The difficulties in shifting the population and in adjusting the primary production to the slow growth of demand are the reasons for the unfavorable terms of trade. In summary, the monopoly in the factor and product markets of the developed countries, the substitution of raw materials, and Engel's law lead to the export prices of the less developed countries having fallen secularly. Since the primary commodity exports of the less developed countries are growing so slowly and their terms of trade tend to deteriorate, the less developed countries lack the resources necessary to import, on a adequate scale, the goods required for a satisfactory rate of development. Those who argue the terms of trade of the less de-

7 H. W. Singer, in AEA, *op. cit.*, p.311.

8 R. Prebisch, "Toward a New Trade Policy for Development," G.M. Meier, *Leading Issues in Economic Development*, 2nd ed. (New York: Oxford University Press, 1970) pp. 484-488.

9 *ibid.*, p.484; H.W. Singer, in AEA, *op. cit.*, p.312.

10 R. Prebisch, in G.M.Meier, *op. cit.*, p. 484; H.W. Singer, in AEA, *op. cit.*, p. 312

11 R. Prebisch, in G.M.Meier, *op. cit.*, p. 487.

veloped countries have been declining contend that the deterioration in the terms of trade lead to a considerable barrier to the economic development of the less developed countries.

Opposite views, on the other hand, are as follows. Haberler¹² argues that even assuming it to be correct that world prices of raw materials and agricultural products have fallen relative to those of finished products, it does not follow at all that the less developed countries are any worse off today or that they derive less advantage from international trade than previously, or that the changes which led to the alleged deterioration of their terms of trade have adversely affected them. He points out this would depend upon the nature of the causes of the deterioration in trade terms. He again contends extreme care must be taken when evaluating a change in the terms of trade. He writes, "we have to distinguish between (a) changes in the terms of trade of a country which result from changes in foreign demand and (b) changes resulting from a shift in the country's own reciprocal demand or offer curve."¹³ Haberler¹⁴ again argues that inferences about the terms of trade of the less developed countries drawn from the inverse of the United Kingdom's terms of trade during the period 1876-1938 suffer from many weak points, especially in the index problem which includes ignorance of industrial commodity quality changes and ignorance of transportation costs cut down. He points out the results of technical progress have no particular relationship to the world prices of industrial products and, hence, the terms of trade. He argues that even though the income elasticity of demand for primary products is low, Engel's law only applies to food not to raw materials. Viner¹⁵ pointed out that the long-period comparisons are vitiated by the fact that the price indices of manufactures give no weight to the gain in utility from the new commodities which have become available, such as the automobile, the tractor, and penicillin. Moreover manufactured products have, over the years, become superior in quality whereas the primary commodities used in their price indices are generally not superior in quality and in some cases are perhaps inferior. Ellsworth,¹⁶ in his empirical study about the long-term movement of the terms of trade during the period 1876 to 1933, showed that the downward movements in the terms of trade of primary products were due to the following facts: 1) decline in transportation costs, 2) downward movement as a result of increasing output (for example, cotton), 3) expanded capacity in minerals and 4) synthetic substitutes. He found the terms of trade of primary for industrial products declined during the period he

12 G. Haberler, *A Survey of International Trade Theory*, (Princeton Univ. 1961) p. 25.

13 *ibid.*, p. 28.

14 G. Haberler, "The Terms of Trade and Economic Development," H.S. Ellis, ed., *Economic Development for Latin America*, (New York: St. Martin's Press, 1961) pp. 275-297.

15 J. Viner, *op. cit.*, p. 143.

16 P. T. Ellsworth, *op. cit.*

studied, but he urges this trend is in part spurious, and even where genuine, is not to be explained by any single, simple set of relations.

Two different views concerning the terms of trade may be from the following facts¹⁷: First, because the statistical data do not offer a clearcut idea about the trend of the terms of trade, the interpretations are sometimes conflicting. Secondly, another reason for the conflicting interpretations may be found in the choice of period on which the author concentrates his examination. Thirdly, the choice of factors which influence the relation between agricultural and industrial products may be cause for the different opinions.

At any rate, no matter how there may exist different views about trends of the terms of trade and no matter what the cause of deteriorating terms of trade is, many statistics represent the fact that while the exports of primary products and of primary producing countries are showing a declining tendency, the import requirements of the less developed countries are growing rapidly, far beyond their capacity to import. Actual imports by the less developed countries do not necessarily reflect their requirements because actual imports have ultimately to be adjusted to import capacity. This leads to the slow rate of economic growth in less developed countries.

Meier writes that ,‘there is no invariant relationship between a country’s development and movements in its commodity terms of trade. Depending on the type and degree of bias and the rate of development in each country, the terms of trade may either improve or deteriorate. The connection between changes in the terms of trade and economic welfare is an especially difficult problem: In what sense may a movement in a country’s terms of trade be accepted as an index of the trend in economic welfare? Considerable care must be exercised to avoid the fallacy of equating a change in any of the various terms of trade with a variation in the amount or even direction of change in the gains from trade.’¹⁸ In their article, Batra and Scully analyse that “‘if a wage differential exists between the exportable and importable sectors and that the wage differential favors the exportable commodity, which is usually the case, at least for underdeveloped countries, then, a direct relationship between the terms of trade and economic growth may not exist.’¹⁹

The less developed countries have undergone the limited capacity to import whether due to the unfavorable terms of trade or not and expect little growth from trade. And also they claim that the blame for the limited help the less developed countries get from

17 M.K. Attalah, *The Long-Term Movement of the Terms of Trade between Agricultural and Industrial Products*. (Rotterdam: Netherlands Economic Institute, 1958) p. 12.

18 G.M. Meier, *The International Economics of Development, Theory and Policy* (New York: Harper & Row, 1968) p. 49.

19 R. Batra and G.W. Scully, *The Terms of Trade and Economic Growth: A Theoretical and Empirical Analysis*. (Paper presented at the Econometric Society Meetings, Detroit, Dec. 1970).

trade can be laid at the door of the advanced countries. Foreign exchange earnings of the less developed countries have suffered from the deterioration in the terms of trade and other reasons. Unless these countries succeed in obtaining additional resources, they will be unable to achieve the reasonable rate of growth set as a target in their plans.

III

All the facts mentioned above suggest, themselves, the solution to the problem concerned with the terms of trade. Various recommendations to solve the unfavorable situation of the terms of trade in less developed countries can be considered.

International action to stabilize prices of primary products:

This includes parity for raw materials, the withdrawal of government support abroad for synthetics, expansion of consumption of raw materials abroad, commodity price stabilization schemes for a variety of sorts, and establishment of fair and equitable prices.²⁰ All these recommendations call for higher prices for primary products in order to bring about economic development of the less developed countries. However, difficulties lie in these recommendations. The price which will give the less developed countries the level of income they think is fair will almost certainly lead to much production to meet long-run demand. This could lead to a price fall. Of course this would only be better for the less developed countries, and it is not reasonable and not realizable.

To increase the flexibility of resources and to ease entry and improve exit in all countries and sectors: More generally, speeding up the process of economic development in the less developed countries, so that advantage can be taken of opportunities offered by price, or to make such opportunities by reducing costs:²¹ This means education of workers, accumulation of capital, training of entrepreneurs, and etc. This also means industrialization. This view is considered to be right and a more general solution in the respect that economic development can be speeded up more by concern for the skill of the labor, the flow of new capital, and the flexibility and drive of the entrepreneurs than by attempts to manipulate the terms of trade, even if unfavorable terms of trade are one of the hindrances to economic development in less developed countries.

To cut down imports from the advanced countries: But economic development of the less developed countries should proceed through the expansion of world trade. If the less developed countries cut down their input imports, it will be more difficult for them to develop. And also this may lead to the contraction of world trade and unreasonable dis-

20) C.P. Kindleberger, *The Terms of Trade: A European Case Study*. (New York: MIT Press—Wiley, 1956).

21) *ibid.*, p. 312.

tribution of world resources. Of course there are many possibilities to cut down non-input imports.

To form the less developed countries' own groupings in order to plan and develop their industries in wider markets:²² Since industrialization in the less developed countries is difficult due to the smallness of domestic markets and difficulty of realizing economies of scale without exports, this action may be helpful.

To proceed with import substitution: This strategy also implies industrialization. Import substitution will help decrease further import requirements, hence make the terms of trade favorable. In the process of growth, domestic production replaces imports. Import substitution is, in a sense, a natural path of growth. But import substitution which reaches the point where the country in question spends more resources to acquire goods domestically than it would need to produce goods for export and to transform them into the needed goods through trade, should be avoided. Import substitution and, more generally, industrialization should not be based on present comparative advantages, and existing distribution of endowments. This point was stressed by Singer.²³ Present structure of comparative advantage and endowments is not such that it should be considered as a permanent basis for a future international division of labor.

The basic solution is to proceed with the economic development of the less developed countries. The less developed countries argue it is necessary to make favorable their terms of trade for their economic development. I think the less developed countries argue for their capacity to import necessary for economic development, not so much for terms of trade itself. More important is that less developed countries' foreign exchange earnings capacity is decreasing, not the terms of trade itself. Because it is possible that economic welfare deteriorates with an improvement in the terms of trade. The core of the recommendations suggested above is that less developed countries should proceed with economic development, particularly through a foreign currency-saving-development pattern, if possible, and particularly if they are not able to mobilize as much foreign exchange as they want. The economic development of the less developed countries can not (or may not) proceed by the less developed countries themselves successfully. I think the economic development of the less developed countries is a joint venture which the less developed countries and the advanced countries should work out jointly. To do this the less developed countries themselves should not only do their best for economic development but the advanced countries should help the former's effort as much as possible. The advanced countries have to con-

22 R. Prebisch, in G.M. Meier, *Leading Issues in Economic Development*, 2nd ed., (New York: Oxford University Press, 1970), p. 490.

23 H.W. Singer, in AEA, *op. cit.*, p. 316.

sider that the less developed countries' economic development is directly related to their prosperity and furthermore world prosperity. In this respect, a broad policy of international cooperation in trade, in financial resources and in the propagation of technology expressed by Prebisch is necessary and excellent. The support to the less developed countries given by the advanced countries, particularly in flow of international investment, aid, and loans should contribute to the economic development of the former. I mean this kind of support, that can be absorbed into the economic system of less developed countries, leads to further mobilizing resources of the less developed countries. If the process of development has reached far enough, the terms of trade problem such as described earlier may well be forgotten.