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Volume Title: Measuring International Price Competitiveness: A Preliminary Report

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Volume Publisher: NBER

Volume ISBN: 0-87014-408-1

Volume URL: http://www.nber.org/books/krav65-1

Publication Date: 1965

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Chapter URL: http://www.nber.org/chapters/c1658

Chapter pages in book: (p. 16 - 22)

II

PRICES AS AN ELEMENT IN INTERNATIONAL COMPETITIVENESS

Prices are not the only possible focus for a study of international competitiveness. One could go farther back in the chain of causation toward costs, or beyond that to the factors affecting costs. On the other hand, one could concentrate on more direct manifestations of competitiveness, such as changes in a country's share of world exports, which are, to some extent, a consequence of price movements.

Moreover, the significance of price differences or relative price movements is not unambiguous, as will be seen later, and different measures of price show quite different relationships among countries. Before coming to these questions, however, we must consider a prior one; that is, whether genuine and significant differences in prices and price movements can logically be expected. Is it not true that international competition equalizes prices of goods from different sources?

SCOPE FOR INTERNATIONAL DIFFERENCES IN PRICES

One explanation for observed differences in export prices, already alluded to, is the existence of transport costs. These costs imply differences in f.a.s. prices even where prices at given destinations are equal.

Of more interest are price differences in final markets brought about by governmental or private measures that fragment markets or isolate particular ones. Tied grants and loans, tariffs and quotas, and market sharing arrangements are among the factors that can have this effect. Some of the price differences that are observed reflect the fact that the price is part of a package which includes speed of delivery, credit terms, ease of order, or quality of after-sale service, in which the nonprice elements offset, for some, but not necessarily all buyers, the apparent price difference. The importance of these nonprice factors varies from one line of trade to another, but they undoubtedly have a substantial influence upon international competition.

Other price differences represent disequilibrium situations in which some purchasers, particularly of complex products such as machinery, take a considerable time to respond to price differences. Even if a continuation of the price difference would eventually find the higher-priced seller with no customers, there may be a long interval in which sales are being made at both high and low prices. Lack of knowledge, uncertainty regarding the reliability of a supplier or the length of time he will remain in the market, reluctance to give up a satisfactory relationship with a supplier, commitment to one type of machine because of previous purchases, stocks of spare parts, and official or private "buy-domestic" policies may all act to prolong the adjustment.

Another reason for the appearance of price differences in our data is that we include information on certain offer prices—i.e., the lowest price offered by each country other than the one actually making the sale. Thus some of the prices do not represent transactions but explain instead why transactions have not taken place. This is true of those data which consist of comparisons made by companies and governments before they decide where to purchase. All offers other than the one accepted are potential, but not actual, prices.

Many of the factors mentioned above also make possible divergent price *movements* among different national sources of supply. If transportation costs are important, for example, a rise in one country's f.a.s. price relative to that of other suppliers may cause the country to lose its more distant markets for a product while it retains the closer ones, reducing the geographical range of its sales but not eliminating them completely. Thus the investigator will be able to observe the relative rise in the f.a.s. price, as he could not if the export trade vanished completely.

Differentiation in products such as machinery plays a role similar to that of transport costs in making differences in price movements visible to the investigator. When there is such differentiation, an increase in the f.a.s. price of a machine may reduce its sales in a particular area and narrow the machine's range of uses but will not drive it completely from the market.

MARKET SHARES AS A MEASURE OF COMPETITIVENESS

The change in a country's share in world exports has been one of the most frequently used empirical counterparts of competitiveness.[17] Both the concept of competitiveness and the share measure can be applied to total exports or to specific products or markets.

The share of a given country in total exports might rise or fall for a variety of reasons. One group of factors consists of shifts in demand: a country's export share might grow because importers' tastes shifted toward its products, because its exports benefited from high income elasticities of demand in importing countries, or because its traditional markets were enjoying a period of particularly rapid economic growth. On the supply side are changes in productivity, monetary and fiscal policies which affect the level of prices and economic activity, governmental subsidies for exports, and many others both internal and external to the firm and industry.[18] These influences often operate through prices, and price changes thus are often a proximate cause of changes in market shares.

It is with the price aspect of competitiveness that we are primarily concerned. Our purpose is to construct the measure of relative price change that would, in combination with the other relevant variables (many of which have been mentioned above), best account for changes in the flow of trade. For this purpose it would be desirable

[17] See, for example, International Monetary Fund, *1964 Annual Report,* pp. 123–130, and Anne Romanis, "Relative Growth of Exports of Manufactures of the United States and Other Industrial Countries," International Monetary Fund, *Staff Papers,* May 1961. See also the article "Fast and Slow-Growing Products in World Trade," *National Institute Economic Review,* August 1963, and the other studies mentioned there. For a note on a study under way, see NBER, *44th Annual Report,* June 1964, pp. 42–43, 131–135.

[18] In all these cases, it is the change in one exporting country relative to its competitors that is important.

to measure price competitiveness in such a way as to incorporate only influences from the supply side, and to eliminate all influences from the demand side. Since our index of price competitiveness is a relative price index, it is conceivable that changes on the demand side might cause a country's price competitiveness to appear to decline, although in fact the over-all competitiveness of the country has increased. This would occur if there were a shift in world demand in favor of a particular variety of good produced by that country, resulting in a rise in its price relative to the prices of similar goods in other countries. It is possible to imagine, for example, a rise in demand for one country's type of computer relative to another country's which could lead to an apparent decline in competitiveness if the supply price increased. The more narrowly commodities and commodity groups are defined, the less important this phenomenon will be, but we cannot hope to eliminate it altogether.

In most cases, however, we may assume that shifts in world demand would affect the prices of the favored good in approximately the same way in different countries, leaving the index of price competitiveness unchanged. In a comparison between conventional export price indexes a country specializing in the favored good would appear to have lost in competitiveness, because the product rising in price is heavily weighted in that country's index. That would not be the case in our indexes because we use a single set of weights for all countries. This procedure, we believe, removes much of the influence of demand factors from our index of price competitiveness.[19]

Changes in supply conditions may be manifested in changes in nonprice elements of competition as well as in prices. The nonprice factors are particularly important in nonstandard products such as machinery and transport equipment, and it cannot be assumed that changes in these elements of competition are necessarily parallel to price movements. Theoretically, the value of many of these factors

[19] Of course, a shift in world demand in favor of a particular good produced by a given country may have indirect effects on our index, since the rise in demand for one commodity may tighten supply conditions and thus reduce the country's price competitiveness in other goods.

can be translated into monetary terms and incorporated into the price of the product, but we have not been able to make such calculations.

The only nonprice factor for which we have been able to collect any systematic data is delivery time. We have obtained information from purchasers of a wide variety of commodities about delivery times, and we hope to be able to produce indexes of delivery delays for at least some commodity groups for imports from the major industrial countries. In addition, we shall try to call attention to nonprice factors where they are of special importance, even though we cannot quantify them.

PRICES AND COSTS AS ALTERNATIVE APPROACHES TO COMPETITIVENESS

Although there is little doubt that much can be learned from comparisons of prices and price movements, it has been suggested that costs are a better focus for the study of international competition than prices.[20]

To what extent will cost conditions be reflected in relative prices and price changes? In general, the higher the elasticity of substitution between one country's products and another's—the more completely buyers shift from one to the other in response to small relative price changes—the more likely it is that changes in competitiveness will be observable only in quantity shifts and not in price movements. For example, all countries' prices for certain standard raw materials move together, and in these cases a loss of competitiveness by a given country appears as a decline in the margin of price over costs. The result, sooner or later, is likely to be a fall in the country's export share without any unfavorable development appearing in relative prices. High supply elasticities contribute to the same result.

This type of identical price change is much less likely to occur in manufactures, however, since substitutability is less perfect. Here, actual prices rather than costs may be more relevant to an explanation of historical shifts in trade patterns. Furthermore, prices have two decisive advantages over costs from the viewpoint of this study:

[20] See, for example, Robert M. Stern, "British and American Productivity and Comparative Costs in International Trade," *Oxford Economic Papers*, October 1962. See also Robert M. Stern and Elliot Zupnick, "The Theory and Measurement of Elasticity of Substitution in International Trade," *Kyklos*, 1962, Fasc. 3.

(1) The concept of price, although not without its prickly aspects, is generally more objective and less likely to vary from one reporter to another. (2) It is easier to obtain information about prices than about costs, not only because many sellers are more willing to provide price than cost information but also because price information can be supplied by buyers. Moreover, cost data can be built up only for whole plants, companies, or groups of commodities rather than for precisely specified individual commodities. International cost comparisons for individual products would be distorted by the diversity of methods of allocation of costs in different firms and countries.

THE INTERPRETATION OF THE INDEX OF PRICE COMPETITIVENESS

It is evident from what has been said that the relation between price competitiveness and changes in a country's market share or in its trade balance cannot be expected to be simple and unvarying. Even if all the nonprice factors were constant, there might be margins within which relative prices could change with little or no immediate impact upon the trade position. For example, there might be a rise in the U.S. price of a domestically produced good that is exported by some countries but not by the U.S. The measure of price competitiveness adopted in this study, which involves weighting each price change by the importance of the commodity in world trade rather than by its importance in the particular country's exports, would show an unfavorable movement, although the relative position in world markets of the goods actually exported by the U.S. might not have changed at all. In a sense, the index would show the true situation; the competitiveness of the U.S. would have declined in the sense that the rise in the price of the good places it farther away from the export threshold and closer to the import threshold than it was before. For the moment the margins of safety provided by differences in costs, transportation charges, and market imperfections may mean that the price rise does not affect the trade balance. Sooner or later, however, persistent movements in the index of price competitiveness are bound to be reflected in the trade statistics.

Finally, it must be remembered that a decline in competitiveness, either in the price sense or in some other dimension, does not necessarily call for remedial action. There is no unique share of world markets that represents the ideal share for a given country, and not every decline in a country's export share or rise in its import share should be cause for alarm or concern. Some declines in export shares for particular commodities are always occurring in every country as, in the course of economic development, comparative advantage moves from one type of production to another. Even for nations as a whole, declines in export shares are sometimes desirable. If the underdeveloped countries are to gain relative to the developed ones in per capita and national income, they might be expected to gain in exports as well.[21]

As another example, a country which formerly concentrated on a single product might lose its share of world exports if it reduced both import and export needs by diversifying its economy. A country which is beginning to reduce its rate of foreign investment and to repatriate income from past investments may well find that its export share is declining and its import share rising. The country may not, in a sense, be worse off; it is enjoying the fruits of its past frugality. Nevertheless, its competitiveness in the world economy has declined; the country's entrepreneurs find it more difficult to meet foreign competition. In this case, however, the changes would represent the normal consequence of the shift in the country's over-all relations with the rest of the world rather than an alarming development calling for corrective measures. A decline in competitiveness is thus a warning signal only under circumstances which require a country to maintain or improve its trade balance.

[21] However, if grant aid and other capital flows to underdeveloped countries expand more rapidly than world exports, the share of these countries in world exports will fall.