The Prize in Economic Sciences 2008

This year's Laureate is awarded the Prize for his research on international trade and economic geography. By having shown the effects of economies of scale on trade patterns and on the location of economic activity, his ideas have given rise to an extensive reorientation of the research on these issues.

International Trade and Economic Geography

How are we affected by globalization? What are the effects of free trade? Why do increasing numbers of people flock to large cities, while rural areas become depopulated?

These questions cannot be answered without a theoretical foundation. For a long time, the analysis of foreign trade had been based on a well-established theory which explained why some countries export certain goods and import others. After World War II, however, it became increasingly obvious that important trade patterns did not quite correspond with that theory. In 1979, the US economist **Paul Krugman** proposed a new model which provided a better explanation for the observed patterns.

In later research, Krugman has shown that the model he initially developed for international trade could also be used to clarify key issues in economic geography. In the context of both foreign trade and economic geography, the objective is to explain *what* goods are produced *where*. Theories of economic geography also attempt to specify the forces whereby labor and capital become located in certain places and not others.

Traditional Foreign Trade

In the early 1800s, the English economist David Ricardo launched the theory of so-called comparative advantage to explain the range and composition of international trade. This theory, which was extended during the 1920s and 1930s by the Swedish economists Eli Heckscher and Bertil Ohlin, implies that foreign trade is based on differences among countries. Ricardo studied countries which differ in terms of technology. Heckscher-Ohlin considered countries which differ in terms of access to factors of production; some countries have a relatively abundant supply of labor but a scarcity of capital, whereas the opposite prevails in other countries. The result is that some countries should specialize in and export, for example, industrial products and import agricultural products – and vice versa.

Since its inception, this theory seemed capable of explaining the vast majority of international trade. Over the last half century, however, researchers observed increasingly large deviations from the trade patterns predicted by Ricardo and Heckscher-Ohlin. So-called intra-industry trade has expanded, in particular between rich countries. Such trade implies that a country both exports and imports more or less the same goods. A country such as Sweden, for example, exports and imports cars. This would not be compatible with the theory of comparative advantage unless the production of Volvo cars required a wholly unique technology, or a completely different combination of labor and capital than, for instance, production of BMW cars. But this appears highly unlikely.

Almost 30 years ago, Krugman introduced an entirely new theory of international trade. It was intended to explain the occurrence of intra-industry trade and was based on an assumption of economies of scale whereby mass production diminishes the cost per unit produced. The basic idea is rather self-evident, but the step from speculation to a stringent and cohesive theory is substantial – and this was precisely the step Krugman took in his short, 10-page article in the *Journal of International Economics* in 1979.

Consumers Appreciate Diversity

In addition to economies of scale in production, Krugman's new theory was based on an assumption that consumers appreciate diversity in their consumption. At the time, this was a rather new concept in economics, but it appeared to correspond to reality. Indeed, most of us have witnessed greater diversity in the supply of available commodities. As consumers, we are constantly tempted by a growing number of brands, even though we might sense that a standard car, a standard pair of jeans or standard toothpaste would suffice. After our basic needs for food and housing have been satisfied, it seems as if we opt for diversity and variation in our consumption. Two years earlier, in 1977, Avinash Dixit and Joseph Stiglitz had published a model for analyzing consumers' preferences for product diversity. According to this model, each producer, working under increasing returns to scale, becomes more or less a monopolist in terms of his own brand, even though he is subject to sharp competition from other brands.

Such a model can be used to show that foreign trade will arise not only between countries which are *different* (as in the traditional theory), but also between countries which are *identical* in terms of access to technology and factor endowments. Moreover, it can be demonstrated that extensive intra-industry trade will occur. In fact, it becomes advantageous for a country to specialize in manufacturing a specific car, and to produce it for the world market, while another country specializes in a different brand of car. This allows each country to take effective advantage of economies of scale, thereby implying that consumers worldwide will benefit from greater welfare due to lower prices and greater product diversity, as compared to a situation where each country produces solely for its own domestic market, without international trade.

Krugman's initial article is brief and straightforward. Owing to its simplicity, the international research community could quickly ascertain that it pointed to vital mechanisms in the economy. In many subsequent articles and books, Krugman himself, as well as other researchers, have endowed the theory with greater realism. Today, the general view is that the basic mechanisms specified by Krugman constitute an important complement to the traditional Heckscher-Ohlin theory. The truth, as in so many other instances, is that reality encompasses features of both theories. This has resulted in lively empirical research aimed at determining the extent to which foreign trade can be explained by the earlier theories as compared to the new theory. In general, the new theory of international trade has inspired an enormous field of research, which is usually a reliable indication of theoretical quality.