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ABSOLUTE AND COMPARATIVE ADVANTAGE

During the seventeenth and eighteenth centuries the dominant economic philosophy was *mercantilism*, which advocated severe restrictions on import and aggressive efforts to increase export. The resulting export surplus was supposed to enrich the nation through the inflow of precious metals. Adam Smith (1776), who is regarded as the father of modern economics, countered mercantilist ideas by developing the concept of *absolute advantage*. He argued that it was impossible for all nations to become rich simultaneously by following mercantilist prescriptions because the export of one nation is another nation's import. However, all nations would gain simultaneously if they practiced free trade and specialized in accordance with their absolute advantage. Table I, illustrating Smith's concept of absolute advantage, shows quantities of wheat and cloth produced by one hour's work in two countries, the United States and the United Kingdom.

Division of labor and specialization occupy a central place in Smith's writing. Table I indicates what the international division of labor should be, as the United States has an absolute advantage in wheat and the U.K. has an absolute advantage in cloth. Smith's absolute advantage is determined by a simple comparison of labor productivities across countries. Smith's theory of absolute advantage predicts that the United States will produce only wheat (W) and the U.K. will produce only cloth (C). Both nations would gain if they have unrestricted trade in wheat and cloth. If they trade 6W for 6C, then the gain of the United States is 1/2 hour's work, which is required

Absolute advantage		
	U.S.	U.K.
Wheat (bushel/hour)	6	1
Cloth (yards/hour)	4	5

Table 1

to produce the extra 2C that it is getting through trade with the U.K. Because the U.K. stops wheat production, the 6W it gets from the United States will save six hours of labor time with which 30C can be produced. After exchanging 6C out of 30C, the U.K. is left with 24C, which is equivalent to almost five hours' labor time. Nations can produce more quantities of goods in which they have absolute advantage with the labor time they save through international trade.

Though Smith successfully established the case for free trade, he did not develop the concept of comparative advantage. Because absolute advantage is determined by a simple comparison of labor productivities, it is possible for a nation to have absolute advantage in nothing. In Table I, if the labor productivity in cloth production in the United States happened to be 8 instead of 4, then the United States would have absolute advantage in both goods and the U.K. would have absolute advantage in neither. Adam Smith, however, was much more concerned with the role of foreign trade in economic development and his model was essentially a dynamic one with variable factor supplies, as pointed out by Hla Myint (1977).

David Ricardo (1817) was concerned with the static resource allocation problem when he defined the concept of *comparative advantage*, which is determined not by absolute values of labor productivity but by labor productivity ratios. Ricardo would have interpreted the numbers in Table I by pointing out that, whereas U.S. labor in wheat production is 1.5 (= 6/4) times as productive as it is in cloth production, the U.K.'s labor productivity in wheat is only one fifth of its labor productivity in cloth. Therefore, the United States has comparative advantage in wheat and by inverting these ratios one can show that the U.K. has comparative advantage in cloth. This pattern of comparative advantage will not be affected if the United Sates has absolute advantage in both wheat and cloth, which will be the case if we raise U.S. labor productivity in cloth from 4 to 8. This is because 3/4 will still be greater than 1/5.

The rationale of labor productivity ratios comes from Ricardo's labor theory of value. Ricardo treated labor as the only source of value, as all other factors of production (such as capital) are also produced by labor. Thus the price of a good (P) is simply equal to the wage rate (w) times the labor (L) used in production, divided by output (Q), as profit is zero in competitive markets: $P = (w L)/Q$. Because the average productivity of labor is $a = Q / L$, $P = w / a$. If the labor market is competitive, the wage rate paid in all industries will be the same. Therefore, the ratio between the price of wheat (Pw) and the price of cloth (Pc) will be equal to the ratio between average productivity of labor in cloth (ac) and average productivity of labor in wheat (aw): $[Pw / Pc] = [ac / aw]$. This creates a direct link between comparative advantage and relative commodity prices in a competitive economy. If the United States has comparative advantage in wheat production, wheat will be relatively cheaper in the United States than in the U.K., which provides the basis for trade.

Ricardo's theory of comparative advantage creates hope for technologically backward countries by implying that they can be a part of world trading system even though their labor productivity in every good may be lower than that in the developed countries. In the Ricardian model, trade is a win-win situation, as workers in all trading countries are able to consume more of all goods. Ricardo was blissfully unaware of the complications that would be created if his model included another factor such as capital, and if the producers had responded to changes in factor price ratio in favor of the cheaper factor. It was Wolfgang Stolper and Paul A. Samuelson (1941) who later discussed the effect of international trade on income distribution. The comparative advantage model has many unrealistic assumptions, which ignore the fact that the real world consists of many countries producing many goods using many factors of production. Each market is assumed to be perfectly competitive, when in reality there are many industries in which firms have market power. Labor productivity is assumed to be fixed and full employment is guaranteed. The model assumes that technology differences are the only differences that exist between the countries. Finally, in a dynamic context, comparative advantage changes, as trade in goods and capital alters the trading countries' factor endowments. Hajime Oniki and Hirofumi Uzawa (1965) have shown in a formal model how trade and economic growth continuously change patterns of trade and specialization.

In spite of its shortcomings, some of which have been removed by subsequent research (see Chipman 1965–1966), Ricardo's model carries a message that cannot be ignored. Ricardo's most important contribution lies in the fact that he was the first economist to link specialization with opportunity cost, which is the basis of modern trade theory. As for empirical testing of Ricardo's theories, G. D. A. MacDougall (1951–1952) demonstrated that trade between the United States and the U.K. in 1937 followed Ricardo's prediction. As a matter of fact, Ricardian theory performs better in empirical testing than most other theories.

SEE ALSO *Heckscher-Ohlin-Samuelson Model; North-South Models; Ricardo, David; Smith, Adam; Trade, Anglo-Portuguese*

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