World Economy Absolute advantage

A country is said to have an absolute advantage over another country in the production of a good or service if it can produce that good or service using fewer *real* resources. Equivalently, using the same inputs, the country can produce more output. The concept of absolute advantage can also be applied to other economic entities, such as regions, cities, or firms, but we will focus attention on countries, specifically in relation to their production decisions and international trade flows. The fallacy of equating absolute advantages with cost advantages is a never-ending source of confusion. Deviations between the two are caused by the fact that real resources may receive different remunerations in different countries.

In reaction to the mercantilist literature of the 17th century (which advocated state regulation of trade to promote wealth and growth), a doctrine of free trade emerged at the end of the 18th century, culminating in 1776 in Adam Smith's (1723-1790) masterpiece *An Inquiry into the Nature and Causes of the Wealth of Nations*. Drawing upon the work of others, Smith was able to put many different arguments and elements together in a coherent and systematic framework, organized using a few general principles, and thus providing a new way of thinking about political economy (Douglas A. Irwin, 1995). Smith thus provided the first *analysis* of economic reasons for advocating a policy of free trade and according to Joseph A. Schumpeter (1954, p. 374): "seems to have believed that under free trade all goods would be produced where their absolute costs in terms of labor are lowest."

Smith's arguments can be summarized as follows. First, he points out that regulations favoring one industry draw away real resources from another industry, where they might have been more advantageously employed (opportunity costs). Second, he applies the opportunity cost principle to individuals in a society, for example by pointing out that the tailor does not make his own shoes (which would cost him a lot of time) but buys them from the shoemaker (who can produce them more efficiently). Each individual is therefore specializing in the production of those goods and services in which they have some advantage. Third, he applies the same principles of opportunity costs and specialization to international commercial policy and nations. It is better to import goods from abroad where they can be produced more efficiently, as it allows the importing country to focus production on the goods it can itself produce efficiently. The primary (classical) reason for international trade flows is therefore a difference of technology between exporter and importer.

Principle of Absolute Advantage

To vividly illustrate the principle of absolute advantage, suppose that there are two countries (USA and Japan), producing two goods (food and cars), using labor as the only input. Goods can be traded without costs and workers are immobile between the two countries, but mobile between the two sectors within a country. All workers in a country are equally productive. Production technology in Japan differs from that in the USA, see Table 1. We assume that Japan requires three units of labor to produce one unit of food, whereas the USA requires only two units of labor. Similarly, Japan needs six units of labor to produce one car, whereas the USA needs eight units of labor. Since Japan is more efficient in the production of cars and the USA is more

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efficient in the production of food, Japan has an absolute advantage in the production of cars and the USA has an absolute advantage in the production of food.

	a. Units of labor required to		b. Units of output produced	
	produce one unit of output		with one unit of labor	
	food	cars	food	cars
USA	2	8	1/2	1/8
Japan	3	6	1/3	1/6

Table 1 Productivity tables; an example of absolute advantages

To show that specialization of production, coupled with international trade flows according to absolute advantage, can be advantageous in our example suppose the USA produces one car less. This frees up eight units of labor, which can now be used to produce 8/2 = 4 units of food (opportunity cost of car production in the USA). The USA has now produced one car less and four units of food more. Suppose, that the USA wants to consume the same number of cars as before. It must then import one car from Japan. To produce this car Japan needs six units of labor. These laborers must come from the food sector, where production in Japan). Now note that the total production of cars has been unchanged (one car less in the USA and one car more in Japan), while the total production of food has increased by two units (four food more in the USA and two food less in Japan). These extra units of food reflect the potential gains from specialization if both countries concentrate in the production of the good they produce most efficiently. In principle, both countries can gain, for example if they exchange three units of food for one car.

Complications and Limitations

There are several caveats in the above analysis, some of which we discuss now.

Absence of absolute advantage. The example discusses a situation where one country has an absolute advantage in the production of one good and the other country in the production of another good. It is frequently argued that developing countries may lack the technology to gain an absolute advantage in the production of *any* good, such that they cannot possibly compete on the global market and benefit from free trade (in Table 1, for example, if the USA needs four laborers to produce one unit of food). This conclusion is wrong, as analyzed in the Ricardian model (comparative advantage), since technologically disadvantaged countries can compete on the global market by paying lower wages. It turns out that absolute advantage is neither a necessary nor a sufficient condition for exporting a certain good and gain from international trade.

More factors of production. In reality goods are produced using several factors of production simultaneously, such as capital, land, and various types of labor. Usually, goods then cannot be ranked according to absolute advantage as their production in one country requires more of one input and simultaneously less of another input than in another country. These issues are analyzed in the Heckscher-Ohlin (factor abundance) theory of international trade.

Intra- versus inter-industry trade. The example discusses inter-industry trade, which is the exchange of one type of good (cars) for another type of good (food). Many

countries engage in intra-industry trade, the exchange of similar types of goods (e.g. simultaneously exporting and importing car parts). This type of trade is becoming ever more important. It can be based on market power and economies of scale, as analyzed in new trade theory.

Absolute advantage, income, and wages

Despite the limitations and complications discussed above, absolute advantages (as reflected by differences in technology) *are* important for explaining current international trade flows and differences between countries in terms of income levels and wage rates. Daniel Trefler (1995) systematically analyzes these issues by combining the Heckscher-Ohlin model with technology differences, while taking into consideration the empirically observed home country bias (a consumer preference for domestically produced goods over otherwise identical imports). This combination explains about 93 per cent of international trade flows. It also shows that technology differences are largely responsible for the deviations in income levels (and wage rates) between, say, the African countries and the high-income countries of the Organization for Economic Cooperation and Development (OECD). For this reason absolute advantage does retain relevance for understanding the modern world economy.

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See also: comparative advantage, economies of scale, gains from trade, Heckscher-Ohlin model, intra-industry trade, new trade theory, revealed comparative advantage, Ricardian model, trade and wages

Further Reading

- Irwin, Douglas A. 1996. Against the Tide: An Intellectual History of Free Trade. Princeton: Princeton University Press. A magnificent overview of the arguments for and against free trade throughout history.
- Smith, Adam. 1776. An Inquiry into the Nature and Causes of the Wealth of Nations,The Glasgow edition of the works and correspondence of Adam Smith, edited byR.H. Campbell and A.S. Skinner, 1981, Liberty Press. Starting point of economics as a science, using a coherent system of analysis favoring free trade.
- Schumpeter, Joseph A. 1954. *History of economic analysis*. Twelfth printing, 1981,George Allen & Unwin. Still *the* history of economic analysis.
- Trefler, Daniel. 1995. "The Case of the Missing Trade and Other Mysteries." American Economic Review 85: 1029-1046. Ingenious empirical tests of various trade theories with a prominent role for technology differences.

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