Comparative Advantage and Gains from Trade Review for AP Economics

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Review questions for this study guide can be found at:

International Trade: Review Questions for AP Economics

Main Topics: *Comparative and Absolute Advantage, Gains from Trade, Exports, Imports and the World Price*

Comparative advantage and specialization at the microeconomic level explains why brain surgeons do not fly 747s and pilots do not analyze CAT scans. At the macroeconomic level, the **Law of Comparative Advantage** says that nations can mutually benefit from trade so long as the relative production costs differ.

Comparative and Absolute Advantage

Our discussion of production possibilities illustrated the Law of Increasing Costs. The more an economy produces of any one good, the more costly it becomes to produce the next unit. Rising costs of production lead to a search for less costly ways to produce and consume those goods. In many cases, this search leads to a potential trading partner who has **comparative advantage** in the production of a good. If Nation ABC can produce a good at lower opportunity cost than can Nation XYZ, it is said that Nation ABC has comparative advantage. An example can illustrate how this works between two states, but the same principle works between two nations.

Example:

Climate and topography have blessed Indiana with land extremely suitable for the cultivation of soybeans, but with very little harvestable timber. Oregon's timber production is unmatched, but farmers find it difficult to produce a self-sustaining soybean crop. Table 17.1 summarizes the production possibilities of these two isolated economies. Because Oregon can produce more timber than Indiana, Oregon is said to have an **absolute advantage** over Indiana in timber production. Indiana has an absolute advantage over Oregon in soybean production. Trade does not rely on absolute advantages, but on comparative advantages.

Table 17.1

INDIANA		OREGON	
Soybeans (tons)	Timber (tons)	Soybeans (tons)	Timber (tons)
0	6	0	10
9	3	5	5
18	0	10	0

Comparative Advantage and Specialization

In isolation, both states can produce soybeans and timber along their production possibility frontiers, which are constrained by available technology and resources. Suppose that without trade, they enjoy consuming at the midpoint of the frontier. But if there are differences in production costs, they can each gain from specialization and trade. The opportunity costs of each good can be found from the table and can be illustrated in a production possibility frontier for each state.

Oregon:

Opportunity cost of timber is 1 soybean.

Opportunity cost of soybeans is 1 timber.

Indiana:

Opportunity cost of timber is 3 soybeans.

Opportunity cost of soybeans is 1/3 timber.

Since Indiana can produce soybeans at a cost that is lower than Oregon's cost of soybeans, Indiana has a comparative advantage in soybeans. Oregon can produce timber at a lower cost than Indiana's cost of timber, so Oregon has a comparative advantage in timber production. With these differences in cost, Indiana should specialize in soybean production (zero timber) while Oregon should specialize in timber production (zero soybeans), then trade. These specialization points are labeled in Figure 17.1.

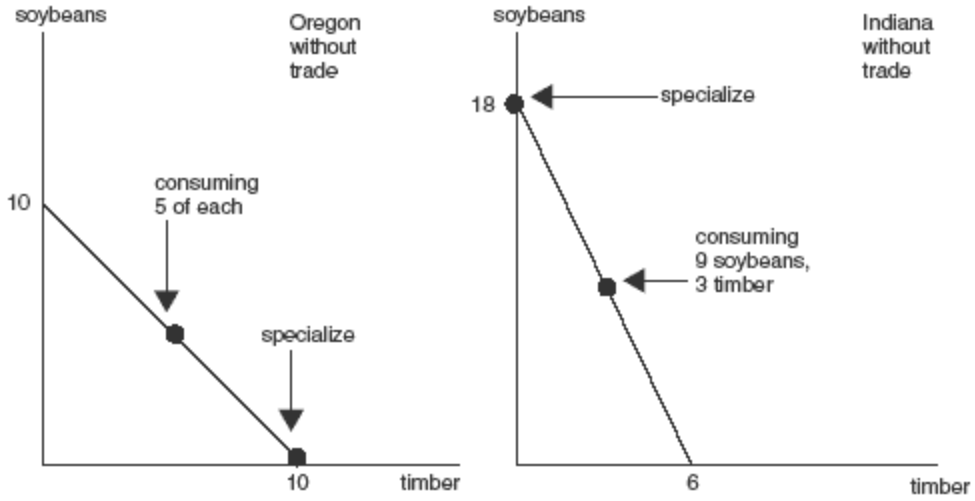

Figure 17.1

Gains from Trade

After each state specializes, suppose that each decides to keep half of their production and send the other half to the other state. See Figure 17.2.

Oregon:

Produce 10 timbers and send 5 to Indiana in exchange for 9 soybeans. Cost of a soybean before trade was 1 timber. Now I'm getting 9 soybeans, but only giving up 5. The cost now is 5/9, which is less than 1 timber. Great deal!

Indiana:

Produce 18 soybeans, and send 9 to Oregon in exchange for 5 timbers. Cost of a timber before trade was 3 soybeans. Now I'm getting 5 timbers and only giving up 9 soybeans. The cost now is 9/5, which is less than 3 soybeans. Great deal!

Another look at the production possibility frontiers after the trade shows that each state has actually moved *beyond* the constraints of their technology and resources.

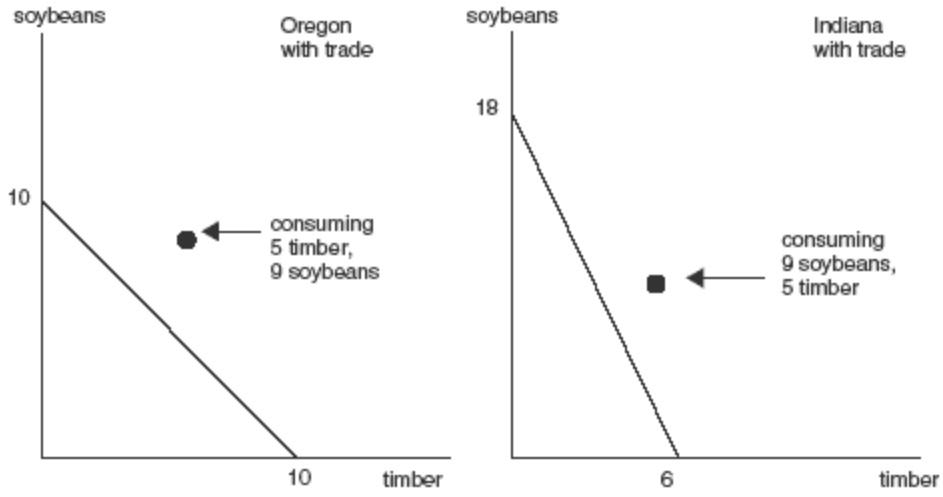

Figure 17.2

Consumption Frontier

There are many such trade possibilities. Figure 17.3 overlaps the two production possibility frontiers. The line that connects Indiana's specialization of soybeans to Oregon's specialization of timber is called the **consumption possibility frontier** because with trade, each state can consume along this line; without trade, these points are impossible to attain.

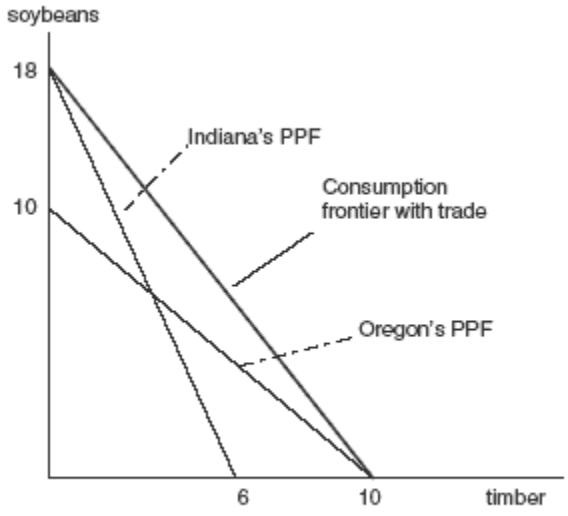

Figure 17.3

- If the opportunity costs of production are different, two economies find it mutually beneficial to specialize and trade.
- If you have comparative advantage in production of a good, specialize in production of that good and trade for the other.
- Specialization and trade allow nations to consume beyond the PPF.

- Free trade (i.e., without trade barriers) based on comparative advantage allows for a more efficient allocation of resources and greater prosperity for the trading partners than can be achieved without free trade.

Exports, Imports, and the World Price

In the market for a commodity like soybeans, many nations are both producers of soybeans and traders of soybeans. Whether or not a nation is a net exporter or a net importer of soybeans depends upon the difference between the **world price** with trade, and the **domestic price** without trade.

Domestic Market Without Trade

Figure 17.4 illustrates the competitive U.S. market for soybeans without trade. The competitive price of $10 per bushel is found at the intersection of domestic demand and supply. At this point six million bushels are produced.

World Market With Trade

If the United States begins to trade soybeans with other nations, the world price may rise above, or fall below, $10 per bushel. If the world price falls to $8, there exists a shortage of soybeans in the U.S. market. Domestic producers supply only four million bushels, but domestic consumers demand eight million bushels. The United States must then import the difference of four million bushels. If the world price rises to $12, there exists a four million bushel surplus in the U.S. market and the United States exports this surplus.

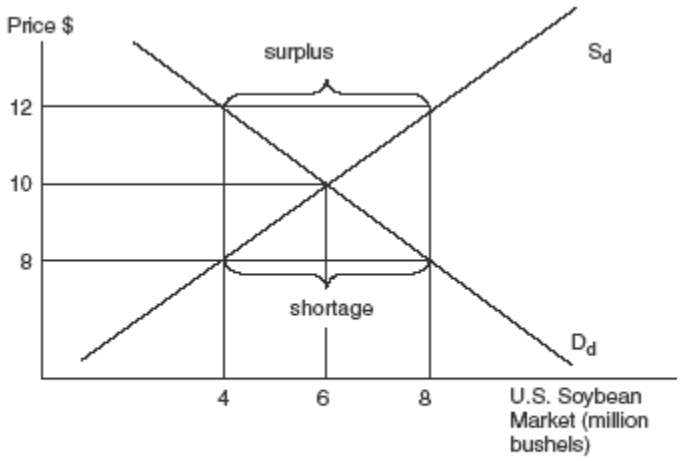

Figure 17.4

- If the world price of a good is above the domestic price, the nation becomes an exporter of that good.
- If the world price of a good is below the domestic price, the nation becomes an importer of that good.

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