# Comparative Advantage

AP Macroeconomics | Unit 1 | specialization, terms of trade, and gains from trade

*Running example* (output per day):

| | wheat (tons) | cars |
|---|---|---|
| Avalon | 30 | 10 |
| Brava | 20 | 4 |

## 1. Absolute vs comparative advantage

**Two kinds of advantage**

**Absolute advantage**: can produce *more* of a good with the same resources.
**Comparative advantage**: can produce a good at a *lower opportunity cost*.

Avalon has the absolute advantage in both goods. Comparative advantage, not absolute advantage, decides who should produce what, and nobody can have a comparative advantage in everything.

## 2. Finding the opportunity cost

$$\text{Avalon: } 1 \text{ car} = \frac{30 \text{ wheat}}{10 \text{ cars}} = 3 \text{ wheat} \qquad \text{Brava: } 1 \text{ car} = \frac{20 \text{ wheat}}{4 \text{ cars}} = 5 \text{ wheat}$$

$$\text{Avalon: } 1 \text{ wheat} = \tfrac{1}{3} \text{ car} \qquad \text{Brava: } 1 \text{ wheat} = \tfrac{1}{5} \text{ car}$$

Avalon has the comparative advantage in **cars** ($3 < 5$); Brava in **wheat** ($\frac{1}{5} < \frac{1}{3}$). Each specializes in the good it makes at the lower opportunity cost.

**Output table or input table?**

**Output** (how much is made in a fixed time): more is better; cost of X = other good ÷ X ("other goes over").
**Input** (hours or workers needed for one unit): fewer is better; cost of X = hours for X ÷ hours for the other good ("it goes over").

## 3. Terms of trade

Avalon will sell a car only for more than 3 wheat (its own cost). Brava will buy a car only for less than 5 wheat (what it would cost to make one itself).

**Mutually beneficial terms of trade**

Any price **between the two opportunity costs**: here between 3 and 5 wheat per car.

At 4 wheat per car, Avalon receives 4 for a car that cost it 3, and Brava pays 4 for a car that would have cost it 5.

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## 4. The gains from trade

| | |
|---|---|
| Avalon without trade | 5 cars and 15 wheat (a point on its own PPC) |
| Avalon with trade | makes 10 cars, sells 5 for $5 \times 4 = 20$ wheat: 5 cars and 20 wheat |

That point lies *outside* Avalon's PPC. Trade does not change what a country can produce; it changes what it can *consume*. Brava gains in the same way.

**Where students lose points**

1. Using absolute advantage to decide who specializes.
2. Reading an input table as if it were output (fewer hours is better).
3. The opportunity-cost ratio upside down.
4. Terms of trade outside the two opportunity costs.
5. Saying trade shifts the PPC: it moves consumption beyond it.

**Now practise it**

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