

Comparative Advantage, Specialization, & Benefits of Trade

Example 1:

	People required to make one unit of ...	
	Cloth	Wine
England	100	120
Portugal	90	80

Assume the value of one unit of cloth is equal to the value of one unit of wine and people in both countries want to consume both goods. Portugal has an **absolute advantage** in producing *both* cloth and wine because it requires fewer Portuguese workers to make one unit of either.

- England: $120/100 = 1.2$ more units of cloth per lost unit of wine
- Portugal: $80/90 = 0.89$ → English have **comparative advantage** in cloth production
- Portugal: $90/80 = 1.125$ more units of wine per lost unit of cloth
- England: $100/120 = 0.83$ → Portuguese **comparative advantage** in wine

Suppose England and Portugal **do not trade** with each other and consumers prefer a *fixed ratio* of cloth to wine, and there is a large number of total workers in both countries which does not change.

- Suppose 1,800 English workers who were previously making wine **switch** to making cloth
- English **wine** production: ▼ by $1,800/120 = 15$ units
- English **cloth** production: ▲ by $1,800/100 = 18$ units

	People required to make one unit of ...	
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- Suppose 1,440 Portuguese workers who were previously making cloth **switch** to making wine
- Portuguese **cloth** production: ▼ by $1,440/90 = 16$ units
- Portuguese **wine** production: ▲ by $1,440/80 = 18$ units

	People required to make one unit of ...	
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- Total change in cloth production:
 - +18 in England, -16 in Portugal
 - net change: **+2**
- Total change in wine production:
 - -15 in England, +18 in Portugal
 - net change: **+3**
- Different abilities of English vs. Portuguese workers
 - different *tradeoffs* in production of the two goods
 - English workers are comparatively better at producing cloth, so England loses less wine moving workers to cloth (vs. same move in Portugal)
 - Portuguese workers are comparatively better at producing wine, so Portugal loses less cloth moving workers to wine (vs. same move in England)
 - **Theory of comparative advantage**: with trade, each country will specialize its own production in a way that benefits from countries' different relative abilities to produce different goods, which results in more overall global production, so that each can have more of both goods to consume.

Scarcity – how rare something is, which usually increases its value

Opportunity cost – the “true economics cost” of something, which is equal to the value of the best alternative option that could have been chosen instead

- By specializing:
 - England gained 18 units of cloth, lost 15 units of wine
 - Portugal gained 18 units of wine, lost 16 units of cloth
- *Both* countries end up consuming more of both goods if:
 - England sends C units of cloth to Portugal, $16 < C < 18$, and
 - Portugal sends W units of wine to England, $15 < W < 18$.
- consumption per capita ▲ = standard of living per capita ▲

Comparative Advantage & Trade: *Different types of workers & effects on Inequality*

Now consider a small economy called “Country One” with two workers:

H = “high-skill worker”

L = “low-skill worker”

They can produce and consumes two kinds of good:

h = “high-skill good”

l = “low-skill good”

	Units produced per worker per day (if h only or l only)	
	h (good)	l (good)
H (worker)	8	0
L (worker)	4	8

WITHOUT TRADE:

They *specialize*: **H** only produces good **h** (8 units) and **L** only produces good **l** (8 units)

Wages for the two kinds of work are the same, prices for the two goods are the same, and each worker consumes 4 units of each good. The **opportunity cost** for worker **L** of making one **h** unit is two **l** units (because if **L** chose to make only **h**, the opportunity cost of 4**h** is 8**l**).

Now consider a second country: people in country two also like consuming equal amounts of the two goods but they have different productive capabilities (so a different PPF) than in country one. Without trade, workers in country two (denoted **T** workers) produce 2 units of each good, but if all of these **T** workers in country two specialized and shifted to producing only good **l**, the country would produce **12 units** of **l**.

- Country two has a *comparative advantage* in making good **l**
- Worker **L** has a *comparative advantage* over worker **T** in producing good **h**

	First Country	Second Country	
NO TRADE	– H makes 8 h – L makes 8 l – → H, L each consume 4 h, 4 l	– Workers make 2 h, 2 l – → Workers consume 2 h, 2 l	NO TRADE
WITH TRADE	▶ H makes 8 h ▶ L makes 4 h ▶ Trade 3 h for 9 l → 9 h + 9 l total ▶ → H consumes 6 h, 6 l ▲ L consumes 3 h, 3 l ▼ (!)	▶ Workers make 0 h, 12 l ▶ Trade 9 l for 3 h → 3 h + 3 l total ▶ → Workers consume 3 h, 3 l ▲	WITH TRADE

- L consumes **less** with trade, even though overall consumption in L's economy went up (9 h, 9 l with trade vs 8 h, 8 l without trade)
 - Worker L makes less of **h** than worker H does → paid less
 - Price of **h** way up → L can't afford more than 3 h, 3 l

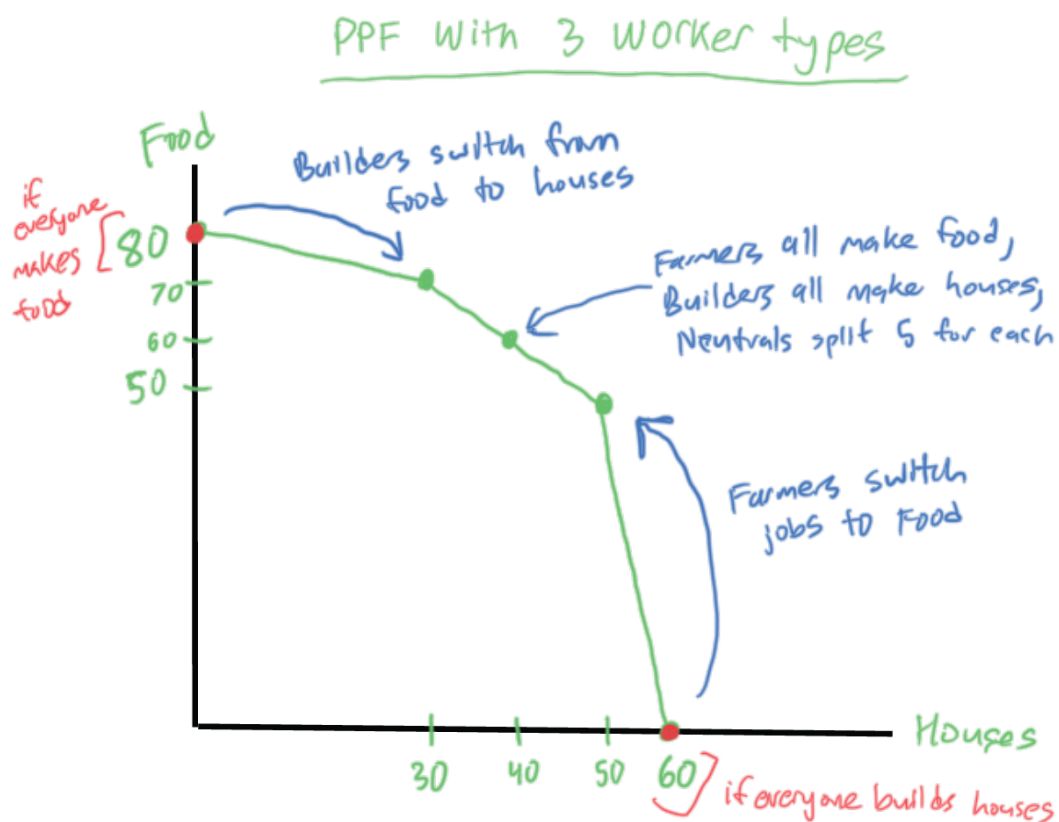
What caused the fall in L's consumption?

- It was the **incorporation of the second country's workers into the integrated economy**
- New workers from second economy were *even more* suited to the kind of work L was naturally better at (second economy's workers had *comparative advantage in l*)

In the integrated economy, L became most valuable doing work at which L was disadvantaged (making **h**) ... so the net effect was negative for L

Production Possibilities Frontier

The Production Possibilities Frontier represents the maximum feasible levels of possible production for a state or country: it is basically a budget constraint for the whole economy. Each point on the PPF is a combination of outputs which uses all of the economy's available resources. Any point inside the PPF represents a feasible combination of outputs which does not utilize all available productive capacity and any point beyond the PPF is not feasible.



- (10) Farmers can make 5 food units or 1 house
- (10) Neutrals can make 2 of either
- (10) Builders can make 1 food unit or 3 houses

In this case, if 2 farmers died, the PPF would contract inwards. Specifically, it would intersect the vertical axis at (0,70) and intersect the horizontal axis at (58,0) ... reflecting the reduced ability to produce goods with only 8 farmers instead of 10.