

Mankiw Macro Chapter III: Interdependence and the Gains from Trade

Introduction (pg 49)

Anybody grow their breakfast? Make the pot it was cooked in? or stove?
Did your parents?

No, we all specialize in something, and trade that for other things.

How markets facilitate that, is later chapters

For now, why specialize?

A Parable for the Modern Economy (comp and abs advantage)

The meat and potatoes economy (a Crusoe Economy)

I will give you a different example.....

Beer and Wine

Beer likes a colder environment, wine a warmer one

England is colder than France, and England can produce

10 beer a month, or 5 wine a month, or in a year.....

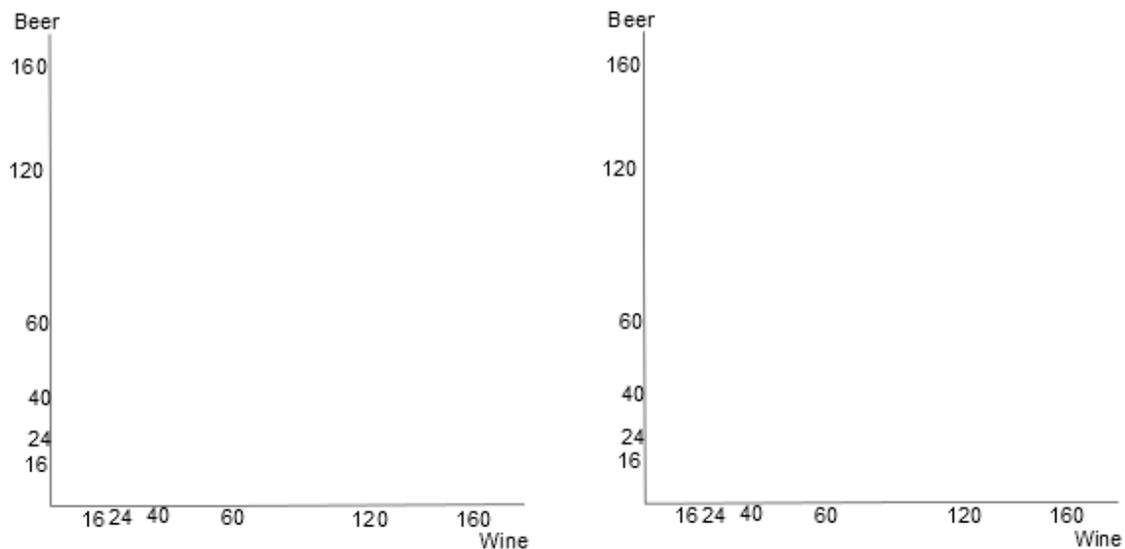
120 Beer, or 60 Wine, or some combination of the two ($2b=1w$)

France is better suited to the production of wine, they can produce

5 Beer in a month, or 10 wine in a month, or in a year

60 Beer, or 120 Wine, or some combination of the two ($1/2b=1w$)

So lets create the PPF (Production Possibilities Frontier for each...



Now, if each chooses to produce an equal amount of Beer and Wine,

each produces 40 beer and 40 wine

England spends $1/3$ of the time making beer ($1/3 * 120$) = 40

And $2/3$ of the time making wine = 40

(4 months of 10 beer a month, plus 8 months of 5 wine a month)

France does the opposite.....

How about introducing trade?

If each of them produce 40 beer, and 40 wine, society has....

A total of 80 beer and 80 wine

But each has an ABSOLUTE advantage in the production of something

England can produce MORE beer a month than France can

France can produce MORE WINE a month than England can

England has an ABSOLUTE advantage in the production of Beer

And France has an ABSOLUTE advantage in the production of Wine

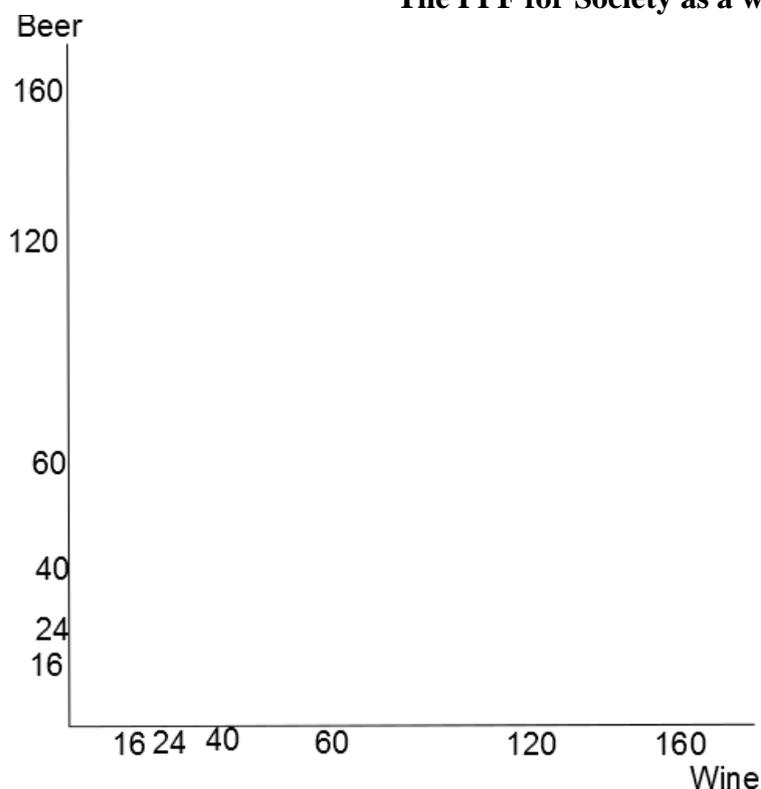
If they both specialized in what they were good at, and traded at 1:1, they would each produce, and each consume, how much?

England would produce

France would produce

**The would exchange Wine for Beer at a 1:1 ratio,
and each would end up consuming.....**

The PPF for Society as a whole....



Additional notes.....

BUT WHAT IF.....

England has poor soil and no sun, so they are not productive in anything?

England is colder than France, and England can produce

4 beer a month, or 2 wine a month, or in a year.....

48 Beer, or 24 Wine, or some combination of the two ($2b=1w$)

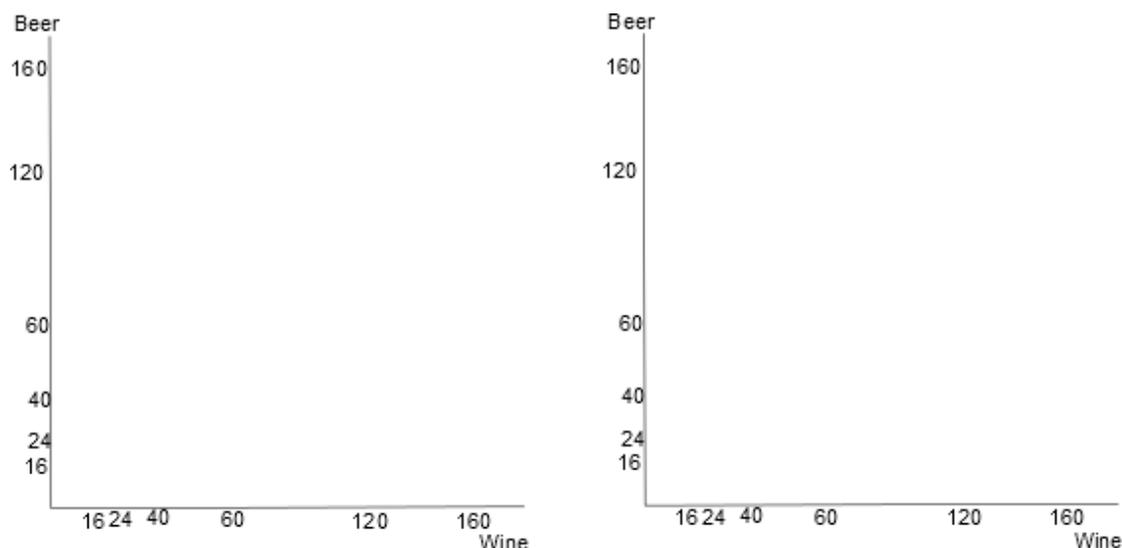
France production is unchanged, they can produce

5 Beer in a month, or 10 wine in a month, or in a year

60 Beer, or 120 Wine, or some combination of the two ($1/2b=1w$)

France has an ABSOLUTE ADVANTAGE in the production of BOTH wine and beer.

Our new PPFs are.....



Can they still gain from trade, when England isn't good at anything (has no absolute advantage?)

First, let's look at home production.

If they still demand equal amounts of Beer and Wine

And produce it themselves, then

England spends $1/3$ of the time making beer ($1/3 * 48$) = 16

And $2/3$ of the time making wine ($2/3 * 24$) = 16

(4 months of 4 beer a month, plus 8 months of 2 wine a month)

France spends $2/3$ of the time making beer ($2/3 * 60$) = 40

And $1/3$ of the time making wine ($1/3 * 120$) = 40

And the world has 56 beer and 56 wine....

Every time England produces Beer, they give up $1/2$ a wine

Every time France produces Beer, they give up 2 wine.

France has an ABSOLUTE advantage in the production of beer AND wine.

But England has a COMPARATIVE advantage in the production of Beer

The opportunity cost of producing Beer is lower for England

SO ENGLAND SHOULD STILL CONCENTRATE ON MAKING BEER

Instead of making 16 beer and 16 wine, England spends all its time making beer. **England makes 48 beer.**

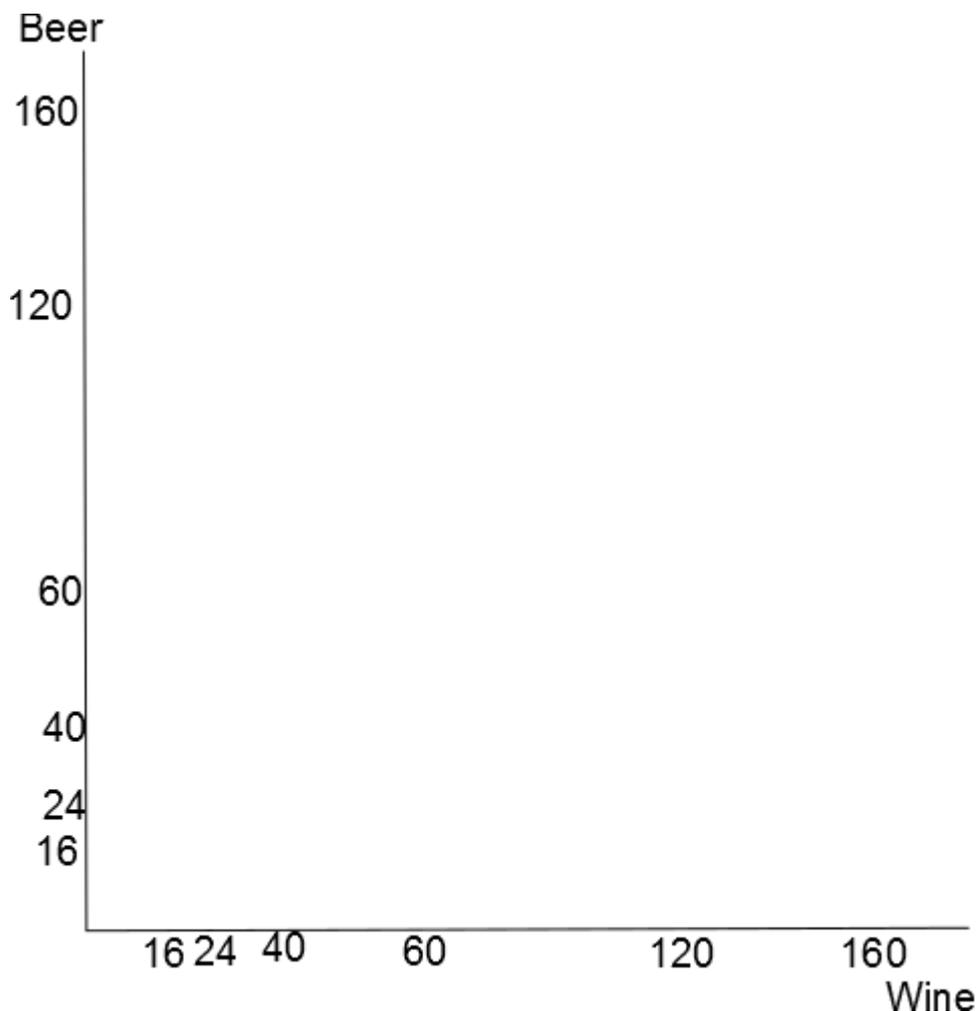
And England is willing to send beer to France. So France makes 24 wine, and exchanges it for English beer at 1:1. **After trade, England has 24 beer, and 24 wine**

If they ONLY made wine, **France would produce 120**. They gave 24 to England, leaving them 96. But they don't want 24 beer and 96 wine, they want the same amount. So they first produce 24 more wine, and **they now have 24 beer and 24 wine** (which cost them 48 wine, $\frac{1}{2}$ to consume themselves, $\frac{1}{2}$ to trade to England). But they can still produce another 72 wine (120-48). They don't want another 72 wine, and they can change 2 wine into a beer. So instead of producing 72 more wine, they produce $\frac{1}{3}$ that amount ($72 * \frac{1}{3} = 24$), and turn the other $\frac{2}{3}$ into beer.

This gives them 24 MORE wine and Beer, on top of the earlier 24

France has 48 wine, and 48 Beer. And England?
England has 16 Wine, and 16 Beer.

Let's make a graph of this.....



Ain't graphs Fun?

The doctrine of comparative advantage applies to many, many things...