

Principle of Economics

Interdependence & the gains from trade

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Last time we talked about the ten basic principles of Economic decision making, and we discussed two basic models of economic markets, the circular flow diagram and the production possibilities frontier.

In chapter 3, we will study an application of production possibilities frontier to trade between individuals in the society.

This discussion can be about trade between two individual people or trade between companies and consumers or trade between different countries.

First of all, we should think that all individuals have two options, they can either be economically self-sufficient, they can produce all the commodities they want to consume themselves or individuals can trade with each other which would allow them to specialize in the production of a subset of the necessary commodities and which would allow people to buy all the other commodities in the market.

For simple example, let's assume that we have two individuals, a farmer and a rancher.

And suppose we have information about their production possibilities.

This is an example from the textbook.

So you can easily follow it in the book.

This is the information that we are given about production possibilities of two individuals we can look either at the left hand side of the table or right hand side.

Both of them give us the same kind of information.

The Left hand side tells us the inputs or the resources necessary for the production of two different commodities at each of the individuals and right hand side gives us the amount of output that can be produced with some particular amounts of input such as 8 hours of production.

And if this rate of ...if these inputs are constant, here you should start thinking that

we did this available information.

We can draw two individual's production possibilities frontiers, okay? For a farmer we would draw this production possibilities frontier.

Notice that because the input necessary to produce each unit of the output our constant.

This production possibilities frontier will be a straight line and because a farmer can produce a lot of potatoes for given amount of the time but only a little bit of meat.

This production possibilities frontier is a fairly flat.

Now, remember that production possibility frontier only tells us that what can be produced or what can be consumed.

It doesn't tell us anything about the consumer's preferences and without information about what a farmer likes to consume.

We wouldn't know where on this production possibility frontier farmer will want to locate.

So, suppose that farmer likes to consume both meat and potatoes.

Suppose that the farmer want to be in the middle of this graph.

And If so, if the farmer is self-sufficient we would say that farmer would choose a point like point A on his production possibilities frontier, okay? Similarly, for the rancher, we can summarize the information about his production possibility using the frontier and once again the rancher is able to produce more potatoes and then meat.

So again the production possibility frontier is a fairly flat.

It's a straight line because the amount of inputs necessary for each unit of output is constant.

And if the rancher also likes to consume both meat and potatoes, he will locate somewhere in the middle of his production possibility frontier such as at the point of B.

Now, notice that the farmer's production possibilities frontier was a flatter.

That implies that the rate of trade-off between the production of potatoes and the production of meat is different for rancher than for the farmer because the farmer's production possibilities frontier was a flatter.

That implies that if farmer trade it off a production of meat for production of potatoes.

Here's a farmer was available to produce more potatoes for particular amount of

meat given up.

Who has a rancher would have to give up more units of meat to obtain similar level of potatoes.

In the language, of the... this chapter, we will say that the farmer has comparative advantage in the production of potatoes and the rancher has comparative advantage in the production of meat, right? And the basic idea is that the slope of the production possibilities frontier determines the comparative advantage that individuals have in the production of each commodity.

Another thing we can notice is that the rancher's production possibilities frontier is higher up than farmer's production possibilities frontier.

And that means that the rancher has an absolute advantage in the production of both commodities and farmer...we can say ..has comparative ...has an absolute disadvantage in the production of both commodities with if both individuals have the same amount of absolute resources time rancher could produce more of both commodities.

Now, is there any space for trade between these two individuals?

Here...the basic difference between farmer and rancher that will allow them to trade is that production possibilities frontiers have the different slope.

Geometrically you could think that if farmers.... let me draw the farmers.....production possibilities frontier and you may think that if the farmer moves to the right on his production possibilities frontier and if the rancher moves to the left on his production possibilities frontier, maybe the two individuals could increase their joint production of both goods because if the farmer moves in this direction, he is increasing the amount of potatoes and he's not giving up as much a meat and similarly if the rancher is moving to the left on his production possibilities frontier, he is increasing much..a..his production of meat much more and he doesn't give up the production of potatoes, significantly.

So the joint production of the two individuals could increase if two individuals coordinated, if farmer agreed to produce more potatoes and less meat than his consumption choice and if the rancher produces more meat and less potatoes than his consumption choice.

The extra amount of potatoes and meat produce would be traded off between two individuals.

And as a result of this trade, both individuals could move to..a..consumption point which is a strictly above their production possibilities frontier, right? So, I want you to think that there is nothing tricky, there is no magic in this discussion, there is a simple principle from geometry that if one individual has a flatter production possibilities frontier than another individual.

The aggregate output could be increased if the individual with flatter rate, flatter possibilities frontier, moves to the right and the other individual moves to the left on his production possibilities frontier.

Finally, after this, a simple model of trade between two individuals..

I want you to think of extension how would the discussion change if production possibilities frontier is where convex or concave if both trading partners have same slope of production possibilities frontier how the discussion would change if the both consumers have specific kind of preferences for consumption such as both are vegetarian or one person only wants to consume meat, one person wants to consume potatoes.

In general, we will say that as long as production possibilities frontiers have the different slope, there is some space for trade....

Each individual has a comparative advantage in the production of one of the commodities.

And... the individuals can improve on their aggregate output through trade.

That works even with convex and concave production possibilities frontiers you should think that with convex PPFs this...a... fact is magnified.

The more a person's specializes the lower opportunity cost of producing that commodity becomes and the more benefit of specialization.

In the next chapter, we will introduce a new model of economic markets.

We will study the supply and demand diagram.

But we will come back to studying production possibilities frontiers.

Later, in the semester, specially, when we get to the macro-economic part.