ECO111 : Lecture 22

26 September 2024

SCENARIO C: Private Property and Rule of Law

- Private property is the right of an individual or entity to exclude others from using or benefiting the property, and to exchange it with others.
- Bruno has the property right to land, and Angela has the property right to her labor.
- Angela can choose to accept or reject the offer regarding harvest sharing.

Reservation Indifference Curve

Scenario C

- Bruno makes a take - it - or - leave - it offer.
- Bruno reasons out that Angela will take any offer that is better than not working at all and sustaining on minimum rations from, say, the government.
- **Reservation Indifference Curve** represents all the allocations that have the same value as the reservation option.
- If Angela rejects Bruno's offer, her reservation option is to not work and get only sustenance rations from the government.

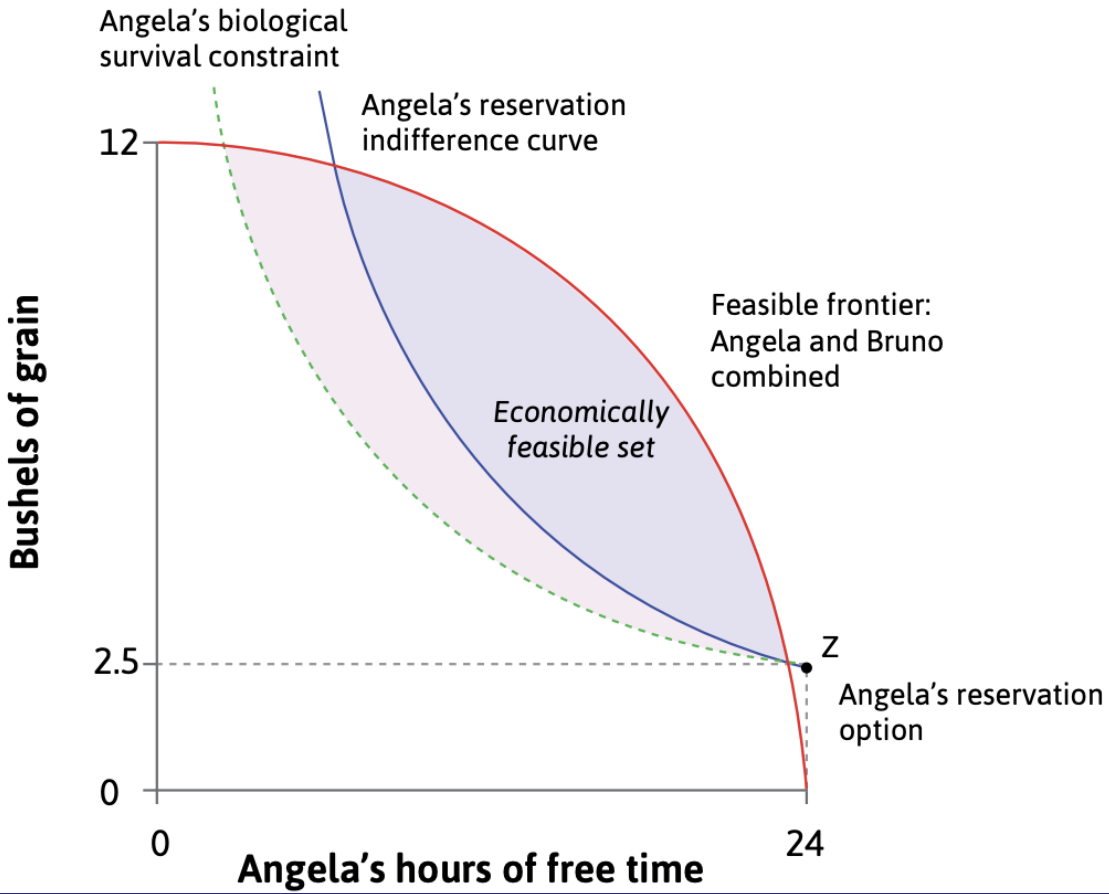
Reservation IC & Survival Constraint

Scenario C

- At all points on the survival constraint, Angela is close to starvation or has the bare minimum to survive.
- So, the reservation IC is above the survival constraint except at the point Z, where she does no work and has minimum sustenance from the government.
- The reservation IC is above the survival constraint because being close to starvation and not working is preferable to Angela than being close to starvation and working.
- The points on her reservation IC are combinations of leisure and grain that give equal utility to Angela as doing no work and receiving 2.5 bushels of grain, as shown in the figure in the next slide.

Contd...

Scenario C



Economically Feasible Set

Scenario C

- The points in the area bounded by the reservation IC and the feasible frontier defines the set of all economically feasible allocations.
- Both parties gain if a deal is made. Angela can be above the sustenance point Z without any work and Bruno can receive some grain.
- There is a potential for mutual exchange under these circumstances.

Economic Rent, Joint Surplus, & Pareto Improvement

Scenario C

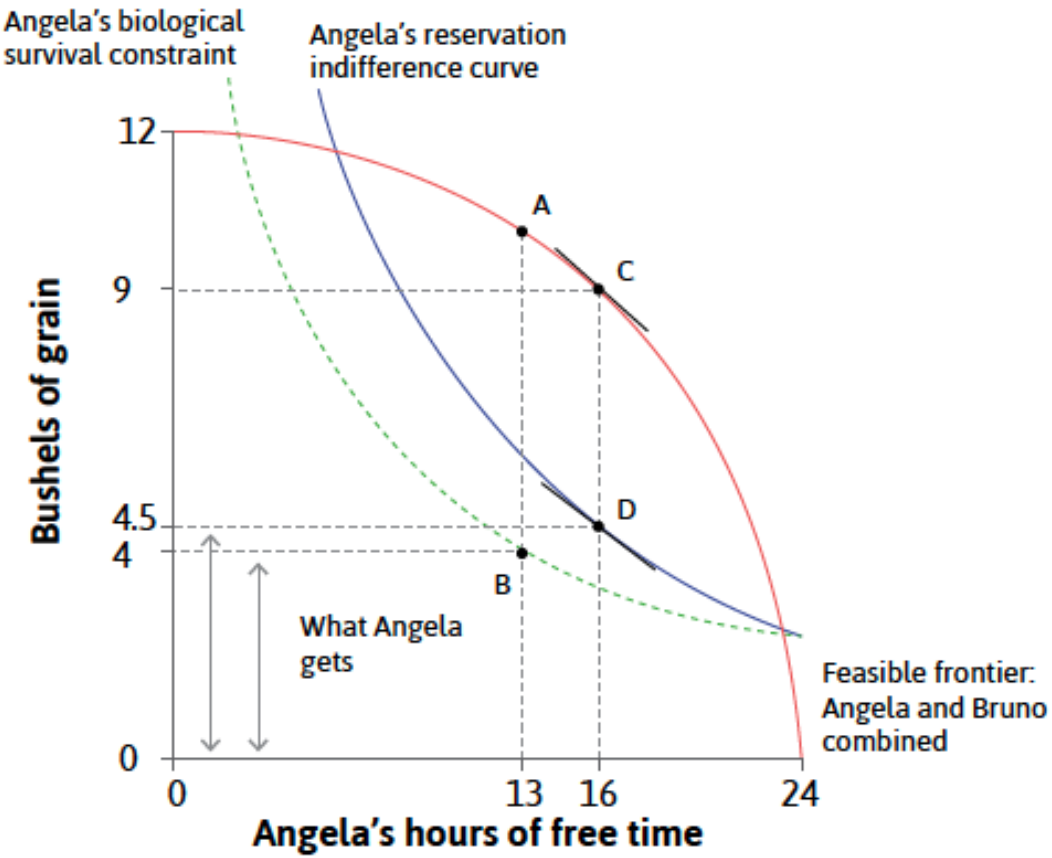
- **Economic rent** is a payment or other benefit received above and beyond what the individual would have received in their reservation option.
- Economic rents are sometimes also called **gains from exchange** because it is the payment received when an individual engages in exchange as opposed to not engaging in exchange.
- **Joint surplus** is the sum of the economic rents of the participants of the interaction or exchange.
- The economically feasible set describes all the allocations that lead to mutual gain.
- Every point in the economically feasible set Pareto Dominates the situation where there is no exchange.
- Thus, the allocation within the economically feasible set is a **Pareto Improvement** than the situation where no exchange takes place.
- Not all parties benefit equally, the benefit depends on the institutions in place.

Contd...

Scenario C

- Mutual exchange here does not necessarily mean both parties benefit equally.
- If the institution in effect gives Bruno the power to make a take-it-or-leave-it offer, then Bruno has to offer only a small amount greater than the survival constraint.
- In fact, Bruno makes the offer at the point where the MRT of the feasible frontier equals the MRS of the reservation IC.
- This allocation requires Angela to work fewer hours than she did under coercion.

Take-it-or-leave-it proposal when Angela can reject



Contd...

Scenario C

- Suppose Bruno would like Angela to work for 8 hours and pay him 4.5 bushels of grain. How can this allocation be implemented?
- Make a take-it-or-leave-it offer as a contract.
- If she has to pay Bruno 4.5 bushels of grain she will produce at point C, where she works for 8 hours a day.
- Suppose she produced at any other point on the feasibility frontier and still gave Bruno 4.5 bushels of grain, she would be below her reservation IC and hence have lower utility.
- She can receive her reservation utility by working 8 hours and hence will accept the the contract.

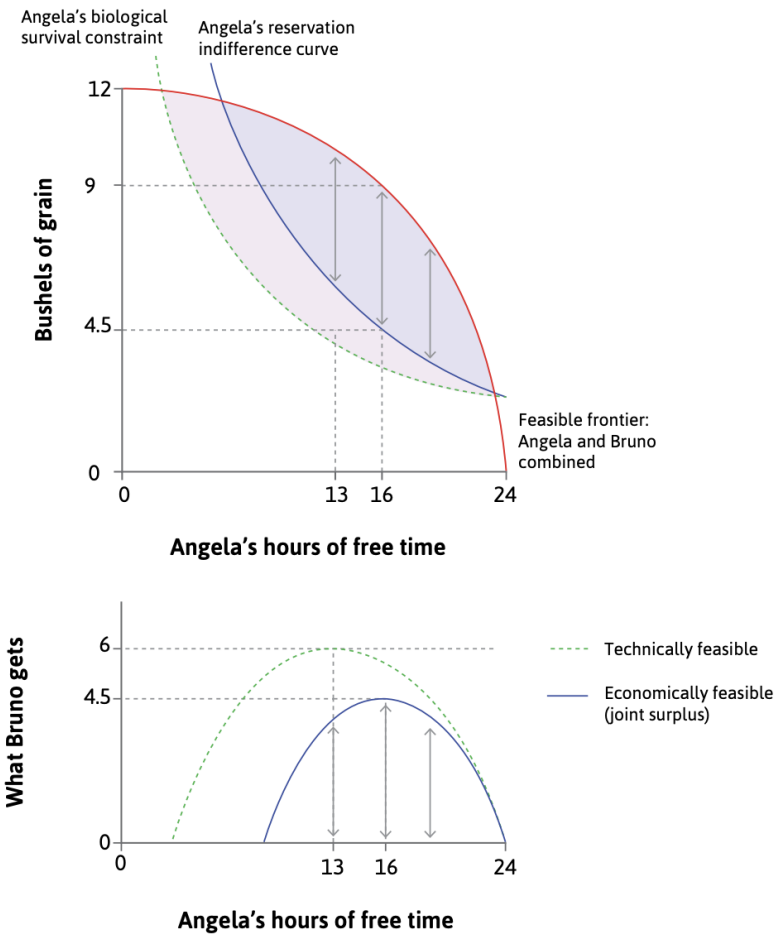
Joint Surplus Distribution

Scenario C

- Since Angela is on her reservation IC, only Bruno benefits from this exchange. On the reservation IC, Angela earns the same utility as her reservation option (i.e, not working and having survival minimum consumption.)
- All the joint surplus goes to Bruno.
- Bruno's economic rent constitutes the whole surplus.
- In the Robinson Crusoe model as well, Angela chose to produce at point C because she chooses her hours of work to maximize her utility which happens when MRT = MRS of her indifference curve.
- We assumed that for a given amount of leisure, her utility curves are a parallel shift as the amount of grains consumed changes. And it is independent of the crop share allocation between Bruno and Angela.

Contd...

Scenario C



Contd...

Scenario C

- The figure shows the number of hours Bruno would want Angela to work in order to get maximum surplus.
- It is lesser than the maximum surplus or grain share he could have got under coercion.
- Therefore surplus falls as Angela works more or less than 8 hours a day.
- Although Bruno cannot coerce Angela, he can still get the whole of the joint surplus.

Efficiency and Conflicts over the Distribution of Surplus

Scenario C

- Under the circumstances when Angela had to pay a share of the output to Bruno and when she did not have to pay a share, she chose to produce 9 bushels of grain and work for 8 hours.
- In both situations, the joint surplus is 4.5 bushels of grain.
- When Angela does not share any output the joint surplus = Angela's surplus. Her reservation option is not to get into an agreement with Bruno, which means 4.5 bushels of grain and 8 hours of work, leaving her with 4.5 units surplus.
- When Angela shares 4.5 bushels of grain with Bruno, the joint surplus = Bruno's surplus.
- The two cases differ in who gets the surplus

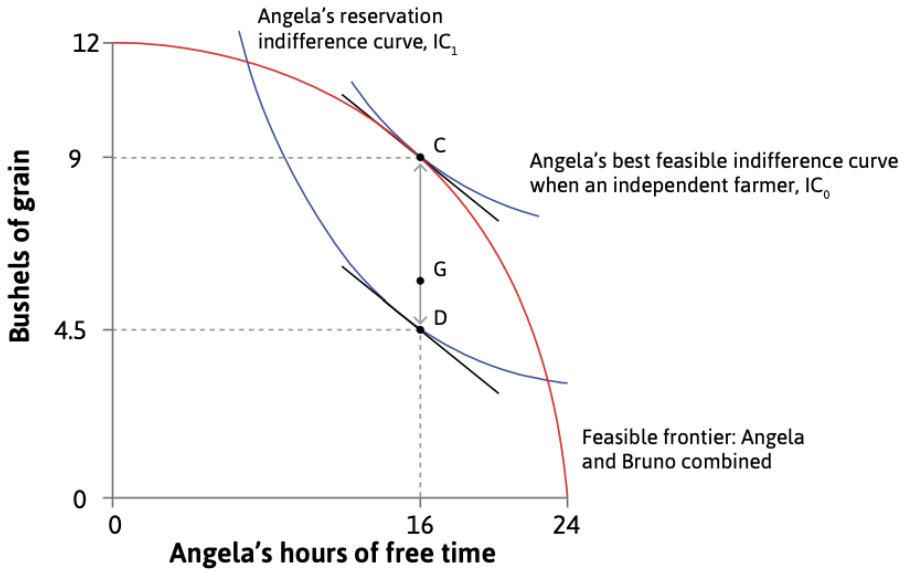
Contd...

Scenario C

- Both the allocations follow two properties :
  - All the grain produced is consumed.
  - MRT = MRS; The marginal rate of transformation of the feasibility frontier is equal to the marginal rate of substitution of the reservation indifference curve.
- This implies the allocations are Pareto efficient. Why?
- When Angela increases her consumption, Bruno has to decrease his consumption. On the other hand, if some grain was unconsumed in any allocation, both Bruno and Angela can be made better off and hence have a Pareto Improvement.
- When MRT = MRS, any change in the amount of grain produced would be the same as that is needed to keep her utility constant, given the change in hours of work.
- If MRT > MRS, Angela could transform the hours into greater amount of grains than is required to keep her utility constant. This can help increase the consumption of grains for both Angela and Bruno leading to a Pareto Improvement.
- IF MRT < MRS, Angela's reduction in production for an additional unit of leisure is less than her consumption to keep utility constant. Thus the leftover production can be shared with Bruno and there is a Pareto Improvement.

Pareto Efficiency Curve

Scenario C



Contd...

Scenario C

- We can see that there are many Pareto efficient allocations from the figure.
- Point C where Angela does not share her output is Pareto efficient.
- Point D where Bruno gets 4.5 bushels of grain and the whole of the joint surplus is Pareto efficient.
- In fact any point along the line CD in the feasible set has MRS = MRT, and thus are Pareto efficient.
- CD is called the Pareto Efficiency Curve or the Contract Curve, as it is along which Angela and Bruno gets into a contract.
- In the different allocations along CD, the joint surplus = 4.5 units of bushels, only the share of the surplus changes.
- At C joint surplus = surplus of Angela.
- At D joint surplus = surplus of Bruno.