ECO111 Notes — Unit 5

Himanshu Sharma

Oct 28 , 2024

Contents

1 Impacts of Technological Improvement

- Shifting of Production Function upwards

- Increasing of Feasible Frontier

- Technological progress increases the number of sets of consumption bundles feasible to him and hence improves the standard of living.

- Increase in Marginal Product of Labor

1.1 Substitution Effect and Income Effect

- **Substitution Effect:** Greater Incentive to work, as output per hour (opportunity cost) increases.

- **Income Effect:** Person can increase leisure, as for the same output, he can get more leisure.

- **Normal Goods:** Goods for which consumption increases as income increases, holding prices constant. There is *positive income effect.*

- **Inferior Goods:** Goods whose consumption decreases when income increases, holding prices constant. *The income effect is negative.*

- Prior to 1870s, increase in wage lead to increase in working hours. Here, **Substitution Effect > Income Effect**.

- In 20th cen, increase in wage lead to decrease in working hourse. Hence **Substitution Effect < Income Effect**.

- People work long hours to use the income for social status by consuming luxury goods. People who are satisfied by the luxuries they have prefer increasing leisure, hence Income Effect dominates. Those who are not satisfied by their living standards try to maximize their income, hence substitution effect dominates

- **Conspicuous consumption:** The consumption of goods and services to publicly display one's social and economic status

2 Work and Well being as a Social Dilemma

- **Conspicuous consumption:** The consumption of goods and services to publicly display one's social and economic status

- **Positional goods :** A good, which if enjoyed by one member of a community is experienced negatively by others. The more one person benefits from this good, the more others are harmed.

- Positional Goods lead to Social Dilemma (Payoff Matrix similar to prisoners dilemma)

- **Veblen Effect :** A negative external effect that arises from the consumption of a positional good. This might be the high cost of the good.

- Policy maker could avoid this social dilemma by heavily taxing Positional goods.

- **Easterlin Paradox:** The situation in which nations get richer but their citizens' become no happier - due to either effects of income relativities or of habituation or adaptation.

- **NOTE:** Whernever there is a increase in wage, there is also an alteration in consumer preferences.

3 Institutions and their Impacts

Institutions are the set of written and unwritten rules by which people interact.Institutions exist to curtail this bargaining power from being exploited.

3.1 Biological Constraints and Technically Feasible Set

- The biological constraint shows the minimum amount of food grain required to work for a particular number of hours.

- Below the constraint it is infeasible for a person to survive, so any point below this curve is biologically infeasible for the actor.

- All the possible combinations of Angela's hours of work and the grain she receives within the limitations of the technology (production function) and biology (biological constraint) is the **Technically Feasible set**.
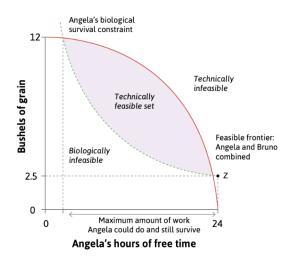
Figure 1: Technically Feasible Set

In a world where institutions are weak and there are no laws to keep a check on bargaining powers of the Landlord, the Landlord will have the capacity to maximize his Economic Rent.
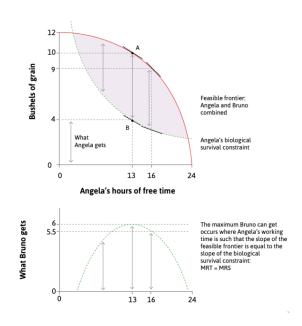

Figure 2: Economic Rent Maximization by Landlord

This will happen when the vertical distance between the two curved in Figure 2 is maximum. This happens at the x when the slopes of both the curves are same.

Hence, Maximum economic rent is received by the Land Lord when **MRS of Worker's survival constraint = MRT of her feasibility frontier.**

3.2 Reservation Indifference Curve and Private Property

- If we introduce the concept of Private Property to land and to labor. Let the institution provide the worker minimum ration.

- **Reservation Indifference Curve** represents all the allocations that have the same value as the reservation option. Reservation Option is the alternative if she does not go for the deal.

3

- 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.

- Utility Maximization for the landlord happens when MRT = MRS of Reservation indifference curve.

- Note that along CD, all points are Pareto Efficient.
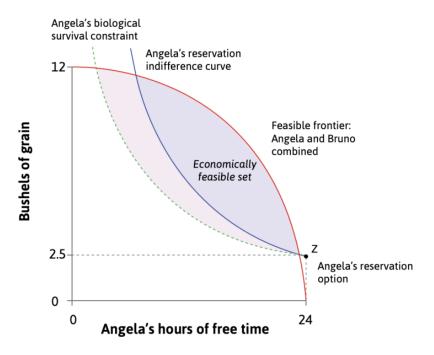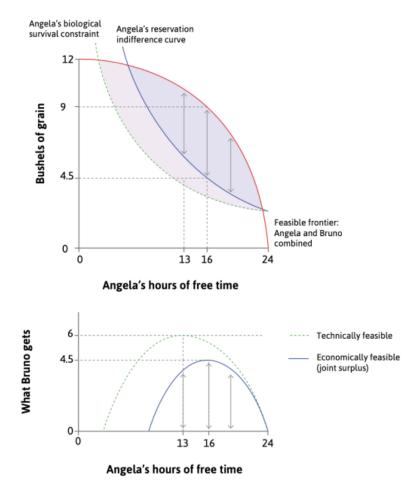

Figure 3: Reservation Indifference Curve

Figure 4: Utility Maximization of Bruno when the Institution imposes some laws like private property
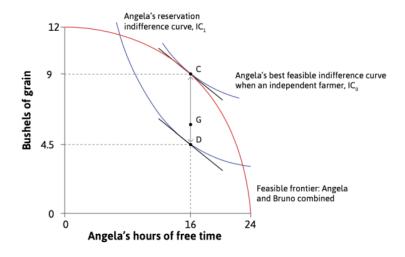

Figure 5: Pareto Efficiency Curve

3.3   Impact of Voting Rights

When workers are provided voting rights, their bargaining power increases as the government requires votes from the workers as well. This increase in bargaining power leads to parallel upward shift of the Indifference Curve.
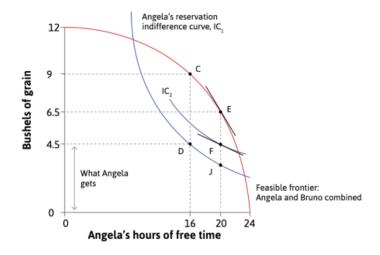

Figure 6: Alteration in Worker's Indifference Curve in provision of Voting Rigths

- Economic rent is what one gets above their reservation option.

- Bruno's reservation option if Angela does not share crops is to get nothing. Hence, whatever he gets in the allocation contract with Angela is his economic rent.

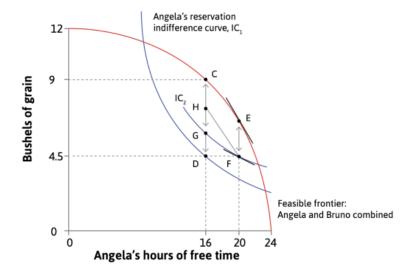- Angela's economic rent is the difference in the bushels of grain received at point J and point F.

Figure 7: Summary

- If the worker owns the land then they Produce at C as at this point, their MRS = MRT

6

- If she does not own the land, but she cultivates on the Landowners land, but some laws like private property exist, she produces at D as here, MRT = MRS of reservation indifference curve

- If the worker is given voting rights and they can bargain for better laws, there is a possibility that they can produce at F (gov places minimum requirement that for 4 hours of work they must be paid equivalent to 4.5 Bushels of grain).

- But this is not the best possible production point for the worker as they can work for 4 more hours and receive more bushels of grain by producing at H. Producing between C and H is not viable as the land lord will not agree to the deal. Anything between H and G is a win win as the worker is getting greater or equal utility as compared to point F and the land owner gets more than or equal to the economic rent he got at F (ie EF)

- Note that we are still on the Pareto Efficiency Curve (CD) in order to maximize efficiency.

4   Measuring Economic Inequality

Inequalities arise from:

- **Bargaining Power**

- **Endowments:** What the actors owned before the social interactions

4.1   Gini Coefficient

measure of inequality of any quantity (income, wealth, property, etc.,) varying between 0 (no inequality) to 1 (totally unequal - a single person receiving all the quantity).

$$GiniCoefficient = \frac{1}{2}\left(\frac{Average\ Differences\ Of\ Incomes}{Average\ Of\ Incomes}\right)$$

4.2   Lorentz Curve

- A graphical representation of inequality of wealth, income, etc., Arrange individuals in ascending order of their income.

- Plot the cumulative share of the income against the cumulative share of the population.

- Lorentz curve is always non-decreasing

- For complete equality the Lorenz curve would be a straight line with slope 1.

- The degree by the Lorenz curve falls short of this perfectly equal cure is a measure of inequality.
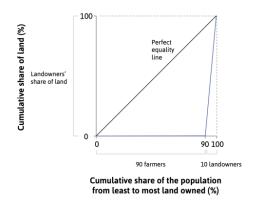
Figure 8: Lorentz Curve and Gini Coefficient

$$GiniCoefficient = \frac{Area\ Between\ the\ Lorenz\ curve\ and\ 45\ line}{Area\ under\ 45\ line}$$