ECO111 : Lecture 20

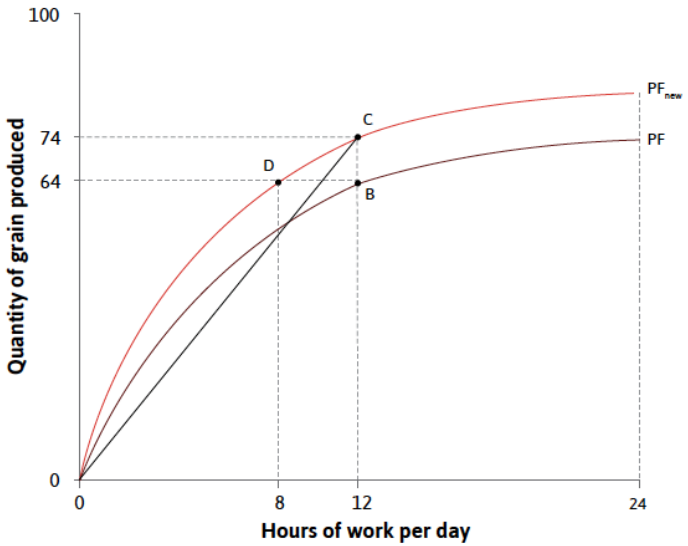
13 September 2024

Hours of Work and Economic Progress

- Consider a subsistence farmer, Raju who chooses how many hours to work on his farm.
- Raju produces grains that he eats and does not sell any grains in the market.
- His producing more and more grains is constrained by the number of hours that is available to Raju to work. He gets utility from both leisure and consuming grain.
- The opportunity cost of producing more grain is the free time Raju would have got.
- Raju has to maximize utility from consumption of grains and free time.

Technological Progress and Average Product

- **Technological progress** is the change in technology that reduces the amount of inputs, required to produce a given amount of the output.
- The initial production function is depicted by PF and the increase in technological progress is shown by PF_{new}, which is steeper than the initial production function.



Feasible Frontier and Feasible Set

- In the production function it is clear that the $AP_{new} > AP$
- The original technology is represented by FF and the new technology is FF_{new}
- The feasible frontier shows how much grain can be produced for each possible amount of free time.
- The slope of the frontier represents the MRT (the marginal rate at which free time can be transformed into grain), or think of it as the opportunity cost of free time.
- Thus technological progress expands the feasible set, giving Raju a wider chance of combincations of grain and free time.

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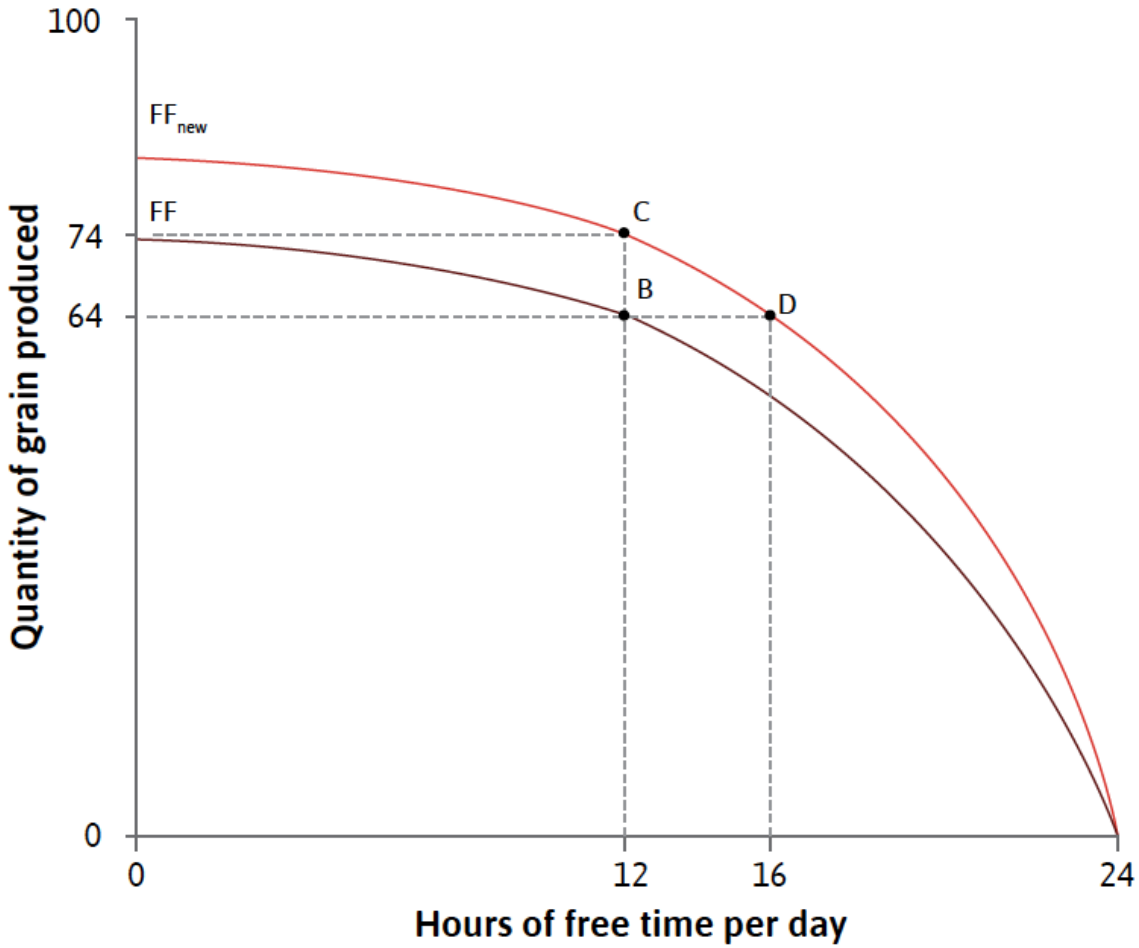
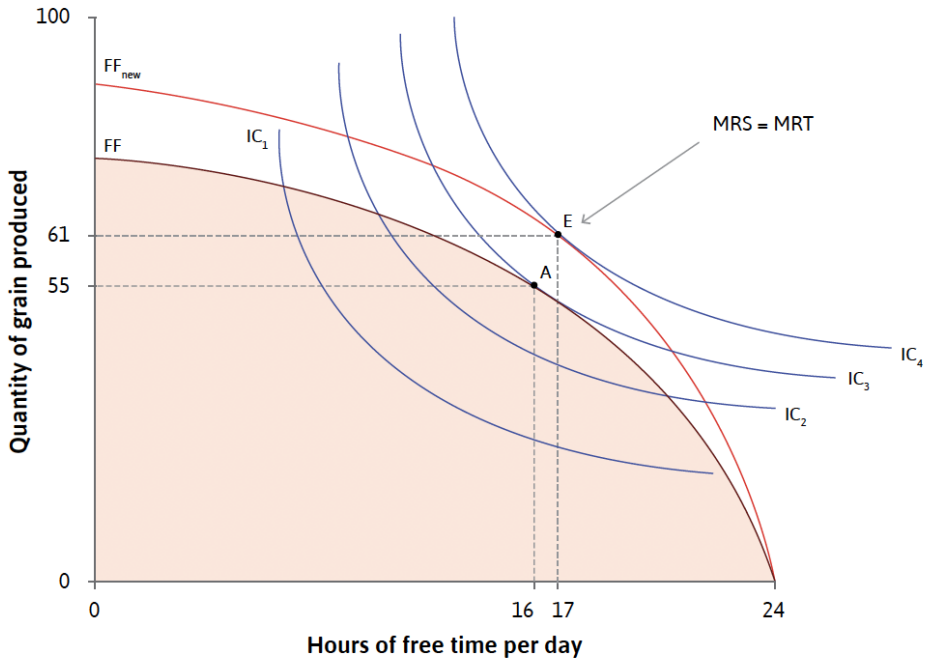

100
74
64
0
FF$_{new}$
FF
C
B
D
Quantity of grain produced
0
12
16
24
Hours of free time per day

The Two Trade-Offs

- In order to find which combination in the feasible set gives the highest utility for Raju, MRS = MRT at the point of tangency.
- Technological progress increases the number of sets of consumption bundles feasible to him and hence improves the standard of living.



Income Effect and Substitution Effect

- The technological progress while making the production function steeper, increased the MP_L.
- The opportunity cost of free time or leisure is higher now.
- There are two effects of this.
  1. Substitution effect : an increase in opportunity cost of free time could give Raju a higher incentive to work and produce more grains.
  2. Income effect : as the amount of grains he can produce per unit of hours he work has increased, he could take more rest still consuming the same amount of grains. So, Raju can increase leisure.

Income & Substitution Effect, Normal & Inferior Goods

- Suppose in an economy, given all prices remain constant, there is an increase in hourly wage rate. There are two opposing effects that could ensue.
- Income effect : the higher income from every hour of work will make workers better off, as they can have more leisure hours and more consumption.
- Substitution effect : The increase in wage has increased the incentive to work. This reduces the leisure time as workers *substitute* away from free time to higher-paying jobs.
- Normal goods : goods for which consumption increases as income increases, holding prices constant. There is a positive income effect.
- **Inferior good** : goods whose consumption decreases when income increases, holding prices constant. The income effect is negative.

Economic Growth & Technological Progress Over the Years

- Prior to 1870s when wages increased due to technological progress, working hours increased.

  Starting with relatively low levels of consumption. Here the substitution effect ¿ income effect.

  Resulted in increased working hours.
- In the 20^{th} century wages rose again but working hours fell.

  Income effect ¿ Substitution effect, because by 20^{th} century workers had a higher level of consumption.
- What can we say about the future?
- Difference between high-income economies and middle & low-income economies.

Work and Wellbeing as a Social Dilemma

- People work long hours to use the income for social status by consuming luxury goods.
- **Conspicuous consumption** : The consumption of goods and services to publicly display one's social and economic status *('keeping up with the Joneses')*.
- **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.
- How does positional goods lead to a social dilemma?

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- Consider two families, the Joneses and the Smiths living nearby. They both have limited incomes. They are faced with a choice of buying a luxury car or a modest car. Their payoffs are represented in the matrix below

		Joneses	
		Modest	Luxury
Smiths	Modest	2,2	0.5,2
	Luxury	2.5,0.5	1,1

Contd...

- This is similar to the Prisoner's Dilemma game we have seen earlier.
- For both couples choosing to buy a Luxury Car is the dominant strategy.
- This social dilemma arises out of the externality/ external effect caused by positional goods.
- When an individual's action confers a benefit or cost on some other individual (either positive or negative), which is not taken into account by the decision maker while they make their decision.
- The 'keeping up with the Joneses' problem arise because people care not only about what they have, but also about what they have *relative to* what other people have.
- **Veblen Effect** : A negative external effect that arises from the consumption of a positional good

Positional goods, Inequality, and Changing Preferences

- People work longer hours in countries that have higher inequality.
- Richer nations does not necessarily mean happier citizens.
- **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.
- A point to remember when interpreting effects of the change in wages or working hours - we need to also consider if there has been any change in the consumers' preferences.