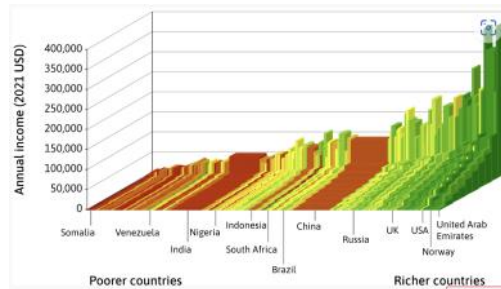


26 Eylül 2024 Perşembe 12:47

- Global Impacts- Climate change
- Local Impacts- Mainly pollution

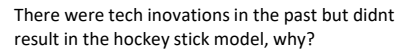
Ibni Batuta was traveling middle east and asia at the time when europe was dealing with bubonic plague

GDP is a measure of how much is produced in a particular country in a year.



Income Distribution (2020)

- In time we get richer but distribution gets worse and worse





- Slope means average product of labor

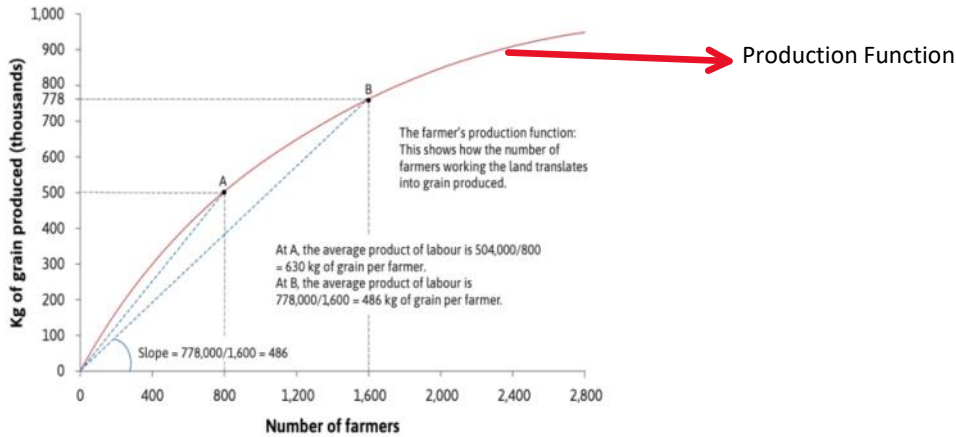
Malthus's Model

1 Ekim 2024 Salı 13:04

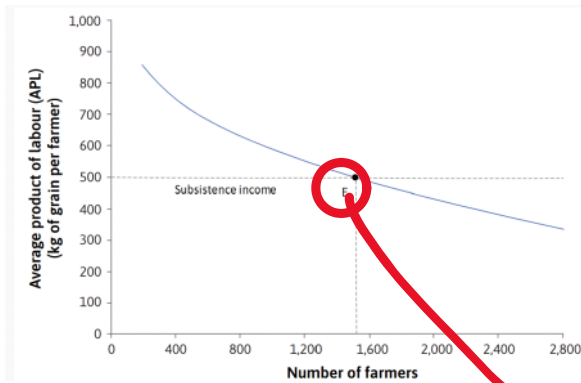
$$\text{average product of labour} = \frac{\text{total output}}{\text{total number of farmers}}$$

Food is produced using only labour and land (agriculture)

Land is fixed, limited



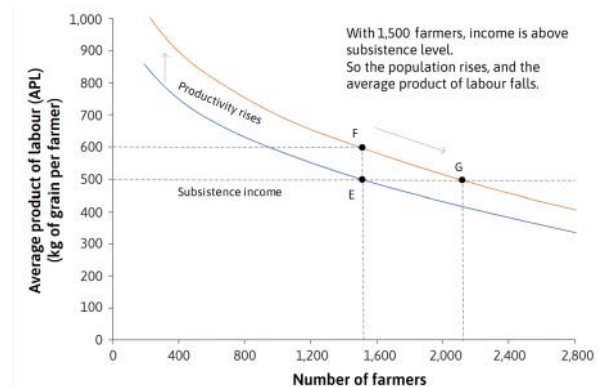
- The Model suggests that When people were wellfed they would multiply. Population expands if living standards increase.
- Further growth in population would push down incomes as a result of diminishing average product of labour.
- This would slow population growth.
- Ultimately incomes would settle at a subsistence level where the population remains constant over time.

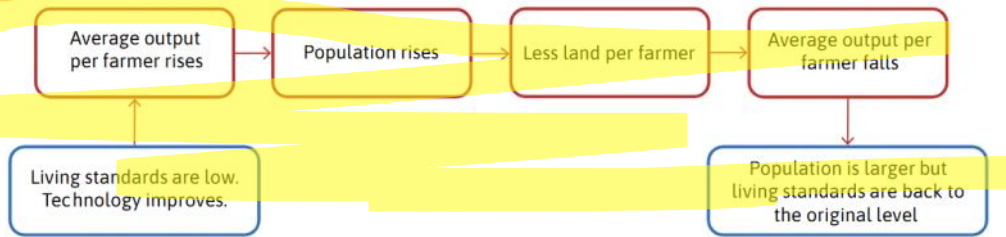


The hunger limit is E

Equilibrium

Technological Improvement

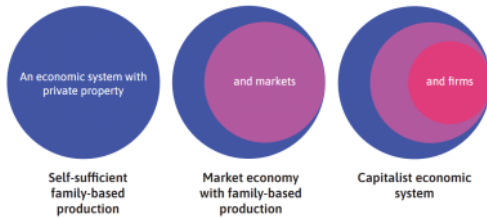




Capitalism

1 Ekim 2024 Salı 13:33

- Capitalism is an economic system where the main institutions are private property, markets, and firms.



★ Capitalism is an economic system that combines centralization with decentralization

What is a private property?

- Ownership rights over possessions
- An important type of private property is capital good= the non labor inputs used in production

No difference between private property as means of production and personal property, which is a big mistake. This understanding of economy puts our personal belongings, that we can not gain profit with, and private property (as means of production) into the same basket.

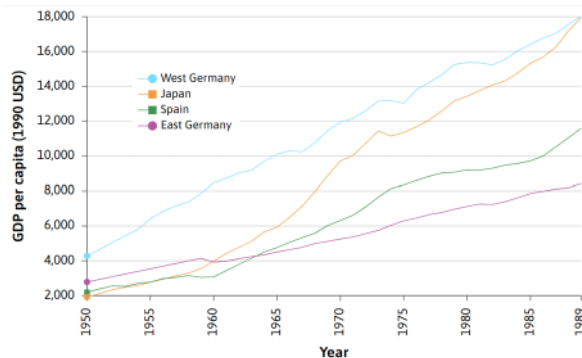
What is a market?

- A way for people to exchange products and services for their mutual benefit. Unlike other types of exchanges markets,
 - Are reciprocated transfers
 - Voluntary
 - Usually there is competition

What is a firm?

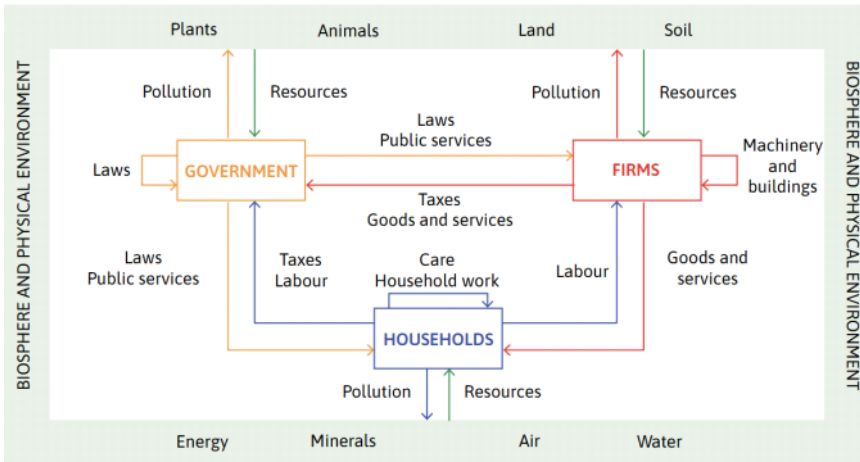
- Business organization that uses inputs to produce outputs, and sets prices to at least cover production costs.
 - Inputs and outputs are private property
 - Firms use markets to sell outputs
 - The aim is usually to make profit

Doing an experiment in economics is not easy, we need natural experiments Such as east-west germany division and the fall of Berlin Wall.



Ironically, the book and the teacher suggest that the only reason for the difference in this example is the capitalism can improve the economy and living standards better. Because the east and west germany have the same cultural aspects there is no other aspect to cause this graph. Not seeing the political reason, reality of a war are not acceptable in my opinion.

To improve economy, capitalism not good enough. We need to fulfill political, economical and educational requirements.



Not that important but to observe

End of Unit

Economic decisions: Opportunity costs, economic rents, and incentives

1 Ekim 2024 Salı 14:23



Specialization: increases productivity of labour

- Learning by doing
- Taking advantage of natural differences in skill
- Economies of scale

$$\begin{aligned}\text{benefit} &= \text{enjoyment of concert} \\ &= \$55\end{aligned}$$

$$\begin{aligned}\text{economic cost} &= \text{cost of ticket} + \text{opportunity cost} \\ &= \$25 + \$22 \\ &= \$47\end{aligned}$$

Opportunity cost: Value of the next best action not taken

Economic cost: direct cost + opportunity cost

Economic rent: net benefit from option taken - opportunity cost

Innovation rent: profits from using new tech - old way



Example:

Lets say your concert ticket costs 25TL while your enjoyment from attending will be 55TL.



Net benefit of concert will be 30 TL

OR

You can babysit for a 40TL which your effort will be 18TL



Net benefit will be 22TL

SO,

Your opportunity cost, if you choose concert, will be the benefit of babysit which is 22TL

Your economic cost will be the cost of ticket and the lost opportunity of money which is $25 + 22 = 47$ TL

ECONOMIC COST



Since the benefit of going to concert is greater than the economic cost, you should go to the concert
This gives us the economic rent

ECONOMIC RENT



$$\begin{aligned}\text{Enjoyment} - \text{cost of ticket} - \text{opportunity cost} \\ 55 - 25 - 22 = 8\end{aligned}$$

Comparative Advantage, Specialization, and Market

3 Ekim 2024 Perşembe

13:03

Absolute advantage: having the advantage of numbers on a production

Comparative advantage: advantage in the production of a particular good, if the opportunity cost of another product is lower

		Self-sufficiency	Complete specialization and trade		
			Production	Trade	Consumption
		1	2	3	4
Greta	Apples	500	0		600
	Wheat	30	50 =	15 +	35
Carlos	Apples	300	1,000 =	600 +	400
	Wheat	14	0		15
Total	Apples	800	1,000	600	1,000
	Wheat	44	50	15	50

- Markets allow people to specialize (?)
- Capitalism enhanced our opportunities for specialization by expanding the role of both markets and firms.

People specialize according to their comparative advantages

In a hypothetical world, there are two countries: Country A and Country B.

Assume that there are only two products produced in these countries: Oil and Corn. The only resource for producing these goods is labor hours.

Country A produces oil with fewer resources while Country B produces corn with fewer resources.

Country	Oil (hours per barrel)	Corn (hours per bushel)
A	1	4
B	2	1

1. Which country has the absolute advantage in production of oil? Which country has the absolute advantage in production of corn? A has an absolute advantage in oil
B has an absolute advantage in Corn

2. Which country has the comparative advantage in production of oil? Which country has the comparative advantage in production of corn? On oil, A has a comparative advantage
On corn, B has a comparative advantage

3. To simplify, assume that Country A and Country B, each have 100 worker hours. Illustrate and explain what each country is capable of producing on its own using what is known as Production Possibility Frontier (PPF) graph for each country.

4. Suppose when no trade occurs each country's production (which is equal to consumption) levels are in the table below:

Country	Oil Production (barrels)	Corn Production (bushels)
A	60	10
B	20	60
Total World Production	80	70

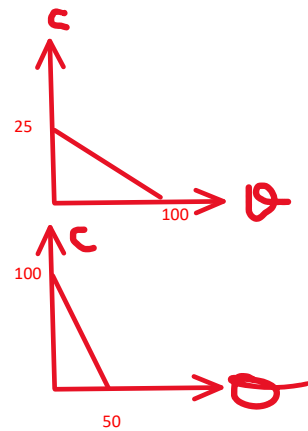
Now suppose that at the market, 1 barrel of oil is exchanged with 1.5 bushels of corn. Show that both countries can consume more than no-trade levels if they completely specialize and trade.

$$A) 1h \rightarrow 1O, 4h \rightarrow 1C$$

$$B) 2h \rightarrow 1O, 1h \rightarrow 1C$$

$$A) 1O + 4C = 100$$

$$B) 2O + 1C = 100$$



	Product	NO Trade	Specialization	Consump.
A	Oil	60	100	76
	Corn	10	-24	36
B	Oil	20	0	24
	Corn	60	-36	64
World	Oil	80	100	100
	Corn	70	30	100

Handwritten notes on the right: 1 oil 1.5, 24 → 36, 100, 200. A red circle highlights the '100' under Corn in the World Specialization column.

Specializing causes more consumption

Industrial Revolution

3 Ekim 2024 Perşembe

13:26

Industrial Revolution: A wave of technological advances starting in Britain in the 18th century, which transformed an agrarian and craft-based economy into a commercial and industrial economy

There are many alternative explanations:

- Europe's scientific revolution and the Enlightenment
- political and cultural characteristics of nations as a whole
- cultural attributes such as hard work and savings
- abundance of coal and access to colonies
- relatively high cost of labour & cheap local sources of energy

Fixed-proportions technology: A technology that requires inputs in fixed proportions to each other. To increase the amount of output, all inputs must be increased by the same percentage so that they remain in the same fixed proportions to each other.

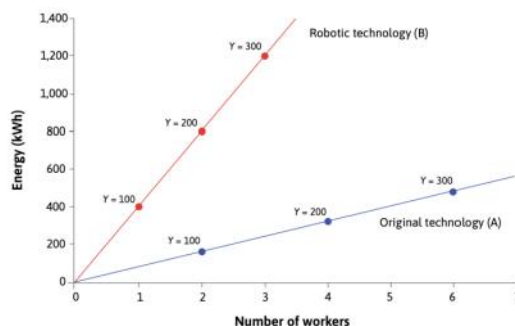


Oran Orantı

Constant returns to scale: When production exhibits constant returns to scale, increasing all of the inputs to a production process by the same proportion increases output by the same proportion.

Apples and bananas

Comparing the two technology



A new robotic technology controlled by one worker and using 400 kWh of energy, can produce 100 litres of olive oil per day.

As before, the technology uses inputs in **fixed proportions** and has **constant returns to scale**. Daily output is proportional to the number of systems installed.

Can we say that the robotic system is better? AP of labour is higher under robotic technology but it uses more energy.

We need to consider the relative cost of two input

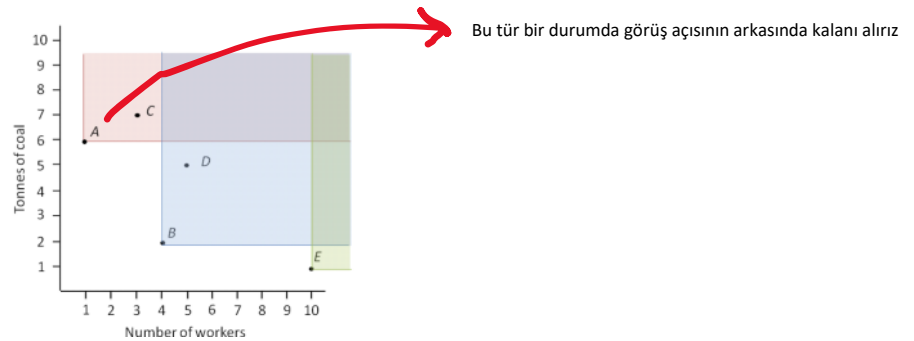
Technology and Cost

8 Ekim 2024 Salı 13:01

***Find the slides**

- Ceteris paribus: simplifications that involves "holding other things (in/outside the model) constant".
- In this model we assume:
 - Prices of all inputs are the same for all firms
 - All firms know the technologies used by other firms
 - Attitudes towards risk are similar among firms owners

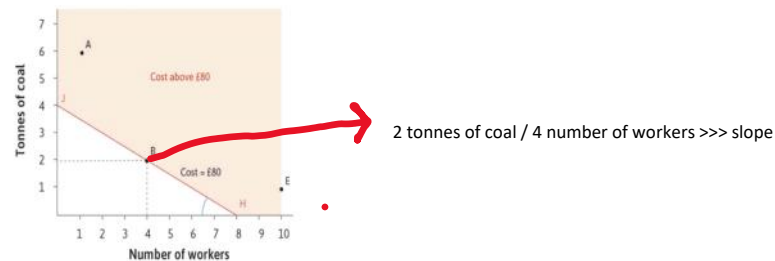
Firm aim to maximize their profit, which means producing cloth at the least possible cost



Cost = (wage x workers) + (price of a tonne of coal x quantity of coal)
 $C = wL + pR$
 Isocost lines = combinations of inputs (L,R), that give the same cost
 (slope = relative price of input)

Iso = equal

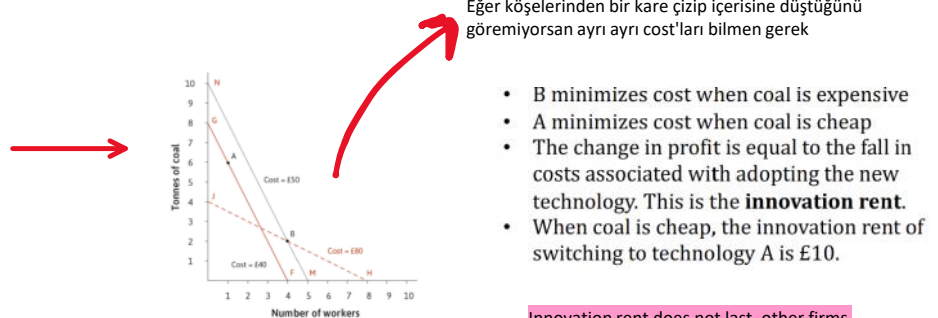
Wage £10, cost of coal £20 per tonne			
Technology	Number of workers	Coal required (tonnes)	Total cost (£)
B	4	2	80
A	1	6	130
E	10	1	120



w/p real cost of worker wage

Technology	Number of workers	Coal required (tonnes)	Total cost (£)
Wage £10, cost of coal £20 per tonne			
B	4	2	80
Wage £10, cost of coal £5 per tonne			
B	4	2	50
A	1	6	40

Number of workers x cost on abscissa
 Tonnes of coal x cost on ordinate



- B minimizes cost when coal is expensive
- A minimizes cost when coal is cheap
- The change in profit is equal to the fall in costs associated with adopting the new technology. This is the **innovation rent**.
- When coal is cheap, the innovation rent of switching to technology A is £10.

Innovation rent does not last, other firms are gonna start using the same tech
 The process will continue till no one earns innovation rent

Escaping Malthusian Trap

If tech improve fast enough it can outpace the population growth that resulted from increased income. This way we can escape the Malthusian trap

A Good Model

- Clear
- Predicts accurately
- Improves communication
- Useful

Creative Destruction (Joseph Schumpeter)
 Entrepreneur is the central actor in the capitalist economy
 Old techs and firms will be swept away if they don't keep up with the new tech

Recap: A model of technological change

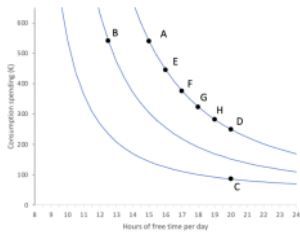
- We used the following key ideas in modelling:
 - **Ceteris paribus**: simplification that involves "holding other things (in/outside the model) constant".
 - **Incentives matter**: economic rewards or punishments influence the benefits and costs of alternative courses of action. Economic agents respond to them.
 - **Relative prices** help us compare alternatives.
 - **Economic rent** is the basis of how people make choices.

How Much to Work?

15 Ekim 2024 Salı 13:03

A model of constrained choice

- Individuals want to consume as much as possible and have as much free time as possible
- Consumption relies on working, sacrificing the free time



Kerim always prefers more free time or a higher consumption

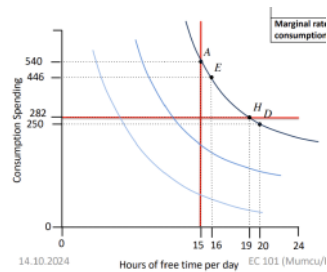
Kerim prefers A over B

Points that provide Karim with the same level of utility (satisfaction) are on the same indifference curve

Indifference curves slope downward because more is better

The absolute value of the Kerim's MRS is how much consumption he is willing to give up for an additional hour of free time. slope of the indifference curve is equal to Ali's **marginal rate of substitution (MRS)**

MRS increases with the consumption
MRS decreases with free time



At A > 94
At H > 32

Slope

MRS getting less and less

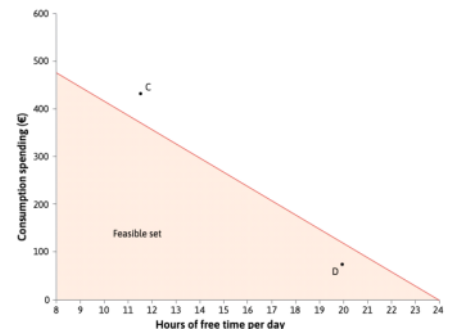
Feasible Set

We know from Karim's preferences that he would like both his consumption spending and his free time to be as high as possible. But not all combinations of consumption and free time are available to him—his choice is limited to what he could achieve by working for a wage of €30. So he faces a dilemma: the more free time he takes, the less consumption he can have. In other words, free time has an **opportunity cost** : to get more free time, Karim has to forgo the opportunity of higher consumption.

The total amount of consumption he can have depends on the number of hours of free time he takes. Remember that if he works for h hours at a wage w , his income is $y = wh$. So if he takes t hours of free time, he will work for $(24-t)$ hour per day, and his maximum level of consumption, c , is then given by:

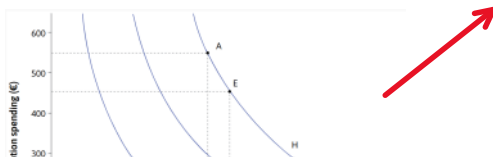
$$c = w(24 - t)$$

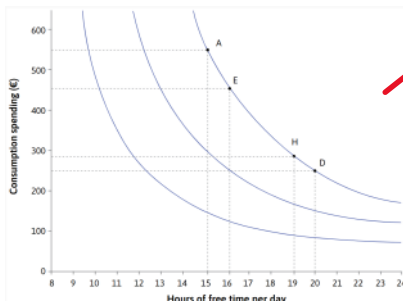
This is **Budget Constraint**



- The shaded area represents Kerim's feasible set.
- The slope of the feasible frontier is the wage rate (opportunity cost of free time) also known as the marginal rate of transformation (MRT)
- The optimal point is where **MRS=MRT**

Income Effect: new and larger feasible set can cause Kerim to take more free time

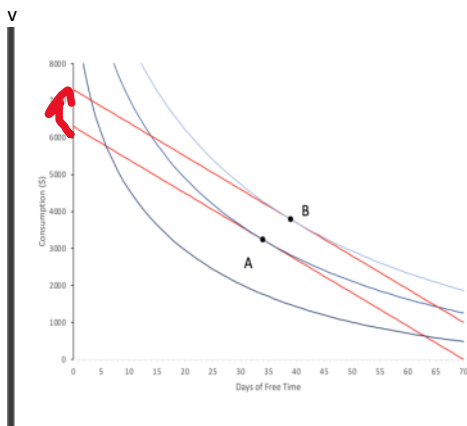




going upward increases our profit



- 70 days
- 1 day of work 90tl
- X days of meeting with friends
- $y = 90(70 - x)$



- Suppose she receives a gift of \$1000
- Her new budget constraint is:
 $c = 90(70 - d) + 1000$
- This gift:
 - shifts out her budget constraint
 - does *not* change her MRT
- The impact of unearned income on work hours is the income effect.
- Here income effect increases consumption less than 1000 and increases free time.

1. Your total earnings increase, holding working hours fixed (**income effect**). You can increase your consumption, so you have higher MRS; you are willing to sacrifice consumption for extra free time. $IE > 0$ (free time is normal good)
2. The budget constraint is steeper. The opportunity cost of free time increases (**substitution effect**). MRT has increased. You have an incentive to work more and decrease your free time. ($SE < 0$)

Is this a good model?

Not realistic: People don't actually do MRS/MRT calculations.

Most people cannot choose their working hours.

BUT still a good approximation: Over time, people learn what combination of working hours and free time suits them best.

Working hours can change due to culture and politics (indirect choice); people can choose which jobs to apply for.

Helps us understand real-world phenomena: preferences and income/substitution effects can explain differences in working hours across countries and over time.

For all countries over 20th century:

- Hourly earning increased
- Work hours fell
- Annual earnings increased

Social Dilemmas and Solving Them

22 Ekim 2024 Salı 13:03

The Tragedy of the Commons



The tragedy of the commons refers to a situation in which individuals with access to a public resource—also called a common—act in their own interest and, in doing so, ultimately deplete the resource.

We all try to maximize our profit

Social dilemmas can be resolved with

- Altruistic behaviour
- Punishment system
- Institutions

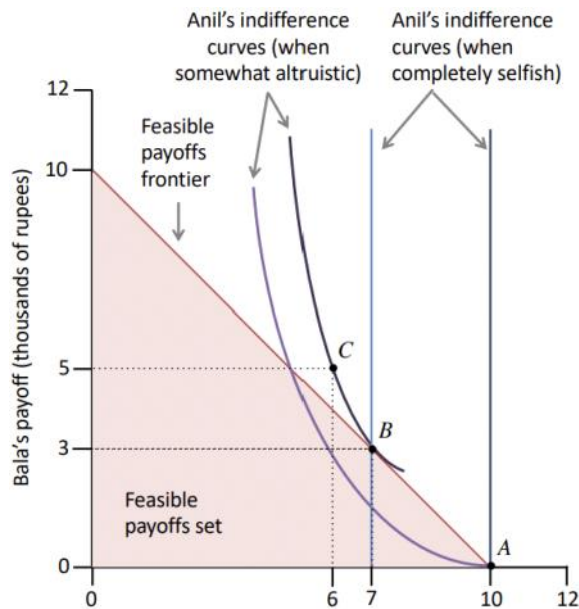
Game Theory

		Bala	
		Rice	Cassava
Anil	Rice	Both produce rice There is a glut of rice (low price) There is a shortage of cassava	No market glut High prices for both crops Bala produces the crop for which his land is unsuited
	Cassava	No market glut High prices for both crops	Both produce cassava There is a glut of cassava (low price) There is a shortage of rice Bala produces the crop for which his land is unsuited

		Bala	
		Rice	Cassava
Anil	Rice	4, 4	3, 6
	Cassava	6, 6	2, 5

- Sometimes self-interested individuals generate good outcomes.
 - Invisible hand (crop choice game)
- Sometimes self-interested individual generate bad outcomes
 - Prisoner's dilemma (pesticide game)
- Social dilemmas can sometimes be resolved by:
 - Social preferences (altruism reciprocity, spite, inequality aversion)
 - Repetition (that harnesses reciprocity)
 - Institutions (that punish bad behavior)

Social Preference: Altruism



If Anil is completely selfish:

- Anil will keep all

If Anil is somewhat altruistic:

- Anil will share some of the prize.
- At point B, Anil's $MRT = MRS$

Elinor Ostrom (1933-2012)

- Ostrom trained as a political scientist but won the Nobel Prize in economics in 2009 “for her analysis of economic governance, especially the commons”.
- She studied how communities can use common resources without falling into Hardin’s tragedy of the commons.
- Ostrom distinguished between:
 - Common-pool resources (rival, non-excludable goods)
 - Common property resources (goods collectively managed by a community)
- Her research addresses how communities (sometimes) succeed in getting individuals to *cooperate*, or participate in a common project that generates mutual benefits (e.g. Fishermen in Alanya)



22.10.2024

EC 101 (Mumcu/Boğaziçi University)

27

The Rules of the Game: Who Gets What and Why

19 Kasım 2024 Salı 13:05

Pirate Institutions

- Institutions are written and unwritten rules that govern how people interact in joint projects.
- Institutions include:
 - Constraints on behavior (no drinking after 8.00 pm)
 - Incentives (best pistols for spotting a ship)

Institutions as rules of the game

- The size of the pie
- Who gets to be the proposer
- What the responder can do
- Who gets what as a result

Power and Distribution of Rents

- Power is ability to do and get the things we want in opposition to the intentions of others.
 - Structural power: it is the person's next best alternative. A person's structural power is limited by the structural power of others.
 - Bargaining power: it may set the terms of exchange or may impose or threaten to impose heavy costs (terminating contracts)
- Institutions determine power
- Power determines how surplus are distributed.
- In capitalism, private property confers power to its owners

The Firm and Its Customers

21 Kasım 2024 Perşembe 13:03

The Firm

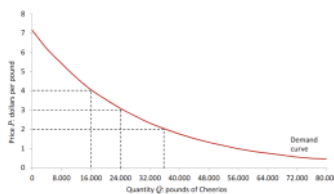
- Main institutions of capitalism
- The world economy is dominated by large firms.
 - In US 52% of private sector employees work for firm with at least 500 employees
 - Consumers spend much of their money purchasing goods from large firms.
- Large firms exist due to economies of scale or increasing returns
- There are variety of strategies to maximize profits:
 - Innovative products or processes
 - Wage settings
 - Advertising and marketing
 - Lobbying
 - Price setting
 - Price setting firms sell differentiated goods, have some market power, can set low and high prices.



Differentiated Product

- Does another firm sell an identical product?
- If your firm raises its price will it still sell some product?

Choosing a Price



Downward sloping demand curves fit the law of demand, the lower the price the higher the quantity demanded

Cost of Production

- Some of these costs are fixed (adv, R&D) some are variable (raw material, labor)
- Fixed costs do not vary with output. Variable costs vary with the output produced.
- Total cost of production is the market value of the inputs a firm uses in production
 - Total Cost = Fixed Cost + Variable Cost
- Explicit costs:** Out of pocket cost, require an outlay of money
 - Paying wages to workers
- Implicit costs:** Do not require a cash outlay
 - The opportunity cost of the owner's time, opportunity cost of capital

These are the opportunity costs of using resources you already own. They represent the income you could have earned if you had used your resources differently

Explicit vs. Implicit Costs: An Example

You need \$100,000 to start your business.

The interest rate is 5%.

Case 1: borrow \$100,000

— explicit cost = \$5000 interest on loan

Case 2: use \$40,000 of your savings,

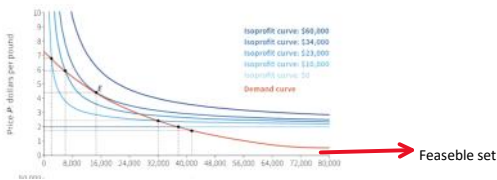
borrow the other \$60,000

— explicit cost = \$3000 (5%) interest on the loan

— implicit cost = \$2000 (5%) *foregone* interest you could have earned on your \$40,000.

In both cases, total (exp + imp) costs are \$5000.

Choosing a Price



- There is a unit cost of 2
- Total revenue: $R = \text{Price} \times \text{Quantity}$
- Total costs: $C(Q) = 2 \times Q$
- Profit: $\text{Profit} = R - C$
 - $\text{Profit} = \text{Price} \times Q - 2Q$
 - $\text{Price} = (\text{Profit}/Q) + 2$

Highest isoprofit curve is the most profitable

- An important reason why a large firm may be more profitable than a small firm is that the large firm produces its output at lower cost per unit
 - Amazon benefits from technological advantages, cost advantages, and network economies.

Technological Advantages of Being Big

- They are large due to economies of scale or increasing returns.
- When all inputs increase by a given proportion, if production
 - increases more (less) than proportionally, then the technology exhibits increasing (decreasing) returns to scale or economies (diseconomies) of scale

given proportion, if production:

- increases more (less) than proportionally, then the technology exhibits increasing (decreasing) returns to scale or economies (diseconomies) of scale.
- increases by the same proportion, then the technology exhibits constant returns to scale.

Technological Disadvantages of Being Big

- Due to the big scale and hierarchy, for a firm to grow it has to employ more worker or else productivity will fall (1 manager 10 supervisor 100 worker)

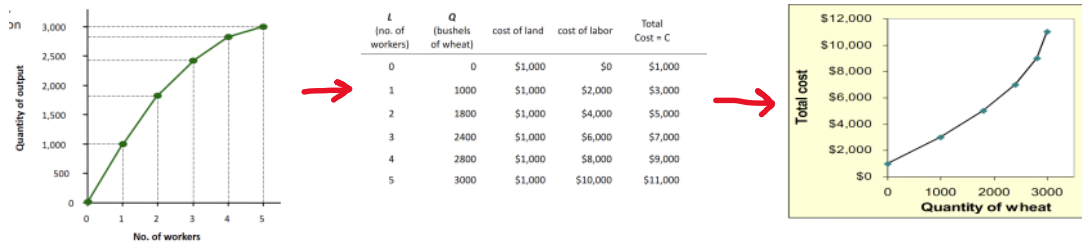
Cost Advantages of Being Big

- They can purchase inputs on more favorable terms, because they have greater bargaining power (toptancular)

Demand Advantages of Being Big: Network Economies

- We use the firms' products cuz other people use these firms products (apple, google, facebook)
- Network economies of scale: An increase in the number of users of a product increases the value of output to each user, because they are connected to each other.

How to Derive Cost Given Technology



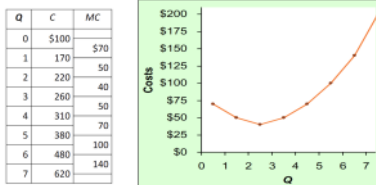
Marginal Cost (MC)

Is the increase in total cost from producing one more unit:

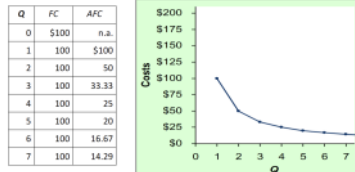
$$MC = \frac{\Delta C}{\Delta Q}$$



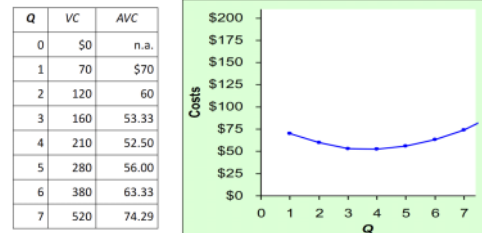
EXAMPLE 2: Marginal Cost



EXAMPLE 2: Average Fixed Cost

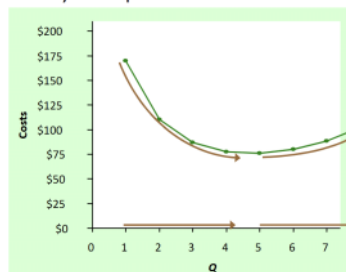


EXAMPLE 2: Average Variable Cost

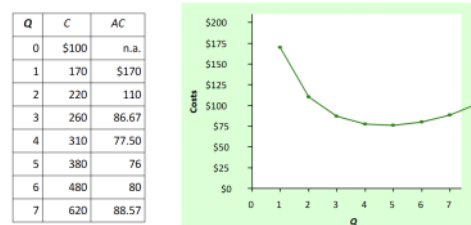


EXAMPLE 2: Why AC Is Usually U-Shaped?

As Q rises:
Initially, falling AFC pulls AC down.
Eventually, rising AVC pulls AC up.

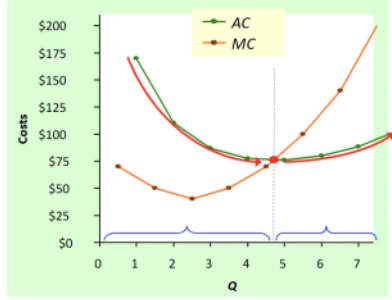


EXAMPLE 2: Average Cost



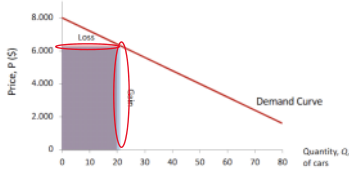
EXAMPLE 2: AC and MC

When $MC < AC$,
AC is falling.
When $MC > AC$,
AC is rising.
The MC curve crosses
the
AC curve at
the AC curve's minimum.



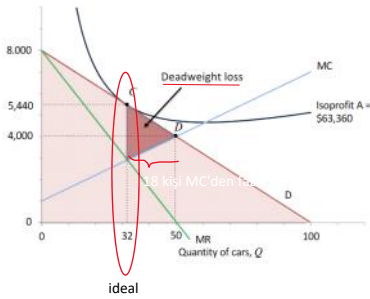
! Beautiful Cars

Marginal Revenue



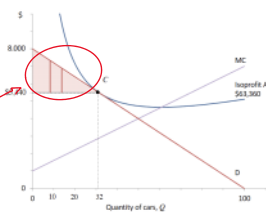
Alandaki değişim Marginal Revenue verir

Firms maximizes profits by choosing point where $MR = MC$



- There are potential gains from trade whenever the firm can produce a car for less than a consumer is willing to pay.
- A customer enjoys consumer surplus when $WTP > P$.
 - 10th sale: $\$7,200 - \$5,440 = \$1,760$
 - 15th sale: $\$6,800 - \$5,440 = \$1,360$
 - Consumer surplus: $32 \times (\$8,000 - \$5,440)/2 = \$40,960$

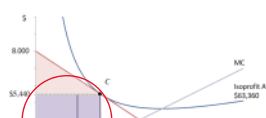
Gains from trade



32 alıcının sırayla aracı aldığı senaryoda 10. alıcı normalde 10 kişide 7200 ödeyeceken şuan 5440 ödüyor ve aradaki fark consumer surplus oluyor

- Producer surplus (PS) is the total difference between revenue and marginal cost
- A firm enjoys producer surplus when $MC < P$
 - 20th sale: $\$5,440 - \$1,900 = \$3,540$
 - 32nd sale: $\$5,440 - \$2,920 = \$2,520$
 - Producer surplus: $32 \times ((\$5,440 - \$1,900) + (\$5,440 - \$2,920))/2 = \$40,960$

Gains from trade



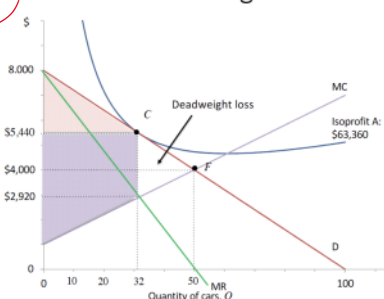
Toplamları Total surplus



Fixed cost is given

- Total surplus is highest when **Price = MC (at point F)** (Pareto efficient allocation)
- Setting the price at \$4,000 would maximize the total surplus but not the firm's profits.
- If the firm charges all consumers the **same price** it will set the price at \$5,440
- and fail to realize these potential gains of trade
- generating a **deadweight loss** of:
 $18 \times (\$5,440 - \$2,920)/2 = \$22,680$
- Deadweight loss** = a loss of total surplus relative to a Pareto efficient allocation (unexploited gains from trade)

Dead Weight Loss



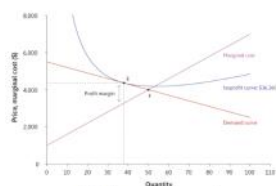
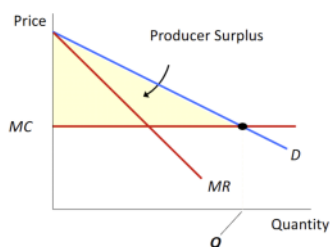
Perfect Price Discrimination vs. Single Price

Here, the firm produces at $P=MC$, the efficient quantity, but charges each buyer his or her WTP.

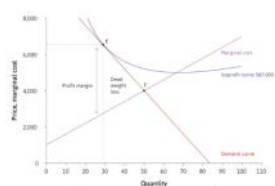
This is called **perfect price discrimination**.

The firm captures all CS.

But there's no DWL.



Flatter demand



Steeper demand

Calculating Price Elasticity of Demand

We instead use the **midpoint method**:

$$\frac{\text{end value} - \text{start value}}{\text{midpoint}} \times 100\%$$

The midpoint is the number halfway between the start & end values, the average of those values.

It doesn't matter which value you use as the "start" and which as the "end" – you get the same answer either way!

Using the midpoint method, the % change in **P** equals

$$\frac{\$250 - \$200}{\$225} \times 100\% = 22.2\%$$

The % change in **Q** equals

$$\frac{12 - 8}{10} \times 100\% = 40.0\%$$

The price elasticity of demand equals

$$40/22.2 = 1.8$$

- Price elasticity is higher when close substitutes are available
- Price elasticity is higher for narrowly defined goods than broadly defined ones
- Price elasticity is higher for luxuries than for necessities
- Price elasticity is higher in the long run than the short run

$$\text{Price elasticity of demand} = \frac{-\Delta Q^d / Q^d}{\Delta P / P} = \frac{-\Delta Q^d}{\Delta P} \frac{P}{Q^d} = \frac{1}{\text{slope}} \frac{P}{Q^d}$$

• Rule of thumb:

"Perfectly inelastic demand" (one extreme case)

$$\text{Price elasticity of demand} = \frac{-\% \text{ change in } Q}{\% \text{ change in } P} = \frac{0\%}{10\%} = 0$$

D curve:

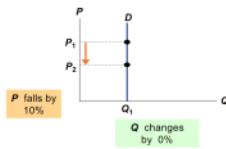
vertical

Consumers' price sensitivity:

0

Elasticity:

0



"Elastic demand"

$$\text{Price elasticity of demand} = \frac{-\% \text{ change in } Q}{\% \text{ change in } P} = \frac{> 10\%}{10\%} > 1$$

D curve:

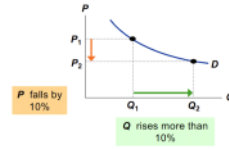
relatively flat

Consumers' price sensitivity:

relatively high

Elasticity:

> 1



"Inelastic demand"

$$\text{Price elasticity of demand} = \frac{-\% \text{ change in } Q}{\% \text{ change in } P} = \frac{< 10\%}{10\%} < 1$$

D curve:

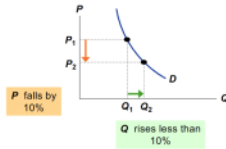
relatively steep

Consumers' price sensitivity:

relatively low

Elasticity:

< 1



"Perfectly elastic demand" (the other extreme)

$$\text{Price elasticity of demand} = \frac{-\% \text{ change in } Q}{\% \text{ change in } P} = \frac{\text{any } \%}{0\%} = \text{infinity}$$

D curve:

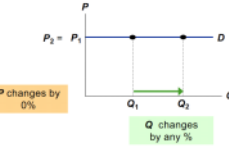
horizontal

Consumers' price sensitivity:

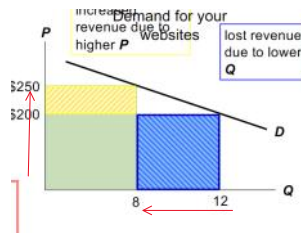
extreme

Elasticity:

infinity



- If demand is elastic, then price elast. of demand > 1
% change in Q > % change in P
- The fall in revenue from lower Q is greater than the increase in revenue from higher P, so revenue falls.



Price Elasticity and Profits

- Revenue: $R = P \times Q$
- Marginal Revenue: $MR = P + Q(\Delta P / \Delta Q)$
- At profit-maximizing output $MR = MC$

$$(P - MC) / P = 1 / E$$

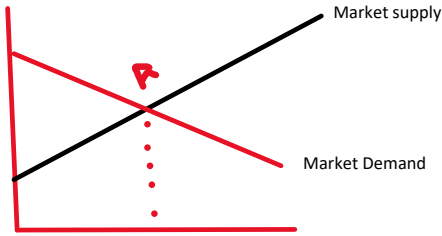
- $(P - MC) / P$ is the firm's mark up and E is the price elasticity of demand
- The steeper the demand curve, the lower the price elasticity of demand and the higher the firm's mark-up

Taxes

10 Aralık 2024 Salı 13:04

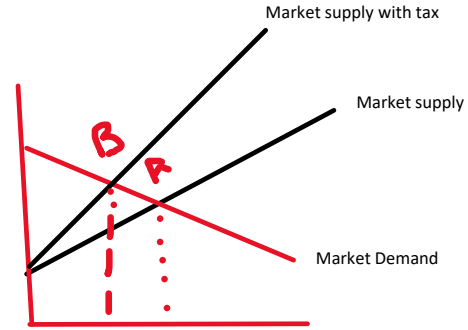
Rulers historically taxed salt to raise revenue because:

- Demand is relatively inelastic
- The tax is relatively easy to administer



Initially the competitive equilibrium is A
 Suppose the government imposes a 30% tax ad valorem on salt:

- Shifts the MC up by 30%
- Shift P_a to P_b , it is not %30 so tax is paid by consumer and Producer together



DWL (Dead Weight Loss)
 Elasticity = $1/\text{steeper}$ → T.O.

Markets

10 Aralık 2024 Salı 14:25

The market may represent the largest cooperative project in human history.
In a sense, the market is a fine tuned machine that sends messages about the scarcity of goods, but:
Nobody designed it
Nobody controls it

Friedrich Hayek (1899-1992)
Believed that governments should play a minimal role in the running of the society
The state of equilibrium prevents us from analyzing competition seriously

Price-setters (Monopoly)	Price-takers (Perfect Competition)
MC < Price	MC = Price
Deadweight losses (Pareto inefficient)	No deadweight losses (can be Pareto efficient)
Owners receive economic rents in both long- and short-run	No economic rents in the long-run
Firms advertise their unique product	Little advertising expenditure
Firms invest in R&D, seek to prevent copying	Little incentive for innovation

Different Market Structures

Monopoly	Oligopoly	Monopolistic Competition	Perfect Competition
- Single firm - Firms make economic rent both in the short- and long-run	- Few firms - Homogenous/Differentiated products - High entry barriers - Firms make economic rent both in the short- and long-run	- More than few firms - Differentiated products - Low entry/exit cost - Firms make economic rent in the short-run but not in the long-run	- Many firms - Homogenous products - Free entry/exit - No informational asymmetry - Firms make economic rent in the short-run but not in the long-run

Problems and solutions so far

Decision	The external effect: how it affects others	Costs and benefits	Misallocation of resources (market failure)	Possible remedies (full or partial)	Terms applied in this situation
A firm uses a pesticide that runs off into waterways	Downstream pollution	Private benefit External cost	Overuse of pesticide; overproduction of the crop for which it is used	Taxes, quotas, bans, tradable permits, bargaining, common ownership of all affected assets	Negative external effect, environmental spillover
You travel to work by car	Congestion, danger, and air pollution for other road users	Private benefit External cost	Overuse of cars	Tolls, quotas, subsidized public transport	Negative external effect, environmental spillover
A firm trains a worker	Future employers benefit from the skills	Private cost External benefit	Too little work-based training	Subsidies, training levy schemes	Positive external effect, positive spillover