Chapter 9

This is Microeconomics

Monopolistic Competition, Oligopolies, Antitrust Policy, Labor Markets, and Taxes

review for the exam

1. this chapter is about
   A. hybrid firms that are a mix of characteristics of competitive firms and monopolies (**monopolistic competition**)
   B. when there are very few firms in an industry and each firm has market power and can significantly affect the market price (P) (**oligopoly**)
   C. government practices to prevent anticompetitive business practices (antitrust policy)
   D. the demand and supply of labor (workers) in labor markets

The 4 Market Structures

Perfect/Pure Competition

1. profit max. and Q: P=MC and MR=MC
2. P is constant
3. no DWL or excess costs/capacity
4. one product/many close substitutes
5. many producers
6. no barriers to entry/exit
7. no market power/price taker
8. perfectly elastic D curve
9. no LR profit
10. example: stock market

Monopolistic Competition (imperfect)

1. profit max. and Q: MC=MR
2. P decreases, P>MC, & MR<P
3. DWL & excess costs/capacity
4. differentiated products
5. many producers
6. no barriers to entry/exit
7. market power/price maker
8. sloping D curve
9. no LR profit
10. example: cereal market

Oligopoly (imperfect competition)

1. profit max. determined by strategic beh.
2. P decreases, P>MC, & MR<P
3. DWL and excess costs/capacity
4. standardized/differentiated products
5. a few big producers
6. barriers to entry/exit
7. market power/price maker
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9. LR profit
10. example: sneaker market

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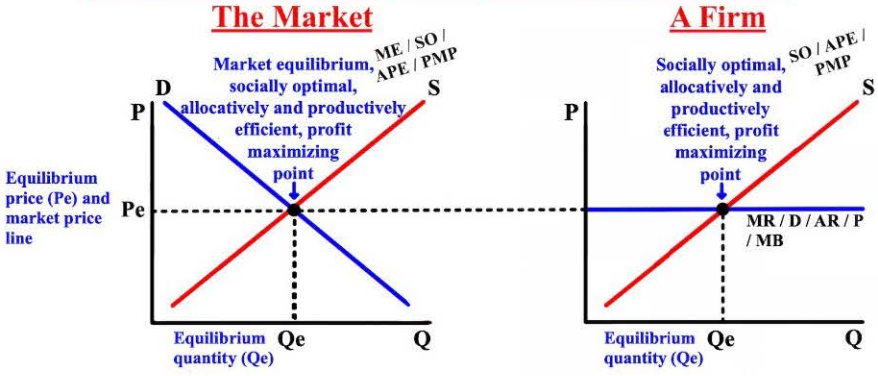
8. sloping D curve
9. LR profit with economies of scales
10. example: US Steel/FPL (nat. mono.)

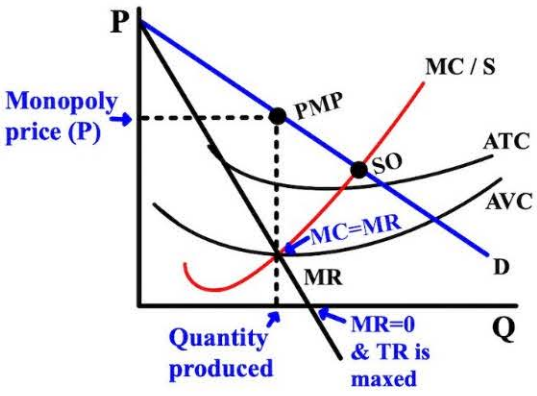
Monopolistic Competition

1. **monopolistic competition** is a hybrid of monopolies and competitive markets
   a. has many firms with free entry and exit, but each firm has a downward sloping demand curve for its product because its products are different from other firms' products in ways that people value, called **product differentiation**, like Coke and Pepsi
2. sets their price (P) and quantity (Q) between those of a competitive market and a monopoly

A Firm in a Perfectly Competitive/Pure Market



A Monopoly



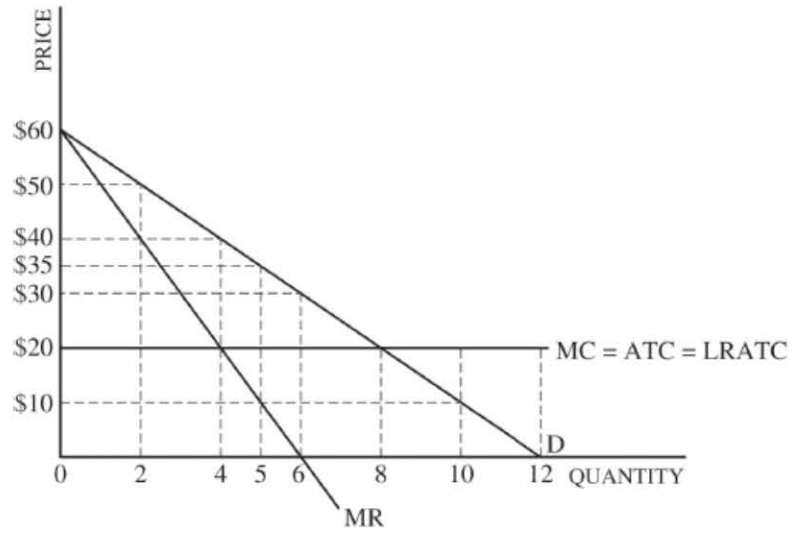
Monopolistic Competition: the Short-run and the Long-run

1. in the short run (SR) for both monopolistic competitive firms and monopolies, profit maximization is the same: set the quantity produced where marginal revenue (MR) equals marginal cost (MC)(MR=MC) and set the price (P) where the quantity produced intersects with demand
2. both have downward-sloping demand (D) curves and both have market power
3. both operate in a situation of **excess costs**, when costs are higher than necessary
4. both operate with some **excess capacity**, where actual production is less than what is achievable or optimal for a firm because both firms choose to have some market power to keep their prices higher and output lower
5. but in the long-run, a competitive market's average total cost (ATC) is minimized and is equal to the price (P)(P=ATC), creating a situation with no profit in the long-run (LR)

   A. monopolistically competitive firms set their P = ATC in the long-run also

Monopolistic Competition

The graph below shows the demand curve (D), marginal revenue curve (MR), marginal cost curve (MC), average total cost curve (ATC), and long-run average total cost curve (LRATC) for a monopolist.



(a) Using the numbers given in the graph, identify each of the following for the profit-maximizing monopolist.

(i) The quantity produced

(ii) The price

(iii) The allocatively efficient quantity

(b) At the profit-maximizing quantity from part (a)(i), is the monopolist experiencing economies of scale? Explain.

Monopolistic Competition

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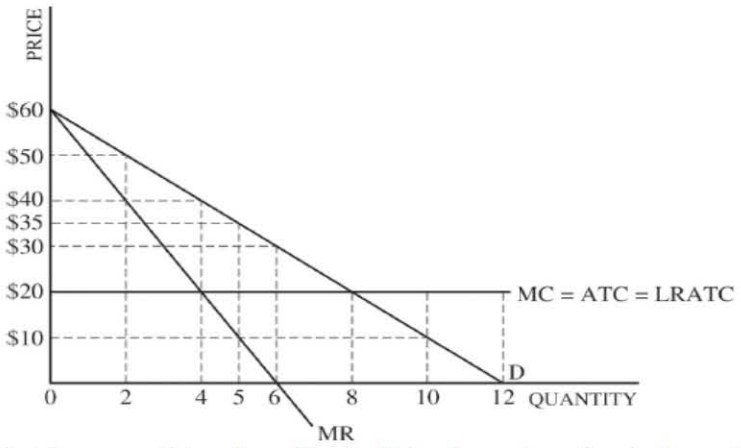


~~(c) Now assume that the monopolist produces 10 units. Using the numbers given in the graph, calculate each of the following. Show your work.~~

~~(i) The monopolist's economic profit~~

~~(ii) The consumer surplus~~

~~(iii) The deadweight loss~~

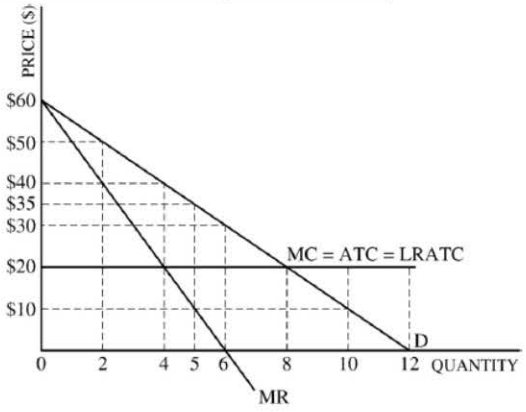
(d) At what quantity is demand unit elastic?

(e) Suppose the monopolist perfectly price discriminates and chooses the quantity that maximizes profit. Determine the dollar value of each of the following.

(i) The monopolist's profit

(ii) The consumer surplus

Monopolistic Competition



(a) 3 points:

- One point is earned for identifying the profit-maximizing quantity, Q = 4.
- One point is earned for identifying the profit-maximizing price, P = $40.
- One point is earned for identifying the allocatively efficient output, Q = 8.

(b) 1 point:

- One point is earned for stating that the firm is not experiencing economies of scale and for explaining that the LRATC is not downward sloping as output increases or LRATC remains constant as output increases.

(d) 1 point:

- One point is earned for identifying the quantity at which demand is unit elastic, 6.

(e) 2 points:

- One point is earned for correctly determining the monopolist's profit.
  $1/2[(\$60 - \$20) \times 8] = \$160$
- One point is earned for correctly determining the consumer surplus as zero.

Oligopoly

1. now we'll talk about a market structure when there are very few producers in an industry, a market structure termed **oligopoly**, like the oil market
2. each firm can have an influence on the market price even if the goods are similar, like by increasing or decreasing production
3. if the managers of a firm make the right assessment about how other firms will affect any course of action their firm takes, then the firm will profit and may become a price leader
   A. this awareness and consideration of the market power and the reactions of other firms in the industry by other firms, called **strategic behavior**, only exists in oligopolies

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Game Theory

1. the goals of game theory are to analyze the choices facing each firm and to design utility maximizing actions, or strategies, that respond to every action of the other firms
2. an important example is the game called **prisoner's dilemma**
   A. the game is between two people, both of whom have been arrested for the same crime and are also guilty of multiple other crimes
      1. they are both in prison and separated while being interrogated
   B. the goal is to see the strategy that takes place, whether it is the players work together (both remaining silent), or the two players turning on each other (one or both confess)

Game Theory (cont.)

1. prisoner's dilemma is played with a **payoff matrix**, which is a simple chart used in basic game theory situations to analyze and evaluate a situation in which two parties have decisions to make
   A. the matrix has rows and columns showing the different jail terms and options for each, such as to confess or remain silent
   B. in prisoner's dilemma, the best choice is the choice with the lowest jail time, but in most scenarios, it is the higher of the two numbers (the revenue)
2. the question is always what strategy each person will follow when neither can or do communicate with the other, like firms in real life

payoff matrix

Pete \ Ann	Confess	Remain Silent
Confess	5, 5	1, 7
Remain Silent	7, 1	3, 3

Game Theory (cont.)

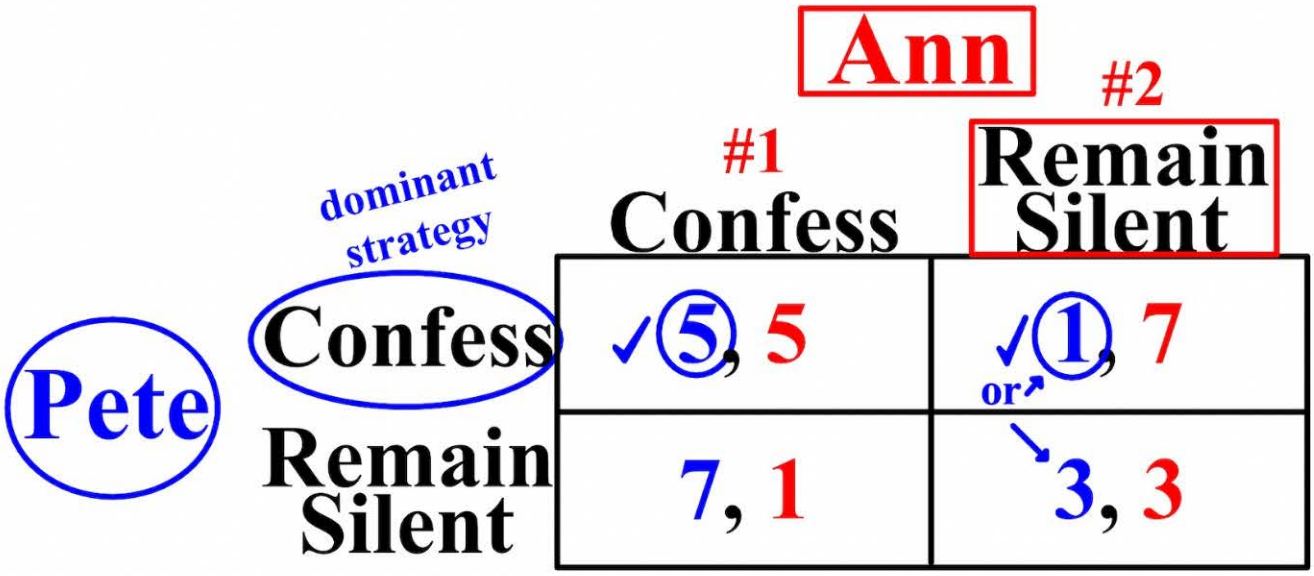
1. we are also looking to see if either person has a **dominant strategy**
   A. a strategy is dominant if, regardless of what other players do, a player uses the same strategy every time
2. first, what should Pete do if Ann confesses (#1)?
   A. if Pete confesses, he will get 5 years in prison and if he remains silent, he will get 7
      i. definitely better for Pete to confess when Ann confesses

payoff matrix

Pete \ Ann (#1)	Confess	Remain Silent
Confess	5, 5 (or 7, 1)	1, 7
Remain Silent	7, 1	3, 3

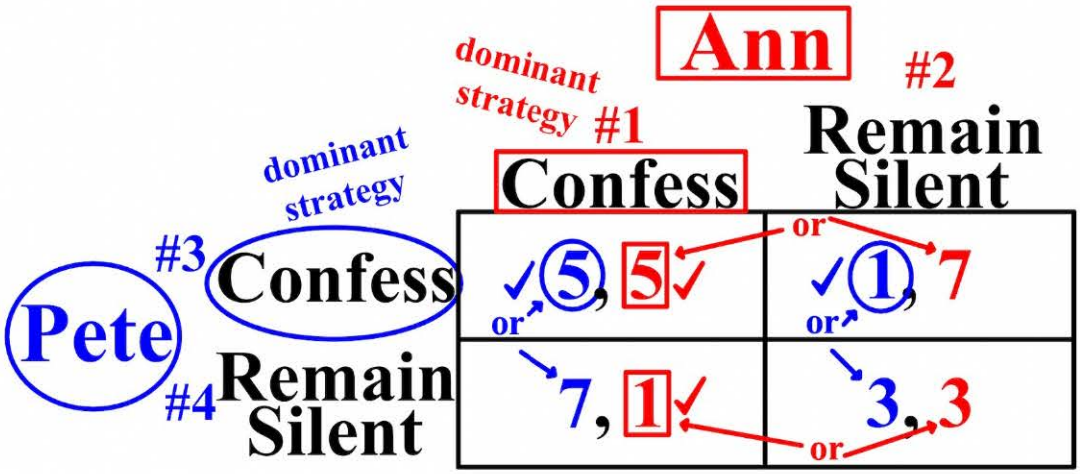
Game Theory (cont.)

1. next, what should Pete do if Ann remains silent (#2)?
   A. if Pete confesses, he will get 1 year in prison and if he remains silent, he will get 3
      i. again, to confess is the better strategy for Pete regardless of what Ann does, and to confess is his dominant strategy



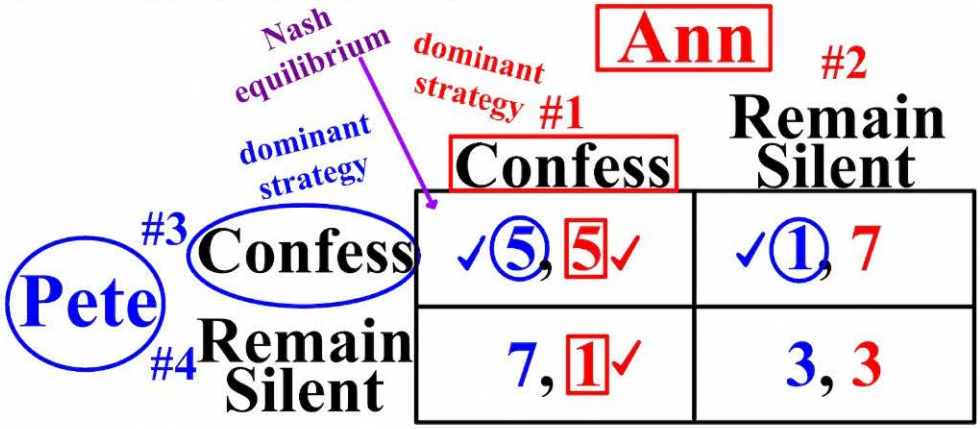
Game Theory (cont.)

1. now we have to see about Ann
2. what should Ann do if Pete confesses (#3)?
   A. if Ann confesses, she will get 5 years; if she remains silent, 7 years
3. what should Ann do if Pete remains silent (#4)?
   A. if Ann confesses, she will get 1 year; if she remains silent, 3 years
      i. again, to confess is the better strategy for Ann regardless of what Pete does, and to confess is her dominant strategy



Game Theory (cont.)

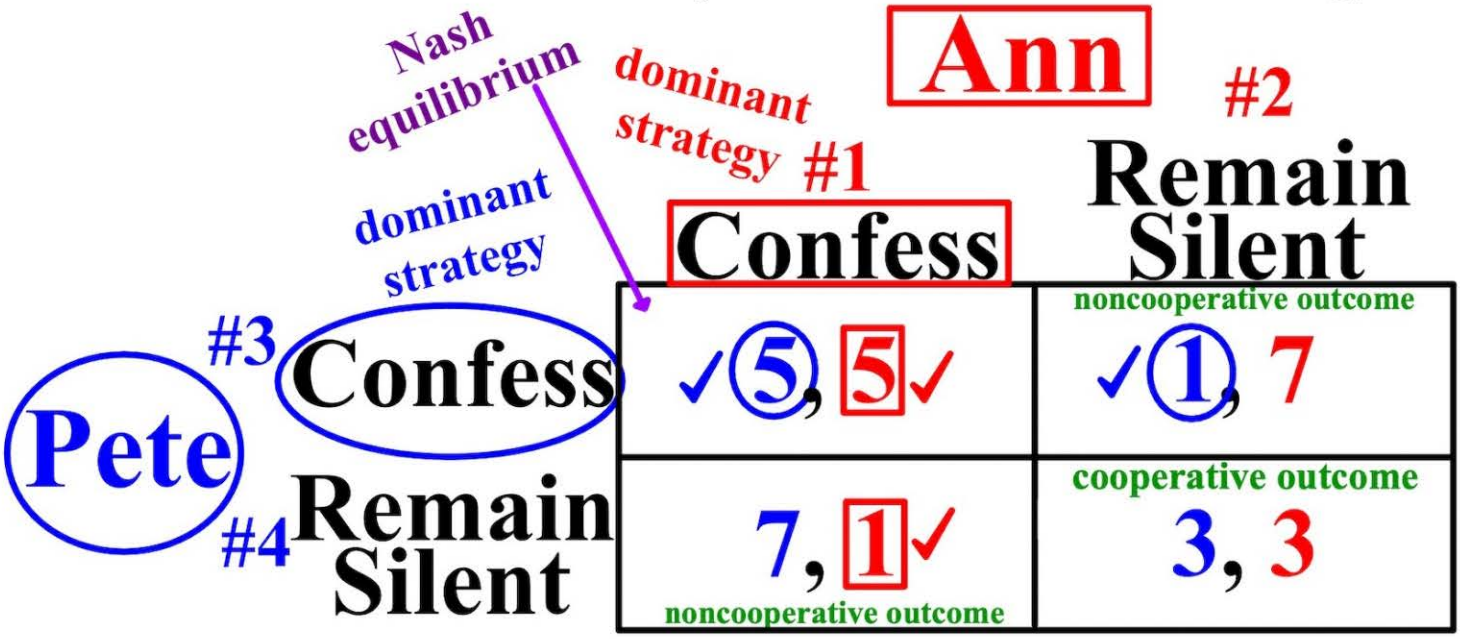
1. a **Nash equilibrium** is a set of strategies from which no player would deviate unilaterally from because there would be no financial benefit to do so while other players keep their strategy constant, like Home Depot and Lowes over time
2. a Nash equilibrium exists where Player A's best response is the same as Player B's best response (where they intersect), and since Ann and Pete's dominant strategy is to confess, there is a Nash equilibrium at 5/5, but the numbers don't have to be identical



Game Theory (cont.)

1. the situation where both remain silent is called the **cooperative outcome**
   A. they would have had to agree in advance what to do and stick to it
2. where one or the other confesses is called the **noncooperative outcome**

A. one of them would follow an "everyone for himself or herself" strategy



Collusion

1. firms know that their combined profits can be maximized if they act together as a monopoly in one of three ways
   A. **explicit collusion** is when business leaders communicate with each other and agree to fix prices or cut back on production
   B. **tacit collusion** is when there is no explicit communication between firms, but firms keep prices high by regularly following the behavior of one firm in the industry, the price leader
   C. the firms could merge

Antitrust Policy

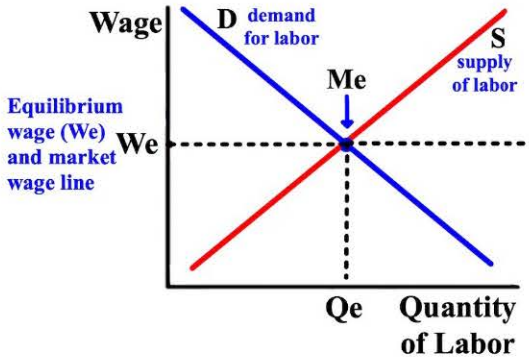
1. now we'll talk about antitrust policy
2. the intent of the government in commerce is to promote competition, a free market economy, market efficiency, and as little as possible deadweight loss (DWL)
3. **antitrust policy** is concerned with preventing anticompetitive practices, like price-fixing and limiting firms' market power by preventing mergers or breaking up existing firms
4. **regulatory policy** occurs when the government requires firms that have a natural monopoly, like Florida Power and Light and water companies, to set prices at prescribed levels

draw side-by-side graphs of a firm/business in a perfectly competitive or pure labor market/industry in short-run equilibrium

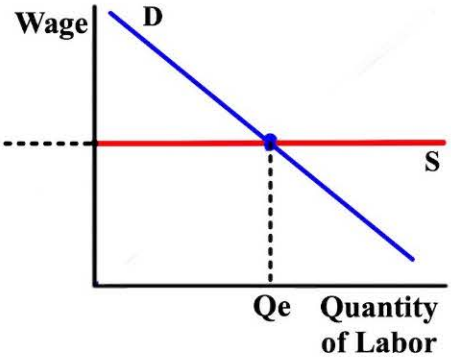
Labor Markets

1. **labor markets** are the markets where workers (supply) sell their labor and firms (demand) buy the labor
2. to maximize profits in a firm, the **marginal revenue product of labor** (MRPL) (the change in total revenue (TR) when one additional unit of labor (a worker) is employed) should at least equal the wage (W) workers earn, thus **MRPL = W**
3. paying the **market wage** (the highest wage (W) offered by any employer in a market) is the only way a firm can gain an advantage over another

A Labor Market



A Firm in a Labor Market



The Marginal Revenue Product of Labor Equals the Wage (MRPL = W)

1. if the wage (W) for one full-time worker at the company below is $600 per week, the firm will hire a total of five workers to maximize profits
   A. hiring a sixth worker would result in a marginal revenue product of labor (MRPL) of only $500, $100 less than its cost

Table 13.1
Labor Input and Marginal Revenue Product at a Competitive Firm

Workers Employed Each Week (*L*)	Quantity Produced (*Q*)	Marginal Product of Labor (*MP*)	Price of Output (dollars) (*P*)	Total Revenue (dollars) (*TR*)	Marginal Revenue Product of Labor (dollars) (*MRP*)
0	0	—	100	0	—
1	17	17	100	1,700	1,700
2	31	14	100	3,100	1,400
3	42	11	100	4,200	1,100
4	51	9	100	5,100	900
5	58	7	100	5,800	700
6	63	5	100	6,300	500
7	66	3	100	6,600	300
8	68	2	100	6,800	200
9	69	1	100	6,900	100

Perfectly Competitive Product and Labor Markets

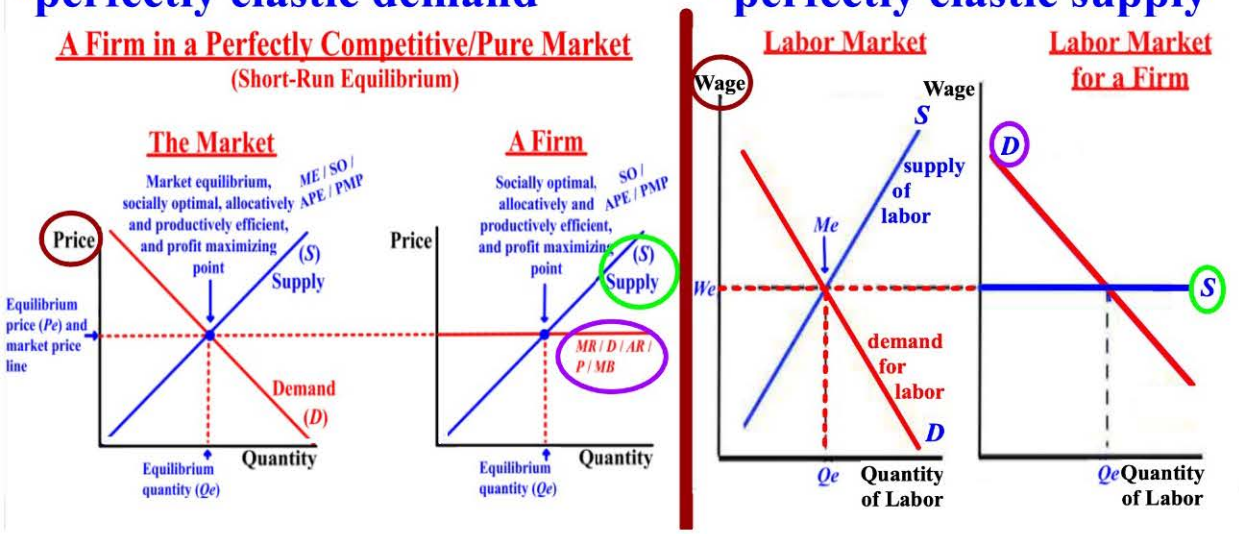
Perfectly Competitive...

Product Markets

*1 product sold (ex.- shoes)
*firms supply/sell
*people demand/buy
*perfectly elastic demand

Labor Markets

*1 product sold (workers)
*firms demand/buy
*people supply/sell
*perfectly elastic supply



A Monopsony

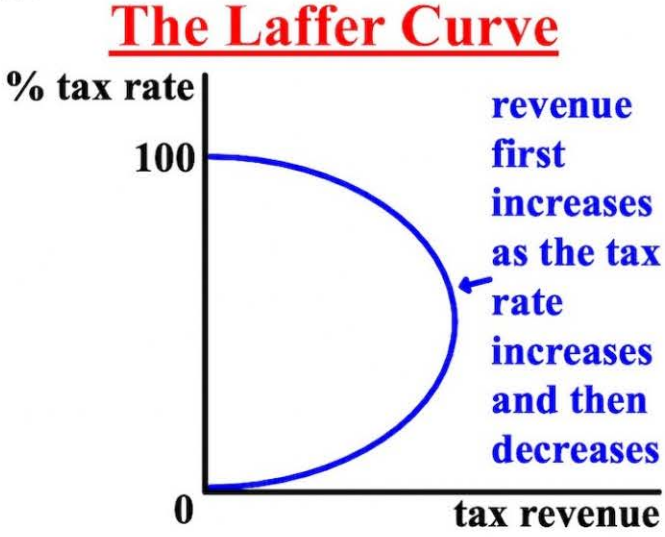
1. firms are the buyers of labor in the labor market
2. in a **monopsony**, there is only one labor buyer in a market, like the only medical facility in an area who hires nurses
   A. with only one buyer of labor in a market, wages (W) and demand (D) for workers are kept as low as possible

Transfer Payments

1. a **transfer payment** is a payment from the government to an individual that is not in exchange for a good or service
2. there are two types of government transfer payments in the U.S.
   A. **means-tested transfers**, which depend on the income (the means) of the recipient and focus on helping poor people, like EBT cards, and
   B. **social insurance transfers**, which do not depend on the income of the recipient, like Social Security

The Possibility of a Negative Effect on Tax Revenue (cont.)

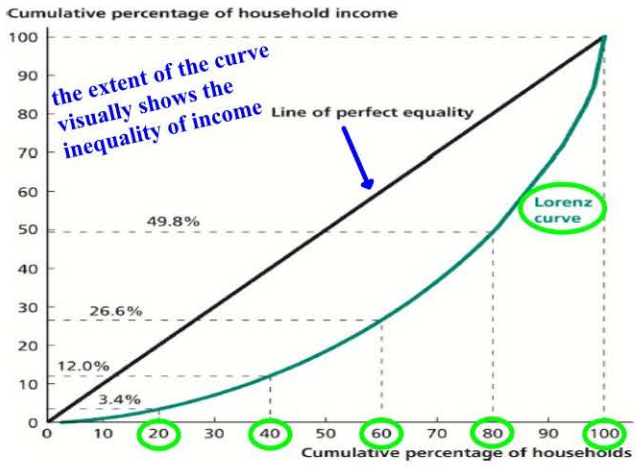
1. at the two extremes of a 0% tax rate and 100% tax rate, tax revenue is $0
2. this relationship between the tax rate and tax revenue is called the **Laffer curve**
   A. it implies that if the tax rate is so high that we are on the very top of a downward-sloping curve, then reducing the tax rate may actually increase tax revenue



The Lorenz Curve and Gini Coefficient

1. U.S. income data from 2014 is below
2. the graph shows the cumulative percentage of income on the vertical axis and the percentage representing each quintile from the first column on the horizontal axis
3. the five dots in the figure are the five pairs of observations from the table
4. by connecting the dots, we get a curve called the **Lorenz curve**
   A. the extent of the curve visually shows the inequality of income

Quintile	Average Household Income	Share of Total Household Income (%)
1st 20% (poor)	$11,552	3.4
2nd 20%	$29,257	8.6
3rd 20%	$49,534	14.6
4th 20%	$78,694	23.2
5th 20% (rich)	$170,844	50.3



Chapter 10

This is Microeconomics

Public Goods and Externalities

1. this chapter is about public goods and externalities that economists use to determine whether a proposal for government action is bad or good

Public Goods- Nonrivalry and Nonexcludability

1. since almost all goods that are produced include a competition for the good itself and therefore some can be excluded from purchasing it, governments produce **public goods** to benefit all of its people
   A. a public good is a good or service that has two characteristics: nonrivalry and nonexcludability
      i. **nonrivalry in consumption** means that more consumption of a good by one person does not imply less consumption of it by another person, like national defense or weather information
      ii. **nonexcludability** means that no one can be excluded from consuming or using the item, like sewers and traffic lights
2. private firms would have difficulty producing and selling national defense to the people of a country; they would go broke
   A. for this reason, action by the government is necessary to provide public goods

Free Riders

1. but goods that have nonrivalry in consumption and nonexcludability create a **free-rider problem**
   A. people can enjoy the good or service without reducing others' enjoyment even if they do not pay, like a free public bus anyone can ride
   B. to lessen the problem of free-rides, users are charged at a user fee
      i. when the users of a government-provided service are charged for its use (when some excludability is needed)

Negative and Positive Externalities

1. another reason for government involvement is known as an **externality**
   A. an externality occurs when the costs of producing a good or the benefits from consuming a good spill over to individuals who are not producing or consuming the good, like pollution from an FPL power plant or Russia's invasion of the Ukraine, which is a **negative externality** because it has a negative effect, a cost, on the well-being of others
2. a **positive externality** occurs when a positive effect, a benefit, from a good spills over to others, like if everyone in your neighborhood paints their house and plants new bushes just before you sell your house or Thomas Edison's inventions

Negative Externalities

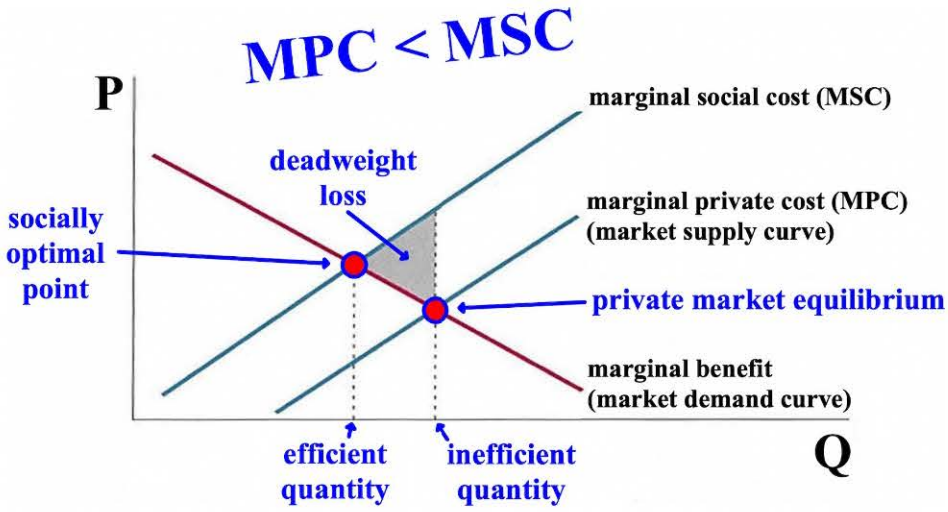
1. firms that create negative externalities don't factor in external costs and are inefficient when they calculate their costs; they don't charge enough
   A. instead of FPL charging $2.00 to include the cost of removing pollution, they only charge $1.50, thereby increasing the pollution costs for other firms
2. the externality (pollution) makes the private firm's marginal cost, called the **marginal private cost** (MPC) (the seller's cost *with no* externality costs factored in), less than the true marginal cost that is incurred by society, which we call the **marginal social cost** (MSC) (the buyer's cost *with* externality costs factored in)
   A. firms are taxed to limit their negative externalities

graph market failure showing a negative externality

Negative Externalities (cont.)

1. the **marginal social cost** (MSC) is the sum of the firm's marginal private cost (MPC) and the increase in external costs to society as more is produced
2. the **marginal external cost** is the change in external costs as more is produced

marginal social cost = marginal private cost + marginal external cost



Positive Externalities

1. a **positive externality** occurs when the activity of one person makes something else better off, either reducing costs or increasing benefits
   A. increased earnings are a benefit from attending high school, but one's education also benefits society
2. governments want to increase positive externalities and do so by subsidizing products and regulating increased production amounts
3. the externality (education) makes the marginal benefit (MB) received by the consumer, which we call the **marginal private benefit** (MPB), less than the true benefit to society, which we call the **marginal social benefit** (MSB)
4. there is never enough produced of an item that creates a positive externality

graph market failure showing a positive externality

marginal social benefit = marginal private benefit + marginal external benefit

Positive Externalities (cont.)

marginal social benefit = marginal private benefit + marginal external benefit