Econ 1 Final Exam Review

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UCSC Fall 2012

Introduction

- What will be covered on the final?
  - EVERYTHING! The final is cumulative
    - Chs. 1-16, 18 (no chapter 17)
    - More weight will be given to the new material
      - Chs. 15, 16, and 18
- When is the final exam?
  - Tuesday, December 10th from noon-3pm
- What will the format of the test be?
  - X multiple choice questions
  - 6 short answer questions
- What will I need to bring to the exam?
  - Full page, pink scantron
  - Pencil/writing utensil
  - Non-graphing calculator
    - No phones, iPods, iPads, etc can be used as a calculator

Ch. 15: Monopolistic Competition

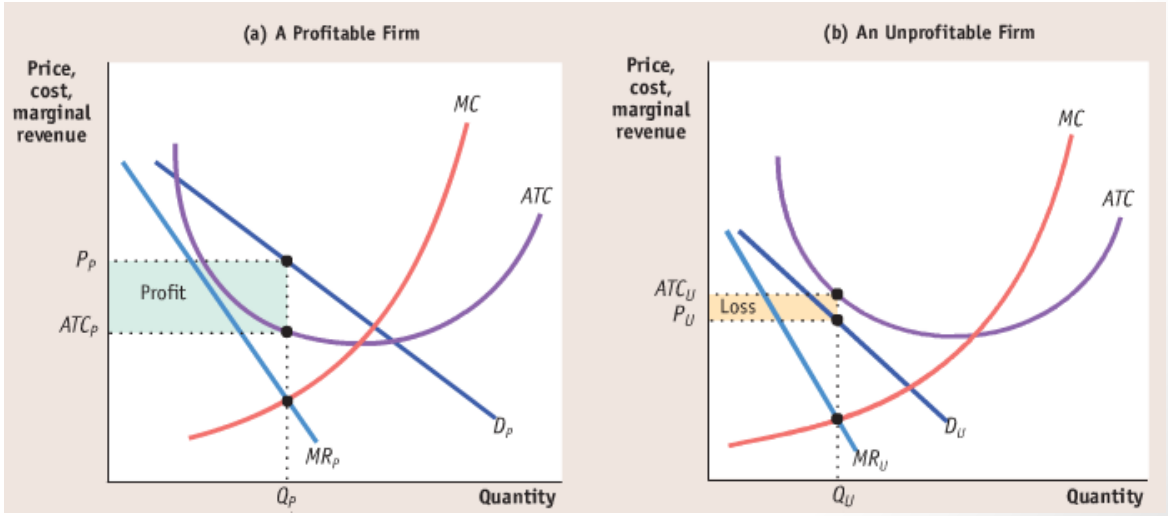
- What are the most important concepts from this chapter?
  - Characteristics of a monopolistically competitive market
  - Degrees of product differentiation
    - Style/type, location, quality
  - Graphical analysis of monopolistic competition
    - In the short run
    - In the long run
      - Zero profit condition
  - Monopolistic competition versus perfect competition
    - Excess capacity
    - Unrealized mutually beneficial transactions (deadweight loss)
    - Potential gains from variety

Ch: 15: Characteristics of Mono. Comp.

- What are the characteristics of a monopolistically competitive market?
  - As the name suggests, it has elements of both monopoly and perfect competition
    - Large number of producers (like perf comp)
    - Free entry and exit in the long run (like perf comp)
    - Differentiated products ➔ gives rise to pricing power (like monopoly)
- How are products differentiated?
  - By style or type
    - Ex: different types of food in a mall food court (pizza, chinese food, etc.), different types of clothing stores (women's clothing, men's suits, hat stores, etc.)
  - By location
    - Ex: gas stations, many services like dry cleaning
  - By quality
    - Ex: Hershey's milk chocolate versus imported Swiss chocolate

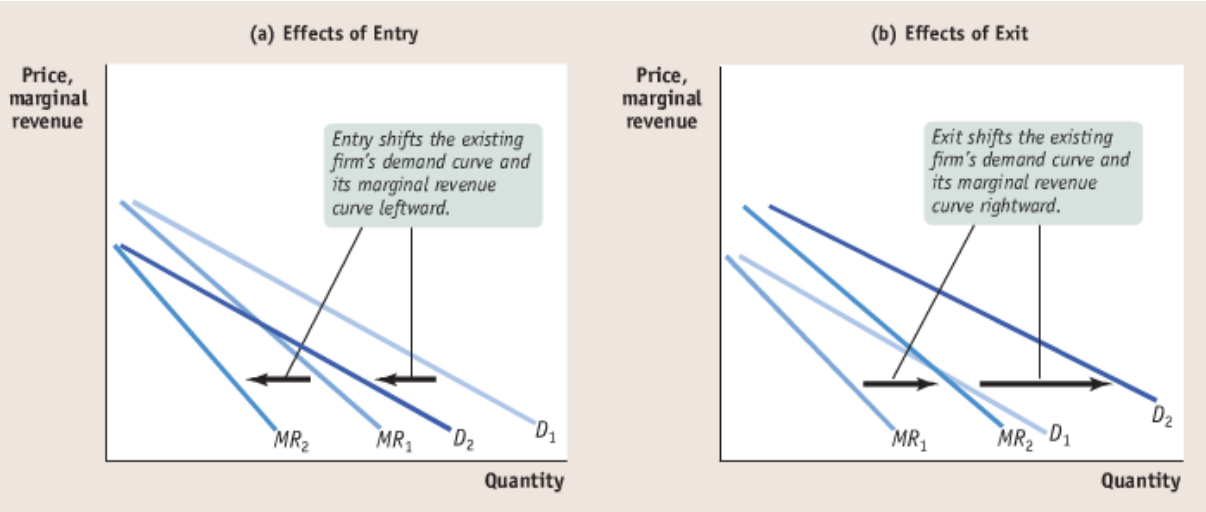
Ch. 15 : Graphing Mono. Comp. (SR)

- Firms in a mono. comp. industry face a downward sloping demand and MR curves
  - Since their goods are differentiated, the producer does have some power to set their own price ➔ downward sloping D and MR
    - However (as we shall see), the demand/MR curves the mono. comp. producer faces is influenced by its competitors
- In the short run, a mono. comp. firm could be earning positive or negative profits
  - Profitability depends on whether the demand curve intersects the ATC (profitable) or whether the demand curve lies below the ATC (unprofitable)



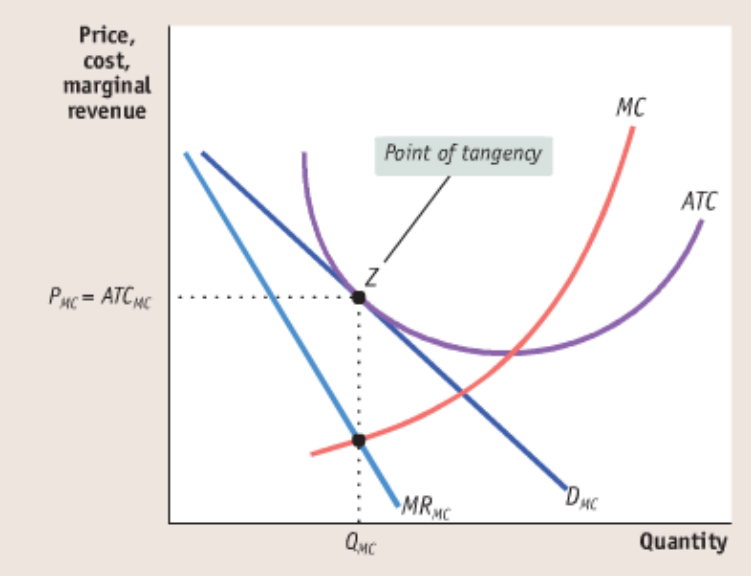
Ch. 15: Graphing Mono. Comp. (LR)

- While economic profits/losses are possible in the short-run, in the long-run profits are zero in a mono. comp. industry
  - Why? ➔ entry and exit
    - If firms are earning negative profits in the short run…
      - …in the long run firms will exit the industry
      - Fewer producers ➔ increase in D/MR (shift to the right) for remaining firms
    - If firms are earning positive profits in the short run…
      - …in the long run other firms will enter the industry
      - More producers ➔ decrease in D/MR (shift to left) for all firms



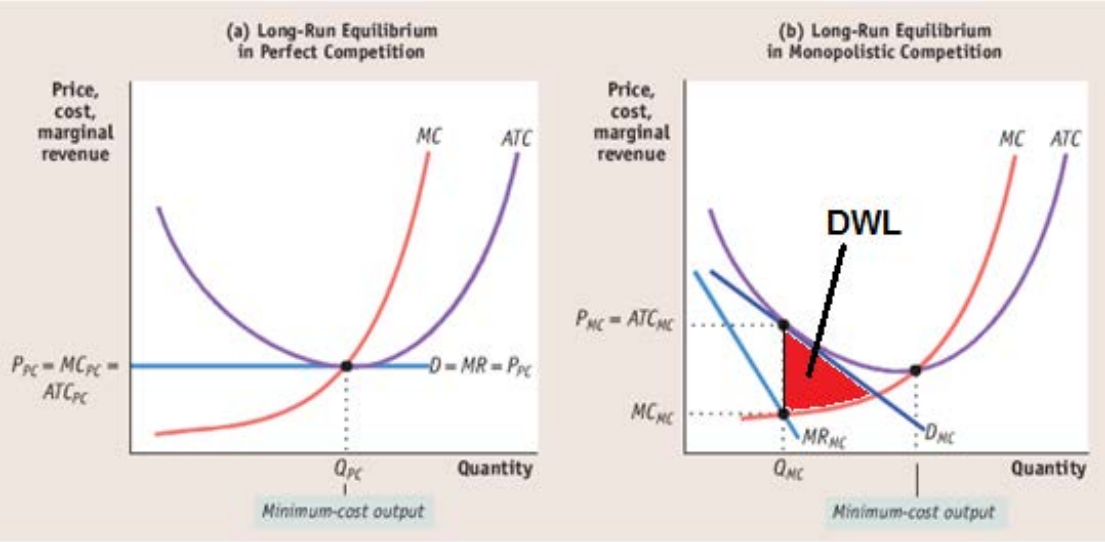
Ch. 15: Graphing Mono. Comp. (LR)

- The long-run equilibrium is reached when no firms wish to enter or exit the industry
  - This occurs when economic profits are zero
    - Graphically, in the long run the ATC will be tangent (just touching, but not intersecting) the demand curve at the profit-max quantity (given by the intersection of MR and MC)
      - At this Q, P=ATC ➔ profits = zero



Ch. 15: Mono. Comp. vs Perf. Comp.

- In the long-run, there is excess capacity in a mono. comp. industry compared to a perf. comp. industry
  - Excess capacity: refers to the fact that a mono. comp. firm does not minimize ATC in the long-run
- In mono. comp. industry, P > MC ➔ deadweight loss
  - There are some mutually beneficial transactions, where willingness to pay (given by the demand curve) is greater that the cost to produce it (given by the MC curve), that do not occur
  - In perf. comp. P=MC ➔ no deadweight loss



Ch. 15: Mono. Comp vs Perf. Comp.

- Monopolistic competition reduces total surplus/efficiency due to excess capacity (not producing at minimum ATC) and deadweight loss (unrealized gains from trade)
  - But monopolistic competition may increase surplus due to gains from variety

Ch. 16: Externalities

- What are the most important concepts from this chapter?
  - Negative externalities
    - What are they?
    - How do they lead to inefficiency?
    - Policy solutions
      - Command and control
      - Market solutions (Pigouvian taxes, permit systems)
    - Private solutions ➔ Coase theorem
  - Positive externalities
    - What are they?
    - How do they lead to inefficiency?
    - Solutions (Pigouvian subsidies)
  - Network externalities

Ch. 16: Negative Externalities

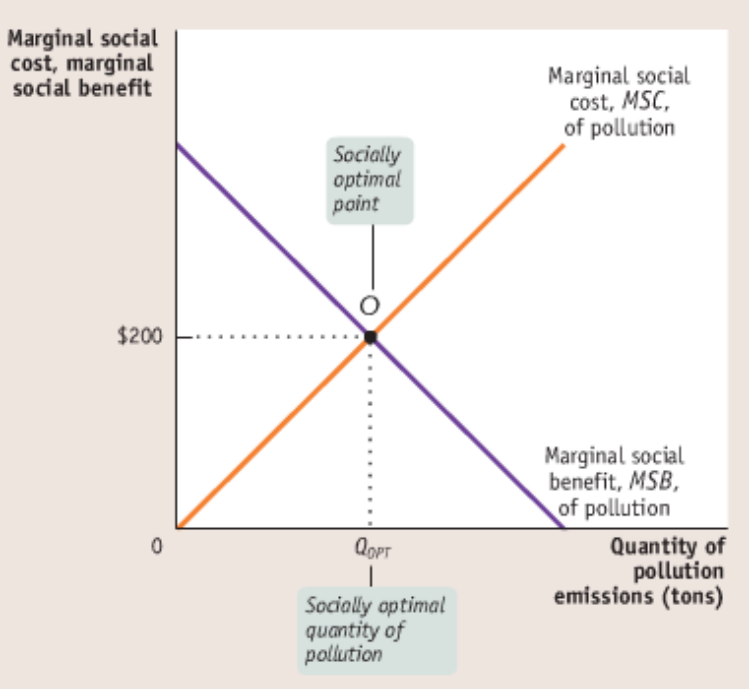
- What is a negative externality?
  - When production/consumption decisions impose an uncompensated cost (an external cost) on others
    - Ex: pollution associated with production activities, neighbor mowing their lawn at 6am on a Saturday while you are trying to sleep
  - If uncorrected, negative externalities lead to a socially inefficient amount (too much) of an outcome
    - Ex: too much pollution, too much early morning lawn mowing
- What is the socially efficient amount of pollution?
  - Where the marginal social benefit (MSB) of the last unit of pollution produced is equal to the marginal social cost (MSC) of that same unit

Ch. 16: Socially Optimal Q of Pollution

- Marginal social cost (MSC) of pollution: additional cost imposed on society by one additional unit of pollution
  - Ex: increased health problems like asthma, damage to buildings, reduced bio-diversity
  - MSC gets larger as the amount of pollution increases
    - Upward sloping MSC curve
- Marginal social benefit (MSB) of pollution: additional benefit to society from allowing another unit of pollution
  - Mainly associated with the cost savings to firms from being able to pollute
    - Ex: being able to use dirtier/cheaper fuel sources, not having to use expensive technology to clean up toxins, etc
  - MSB gets smaller as the amount of pollution increases
    - Downward sloping MSC curve

Ch. 16: Socially Optimal Q of Pollution

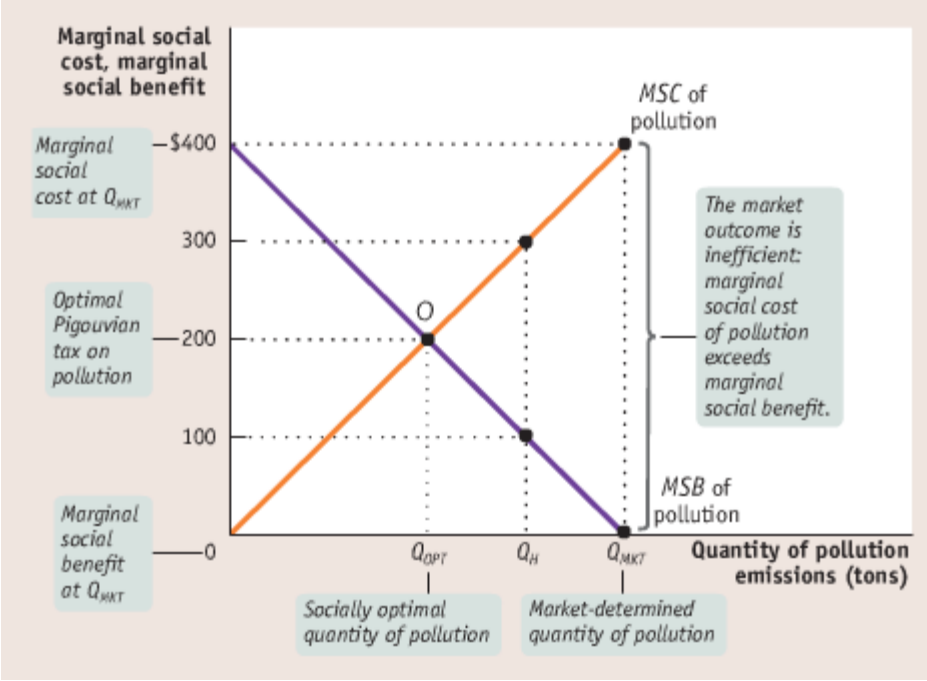
- The socially optimal Q of pollution
  - Given by the intersection of the MSC and MSB curves
    - Price associated with this quantity can be thought of as the (efficient) price of pollution



Ch. 16: Inefficiency of Neg. Ext.

- Negative externalities lead to an inefficiently high quantity to be transacted
  - All of the social benefits (cost savings) associated with polluting go to the polluter
    - Can think of MSB as also being the private marginal benefit to polluting
  - The cost to an individual firm/consumer of polluting is ZERO
    - (private) MC to the individual = 0
      - Polluters do not bear the costs of pollution, people/environment affected by the pollution are the ones who pay the cost
    - Without intervention, the individual will pollute until their PRIVATE MC of polluting is equal to their MB of doing so…
      - …so they pollute until the private marginal benefit of polluting is equal to the private marginal cost of polluting ➔ MSB = 0

Ch. 16: Inefficiency of Neg. Ext.

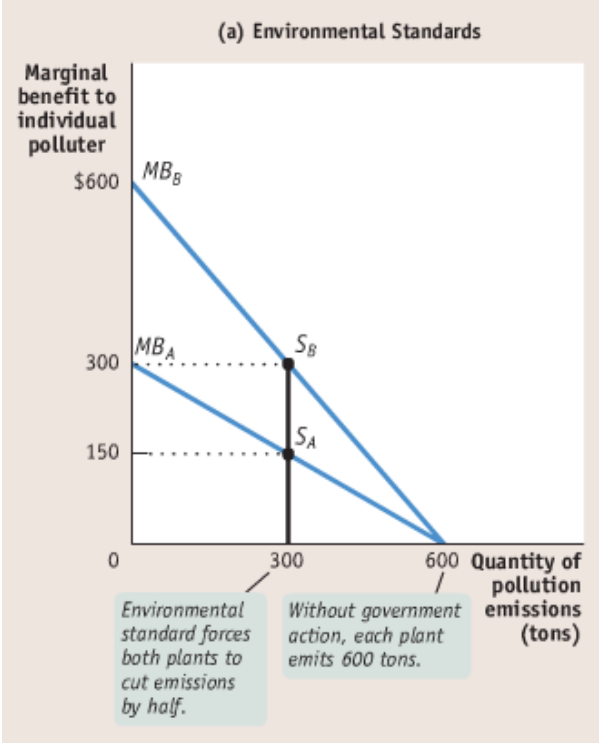


Ch. 16: Policy Solutions to Neg. Ext.

- There are two broad categories of policy solutions
  - Command and control: directly limit the quantity of pollution a firm can produce
    - For pollution, these are called uniform environmental standards
      - Policy makers specify that each firm can only produce a certain amount of pollution
      - The amount each firm can pollute is the same for all firms
  - Market solutions: use monetary incentives to limit the quantity of pollution a firm chooses to produce
    - Two main tools
      - Pigouvian taxes: charge a tax on each unit of pollution a firm producers
        - Makes it more costly to pollute ➔ reduce amount of pollution
      - Permit system (cap and trade): firm must have a license to pollute
        - Firms can buy and sell these permits amongst themselves
        - Like taxes, puts a price on pollution ➔ reduce amount of pollution

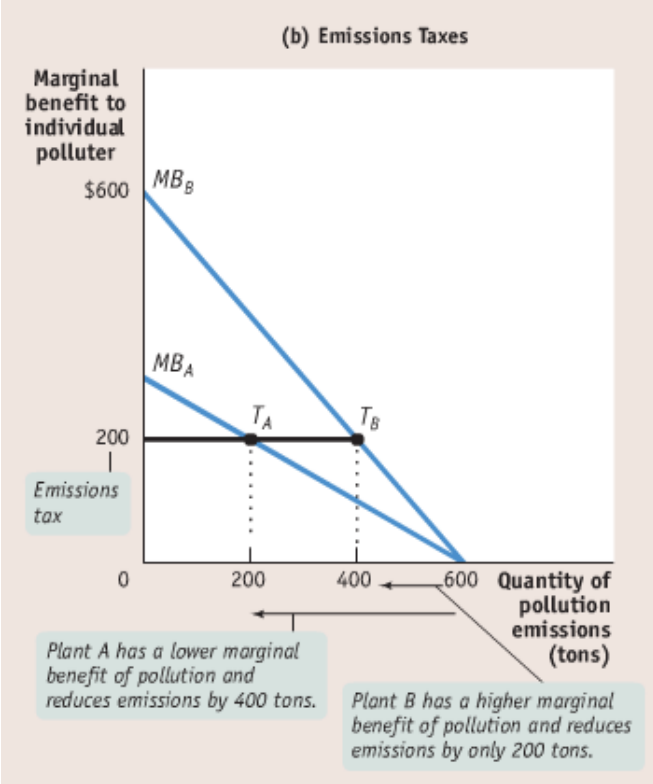
Ch. 16: Environmental Standards

- Environmental standards directly limit the amount a firm can pollute
  - Will reduce the amount of pollution, but does so inefficiently (not at the lowest cost possible)
- Suppose we have two firms, A and B
  - Firm B has a higher MB of polluting than A
    - This means, it is more expensive for B to reduce pollution than for A
  - Without the standard, both A and B pollute until their MB = 0
  - Imposing a uniform standard, reduces the amount of pollution they produce
    - But at the new level of pollution, $MB_B > MB_A$
    - It was more expensive for B to reduce the last unit of pollution than for A
      - Can reduce the total cost of pollution reduction by having A reduce pollution more (because it is cheaper for them to do so) and have B pollute more



Ch. 16: Pigouvian Tax

- What is a Pigouvian tax?
  - Tax designed to reduce external costs/reduce the quantity of some "undesirable" activity
- When set correctly, a Pigouvian tax can reduce pollution…
  - …and does so in an efficient manner than equalizes the MB of pollution across firms
- With a tax, the marginal cost of polluting (to the firm) is now equal to the amount of the tax
  - Polluted until MB = tax
  - We still achieved the same amount of pollution reduction as the uniform standard
    - But now MB_A=MB_B ➔ cannot lower the total cost of pollution reduction by rearranging abatement



Ch. 16: Cap and Trade

- Cap and trade (permit system): firms must have a permit to pollute, and these permits are tradable amongst firms
  - Key is the tradability of permits
    - Firms for whom reducing pollution is cheap (low MB of pollution) will sell their permits to firms for whom reducing pollution is expensive (high MB of pollution)
  - Ex: suppose firm A and B both get 300 permits (thus can pollute 300 units of pollution)
    - But, at 300, $MB_B > MB_A$
    - Firm B will buy permits from firm A
      - This will continue until $MB_B = MB_A$
      - Graphically, this outcome looks the same as the Pigouvian tax graph
        - Instead of $200 being the emissions tax, $200 is the price of a permit

Ch. 16: Issues with Market Solutions

- In the previous slide, both a cap and trade permit system and an emissions tax resulted in the same amount of pollution (the socially optimal quantity)
  - Actually achieving this is not so easy
    - It requires knowing both the social benefits and costs of pollution
      - These are hard to measure and put in dollar terms!
  - For a Pigouvian tax, regulators must know how much tax to charge
    - Too small of a tax ➔ still end up with too much pollution
    - Too large of a tax ➔ end up with less than optimal amt of pollution
  - For a permit system, regulators must know the optimal quantity of pollution and issue that many permits
    - Too many permits ➔ too much pollution
    - Too few permits ➔ not enough pollution

Ch. 16: Coase Theorem

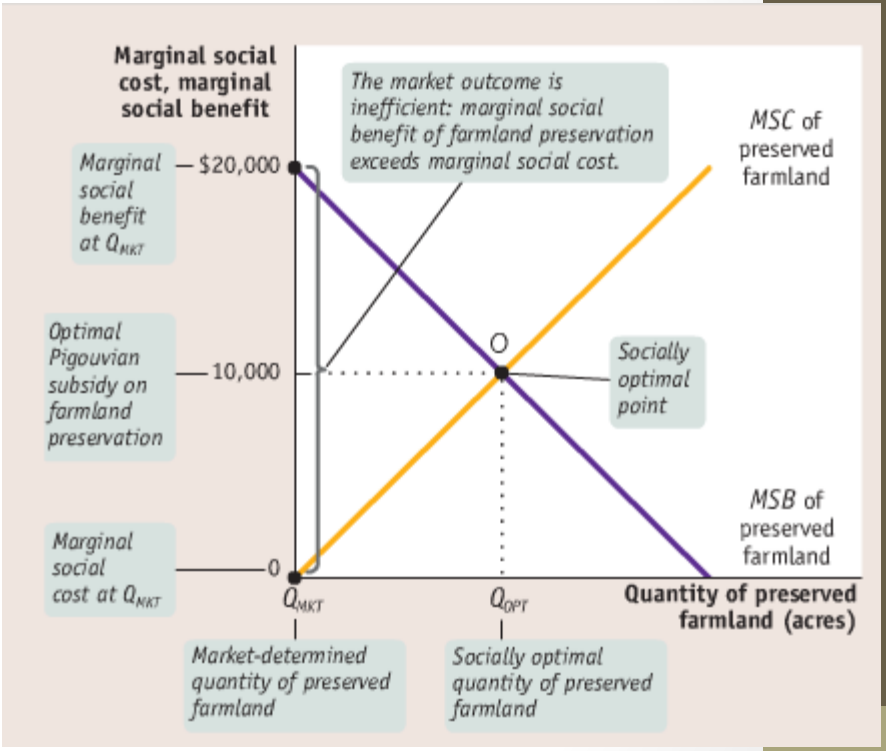
- In theory, we do not need a regulator to step in to ensure the optimal amount of pollution is created
  - Private solutions are possible
- Coase theorem: if private parties can negotiate over the amount of pollution created and transactions costs are sufficiently low, the social optimal can be achieved
  - Transaction costs: costs associated with making a deal
    - Costs of communication between concerned parties
    - Costs of making legally binding agreements
    - Costly delays in bargaining
  - Another caveat of the Coase theorem is that there must be clear properties rights as to who owns the river/lake/etc being polluted
    - Can work okay when the thing being polluted is a lake…
    - …but property rights are not as clear cut with things like air quality or rivers

Ch. 16: Positive Externalties

- What is a positive externality?
  - When production/consumption decisions generate an uncompensated benefit (external benefit) for other parties
    - Ex: preserved farmland, vaccines
- If uncorrected, positive externalities lead to too little of a good/outcome
  - To the individual farmer, the benefit of preserving farmland is zero
    - They will preserve farmland until their private marginal benefit is equal to the marginal cost

Ch. 16: Inefficiency of Pos. Ext.

- Socially optimal quantity given by the intersection of the MSC and MSB curves
- Market outcome
  - Farmers will preserve farmland until their private MB is equal to their MC
  - Private MB = 0 ➔ preserve farmland until MC = 0
    - This quantity is less than the socially optimal quantity
- We can eliminate the inefficiently low quantity caused by positive externalities via a Pigouvian subsidy
  - This is a payment design to encourage a behavior characterized by external benefits
  - Subsidy increases the private MB of preserving farmland
    - ➔ increases amount of farmland preserved



Ch. 16: Network Externalities

- What is a network externality?
  - When the value of a good or service is greater to an individual when a large number of people also use the good or service
    - That is, the marginal benefit to an individual depends on how many people use the good or service
    - Ex: email, Facebook
- Network externalities display positive feedback
  - Positive feedback: if many people buy the good, other people become more likely to buy the good too (and vice-versa)
    - Success breeds greater success, failure breads further failure
- Network externalities are not inherently bad or good for the economy
  - Unlike (uncorrected) negative and positive externalities

Ch. 18: The Welfare State

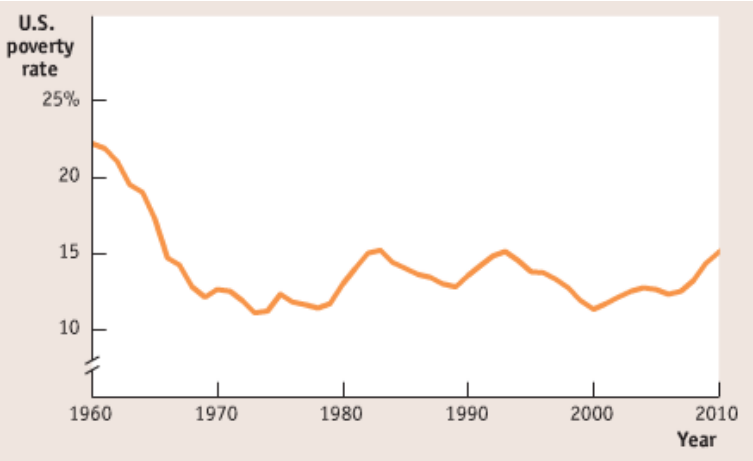
- What are the most important concepts from this chapter?
  - The welfare state
    - What is it?
    - Rationales
  - Poverty in the US
    - Trends, causes and consequences
  - Income inequality in the US
    - What is it?
    - Measuring income inequality
  - Programs in the US
    - Means-tested programs
    - In-kind versus monetary transfers
  - Health care
    - Private insurance and the adverse selection death spiral
    - Types of public (government) health care
  - Debates over the welfare state
    - Equity versus inefficiency

Ch. 18: The Welfare State

- What is the welfare state?
  - Collection of government programs designed to help alleviate economic hardship
    - Ex: unemployment insurance, food stamps, social security, Medicare, etc.
- Rationales for the welfare state
  - Alleviate income inequality
    - Value of extra income is greater for the poor than the rich
      - Monetary transfers from the rich to the poor can increase total well-being
      - Programs aimed to help the poor are called poverty programs
  - Alleviate economic insecurity
    - Shit happens – you lose your job, get really sick, etc. – and hardships usually ensue
      - Some policies have people pay in when times are good so that if something bad happens they will still have income
      - Programs designed to provide protection against unpredictable financial distress are called social insurance programs
  - Reduce poverty and provide access to health care
    - Poverty and lack of adequate health care impose external costs on society
      - Ex: crime, chronic health problems

Ch. 18: Poverty in the US

- What is poverty?
  - The official poverty threshold is defined as the minimum amount of annual income needed to purchase the bare necessities of life
    - For one person ➔ $11,344/year
    - For two adults and two children ➔ $22,113/year
  - In 2009 43.6 million Americans (14.3% of the population) were in poverty
- Trends in poverty
  - Poverty is adjustment for inflation, but is not adjusted to reflect the long-term rise in the standard of living for Americans
  - Still, the poverty rate has not fallen much over the last 40 years



Ch. 18: Causes & Consequences of Poverty

- What causes poverty?
  - Education is a big part of poverty
    - Average hourly wage for those with a college degree is 82% higher than the hourly wage for those with only a high school dipolma
  - Lack of proficiency in English
  - Racial and gender discrimination
    - Non-whites and women earn less than their white and male counterparts
  - Bad luck
- Consequences of poverty
  - Chronic poverty is associated with
    - Lack of access to health care: can lead to chronic health problems that erode the ability to work and go to school
    - Lack of affordable housing: can cause families to move often and disrupt school and work
  - Poverty is especially harmful for children
    - In 2010, 22% of children in the US lived in poverty
    - Even after controlling for innate ability, poor children have lower educational attainment

Ch. 18: Income Inequality

- What is income inequality?
  - Concerned with how income is distributed across income groups
    - In the US, the bottom 20% of income earners got only 3.3% of total income
      - The top 20% received more than half of total income

TABLE 18-2 U.S. Income Distribution in 2010

Income group	Income range	Average income	Percent of total income
Bottom quintile	Less than $20,000	$11,034	3.3%
Second quintile	$20,000 to $38,043	28,636	8.5
Third quintile	$38,043 to $61,735	49,309	14.6
Fourth quintile	$61,735 to $100,065	79,040	23.4
Top quintile	More than $100,065	169,633	50.2
Top 5%	More than $180,810	287,686	21.3
Mean income = $67,530		**Median income = $49,445**	

Source: U.S. Census Bureau.

- How do we measure income inequality?
  - Mean income versus median income
    - Mean income ➔ average income
    - Median income ➔ income at the exact middle of the distribution
      - A bigger the difference between mean and median income implies more income inequality
  - Gini coefficient: a measure of income inequality; always between 0 and 1
    - If zero ➔ income is even distributed
    - If one ➔ all income goes to a single person
      - In the US, Gini coefficient is about 0.41 and has been rising over the past 40 years

Ch. 18: Welfare Programs in the US

- Welfare programs can be broadly classified in two ways
  - Monetary transfers versus in-kind
    - Monetary transfers: assistance that directly gives money to recipients
      - Ex: Temporary Assistance for Needy Families (aka: welfare), unemployment insurance
    - In-kind: assistance that is given in the form of goods and services (instead of money)
      - Ex: food stamps, Medicare, Medicaid
  - Means-tested versus not means-tested
    - Means-tested: benefits that are available only to people/families whose income/wealth falls below a certain threshold
      - Ex: food stamps, Temporary Assistance for Needy Families, Earned Income Tax Credit
    - Not means-tested: provide benefits to everyone regardless of their financial situation
      - Maybe be subject to other requirements (age, employment status, etc.)
        - Ex: unemployment insurance, Medicare, Social Security

Ch. 18: Welfare Programs in the US

- The effect of welfare programs
  - Reduce poverty

TABLE 18-4 Effects of Taxes and Transfers on the Poverty Rate, 2009

Group (by age)	Poverty rate without taxes and transfers	Poverty rate with taxes and transfers
All	23.7%	13.1%
Under 18	24.7	16.6
18 to 64	17.5	11.7
65 and over	48.0	9.8

Source: U.S. Census Bureau.

  - Reduce income inequality

TABLE 18-5 Effects of Taxes and Transfers on Income Distribution, 2009

Quintiles	Share of aggregate income without taxes and transfers	Share of aggregate income with taxes and transfers
Bottom quintile	0.7%	3.7%
Second quintile	6.9	9.8
Third quintile	14.0	15.9
Fourth quintile	24.1	24.2
Top quintile	54.3	46.4

Source: U.S. Census Bureau.

Ch. 18: Health Care

- Private health insurance
  - All individuals pay an annual premium and, if they need medical care, the insurance company uses the pooled premiums to pay the medical bills of individuals
    - Healthy people tend to pay more than the value of the health care they actually receive; sick people tend to pay less
    - Healthy people might decide to forgo health insurance, leaving only the sick (and high cost) individuals left in the pool
      - Increases average cost for the remaining individuals in the pool ➔ increases premiums ➔ more healthy people drop out as insurance becomes more expensive
  - This process is referred to as the adverse selection death spiral and is how insurance companies may fail
    - This can be overcome via
      - Screening to determine who will be a high cost individual and then charging them a higher premium (or denying them coverage)
      - Employment-based health insurance: force employees to take part in health insurance scheme ➔ keep a good mix of healthy/unhealthy (low cost/high cost) individuals in the pool

Ch. 18: Health Care

- Types of government health care in the US
  - Medicare: health insurance for those over 65 years old, paid for by payroll taxes
    - Not means-tested
  - Medicaid: health insurance for low-income individuals/families, paid for by state and federal revenues
    - Means-tested
  - Military health care: health care for those that served in the military
    - Not just health insurance (gov't doesn't just pay the medical bills)
      - Gov't actually provides health care to members of the military in VA hospitals and clinics
- The uninsured: nearly 50 million Americans have no insurance (private or government)
  - The uninsured face higher financial burdens of health care and have higher barriers to receiving care

Ch. 18: Health Care

- Government health care in other countries
  - Single-payer system: health care system in which the government is the principal payer of medical bills for everyone
    - Funded through taxes
    - Some governments (like the UK) directly provide the health care services, some (like Canada) just pay the bill for health care services, and others (like France) do a combination of the two
- Affordable Care Act (ACA); aka “Obamacare”
  - Three key components
    - Community rating: insurance companies must offer the same policies to all individual regardless of medical history
    - Individual mandate: all individuals must have health insurance
      - Prevents the adverse selection death spiral
    - Government subsidies to low and middle income households to help purchase health insurance

Ch. 18: Problems/Politics

- Problems with the welfare state
  - Philosophical disagreement over the proper role of government
  - Equity versus efficiency of taxes
    - Equity ➔ marginal dollar is worth more to a poor person than a rich person, so we should tax the rich more than the poor
    - Efficiency ➔ high tax rates discourages the incentive to work hard and make risky investments
      - Why work more if most of that income is taken in taxes?
  - Equity versus efficiency of welfare programs
    - Equity ➔ protect and help the most vulnerable and disadvantaged segments of society
    - Efficiency ➔ if being poor means you get to "live off the government" what incentive do you have to get out of poverty?
      - Related to the concept of notching: feature of means-tested benefits which makes a family worse off if they earn more (and don't qualify for assistance any longer)