

Special Topics and Course Conclusion

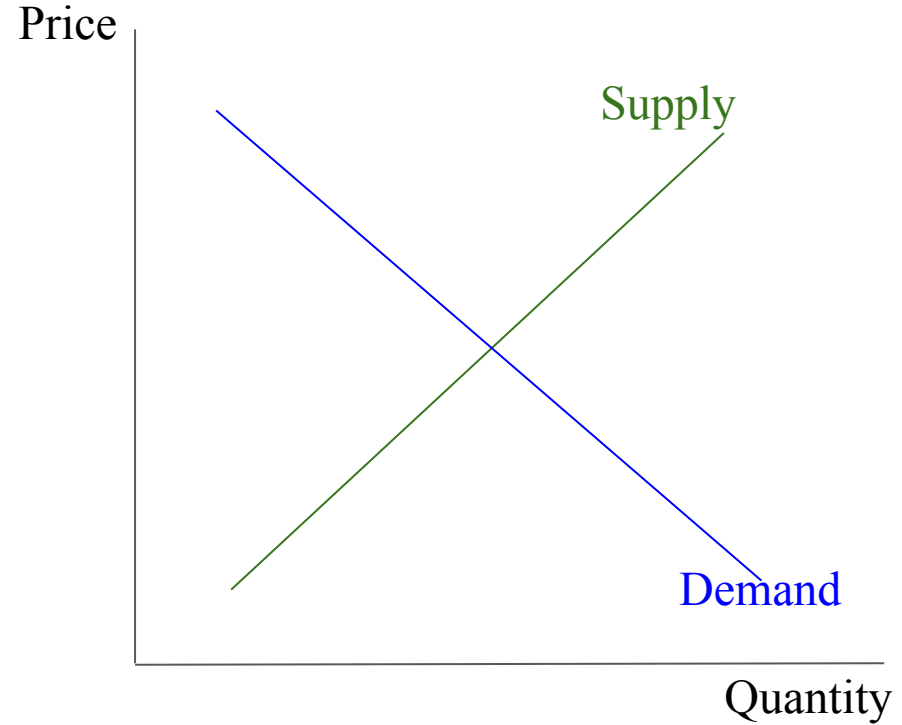
Summer 2023
Econ S10-A, Harvard University
Prof. Josh Abel

A Framework for Economic Analysis

- Positive analysis
 1. Decisions: individuals make choices
 2. Equilibrium: individual choices must be coherent
- Normative analysis
 1. Efficiency (Social Surplus = Social Benefit - Social Cost)
 2. Distribution (who gets the Social Surplus?)

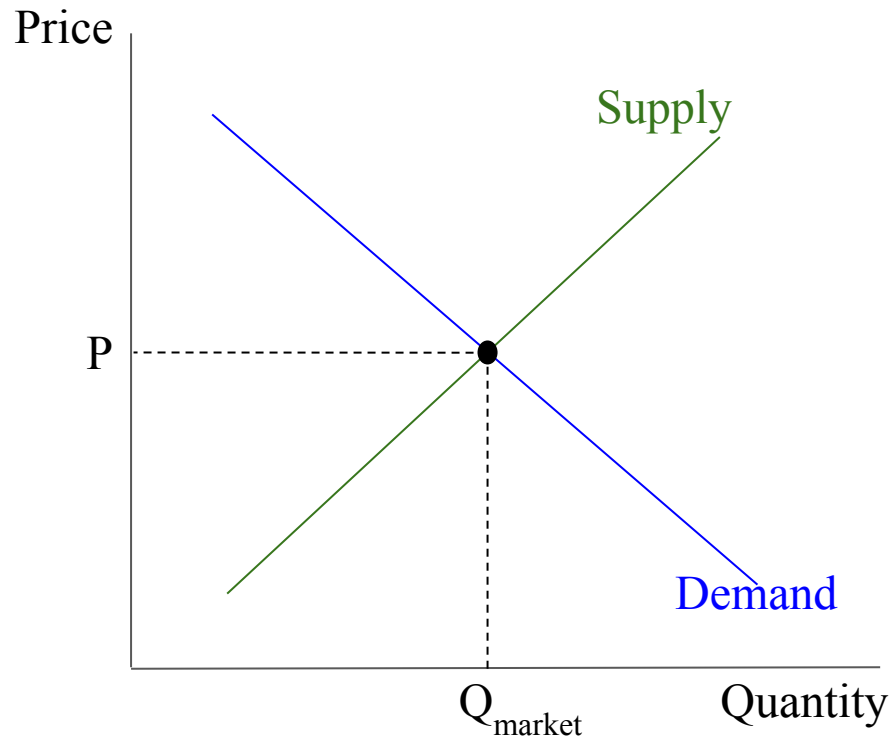
Positive Analysis

- Decisions: Supply, Demand



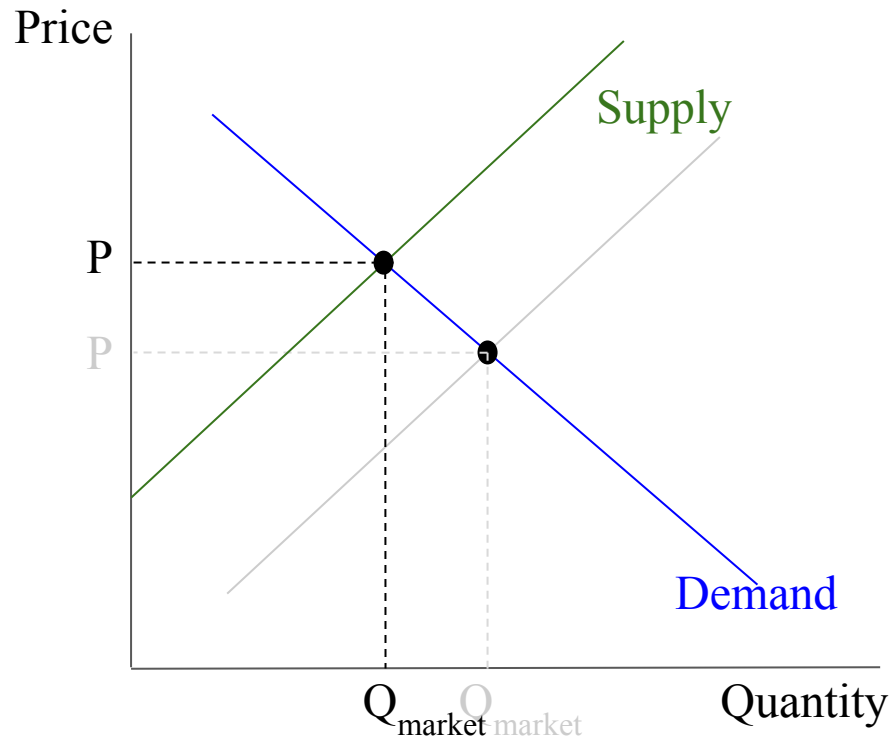
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- Decisions: Supply, Demand
- Equilibrium: Supply = Demand



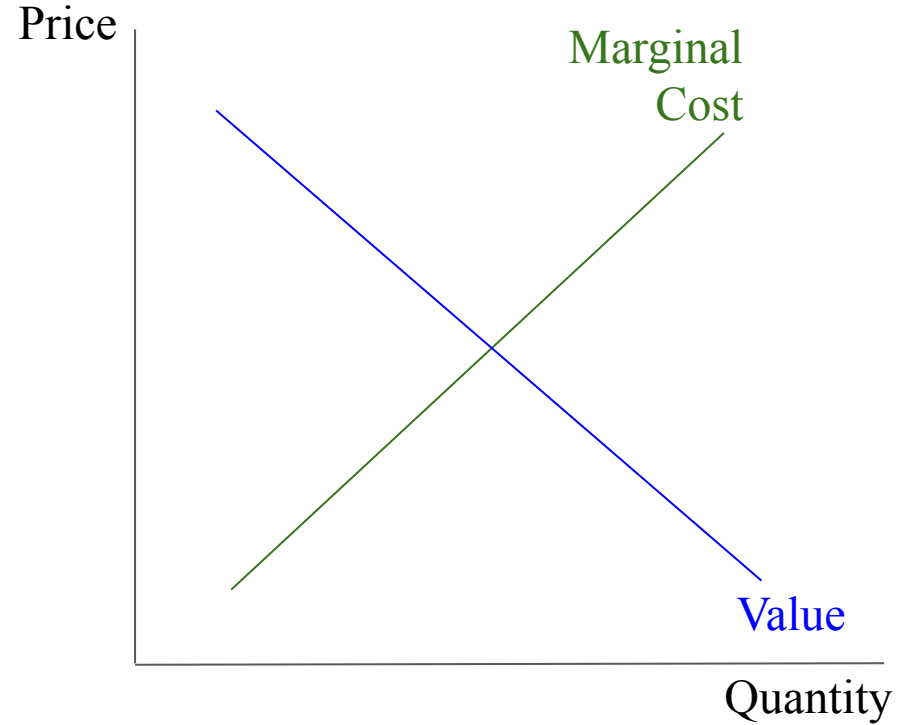
Positive Analysis

- Decisions: Supply, Demand
- Equilibrium: Supply = Demand
- Comparative Statics



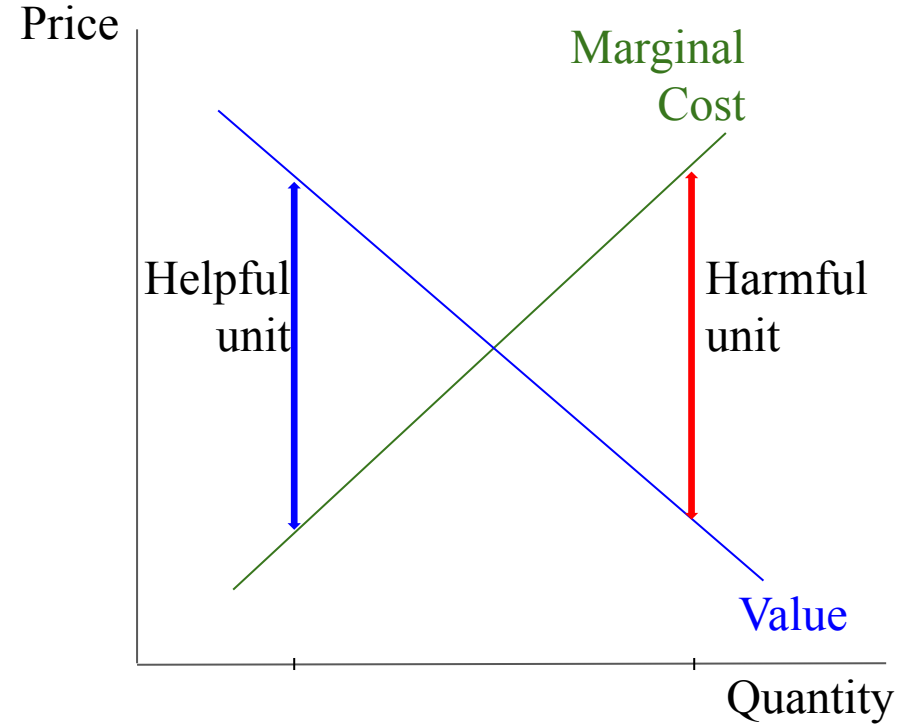
Normative Analysis: Efficiency

- Social Benefit vs. Social Cost



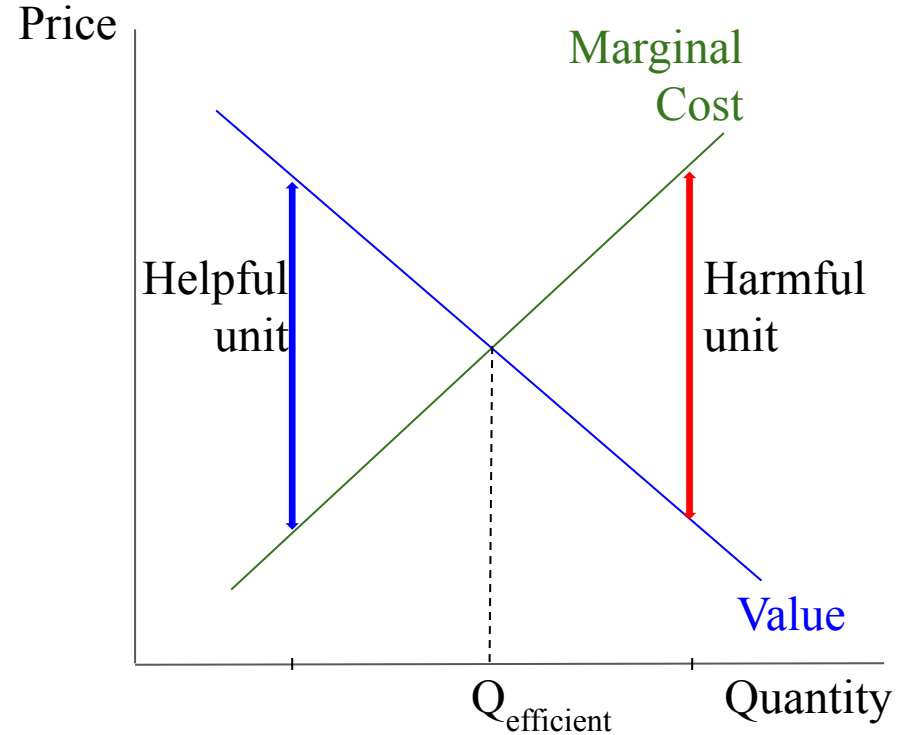
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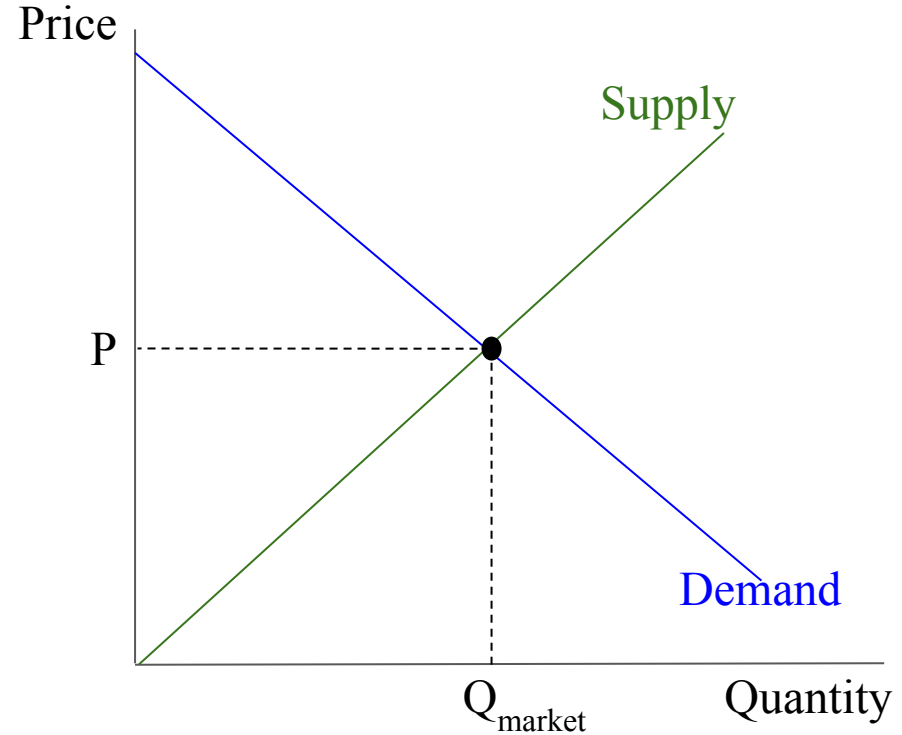
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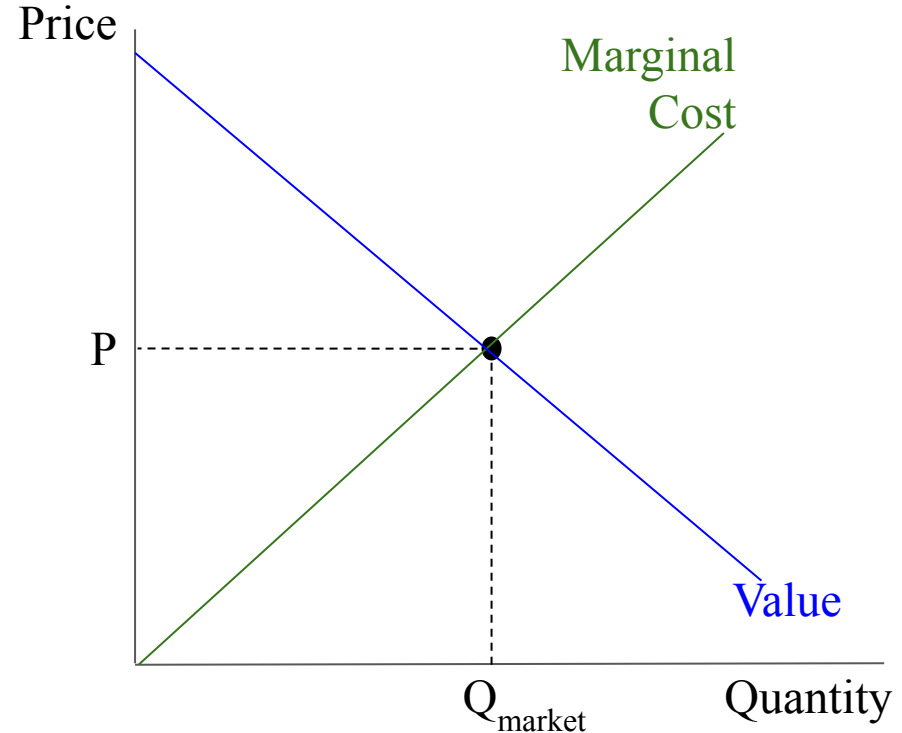
Idealized Benchmark

- Assumptions:
 1. Symmetric information (market exists)



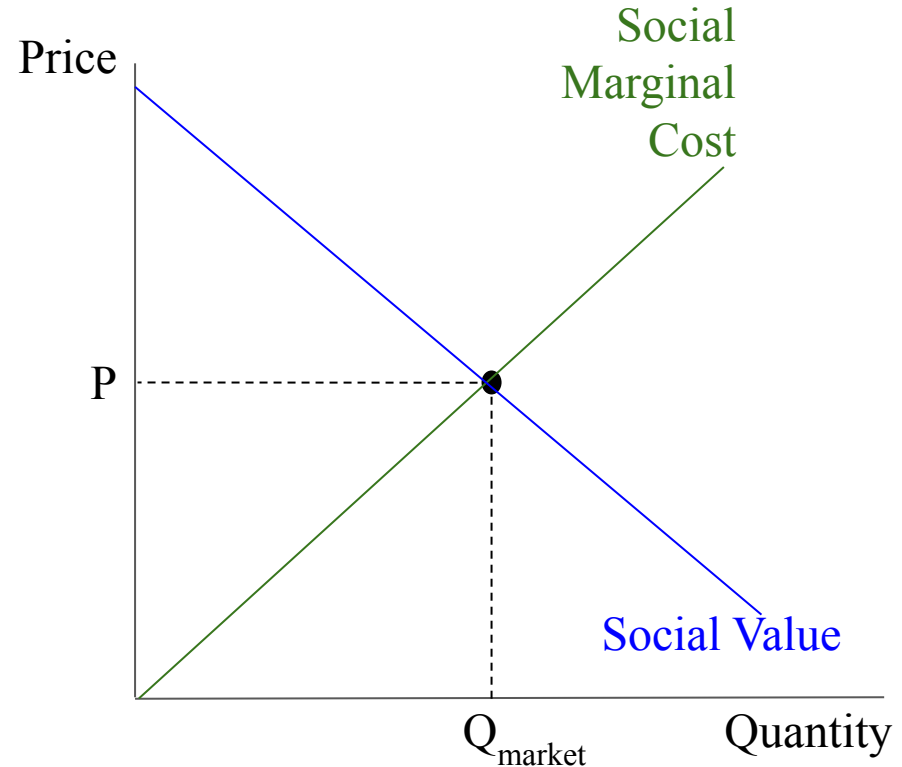
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 2. Firms are Price Takers
 3. Consumers are rational



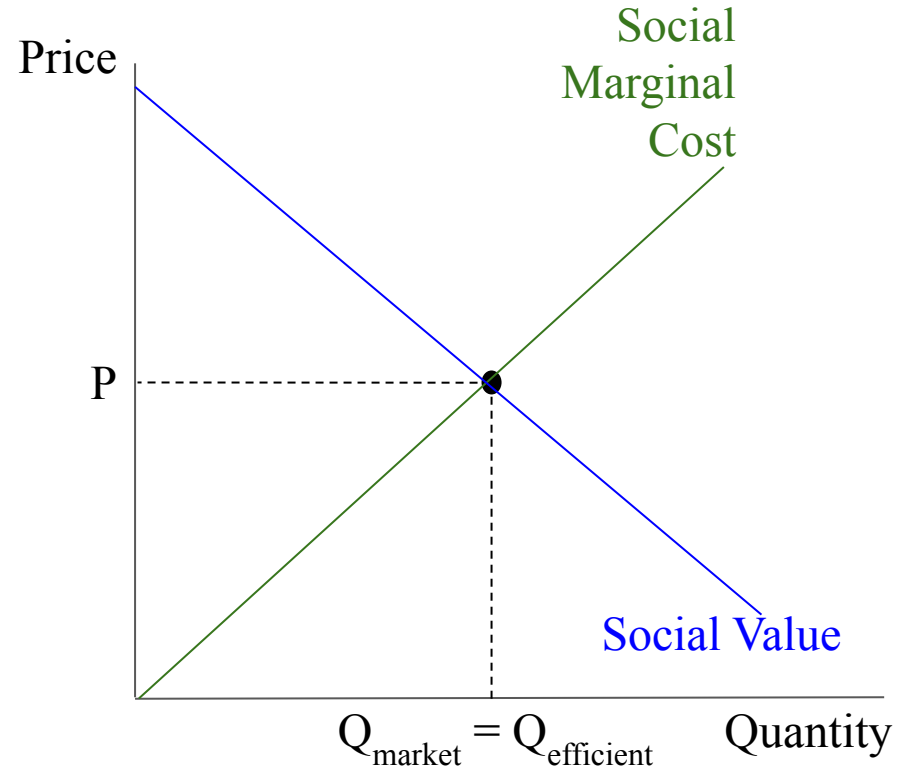
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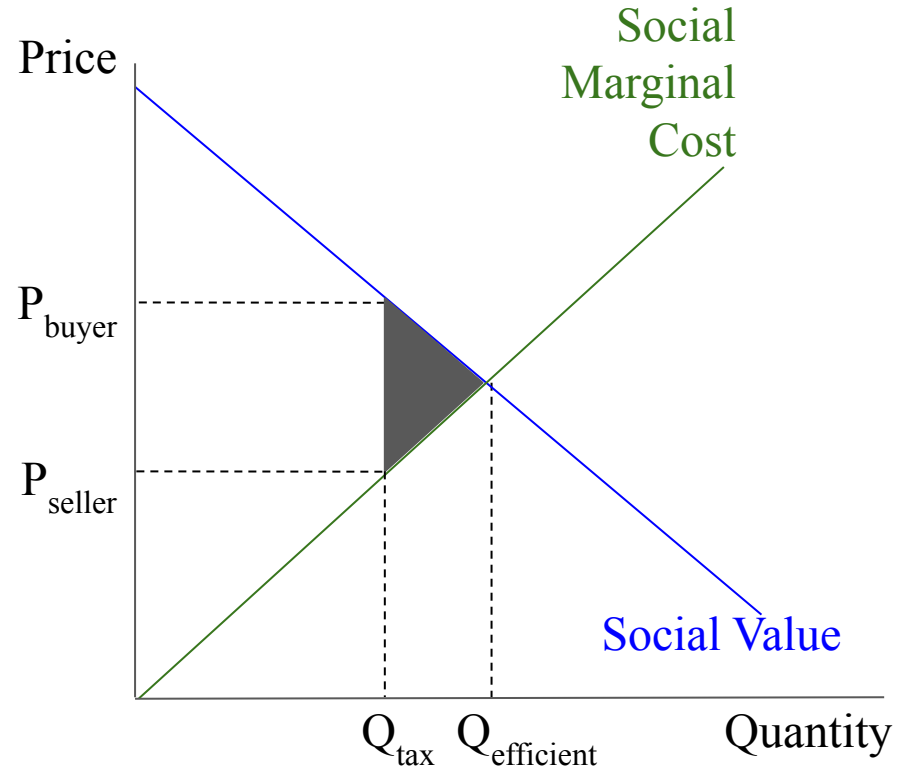
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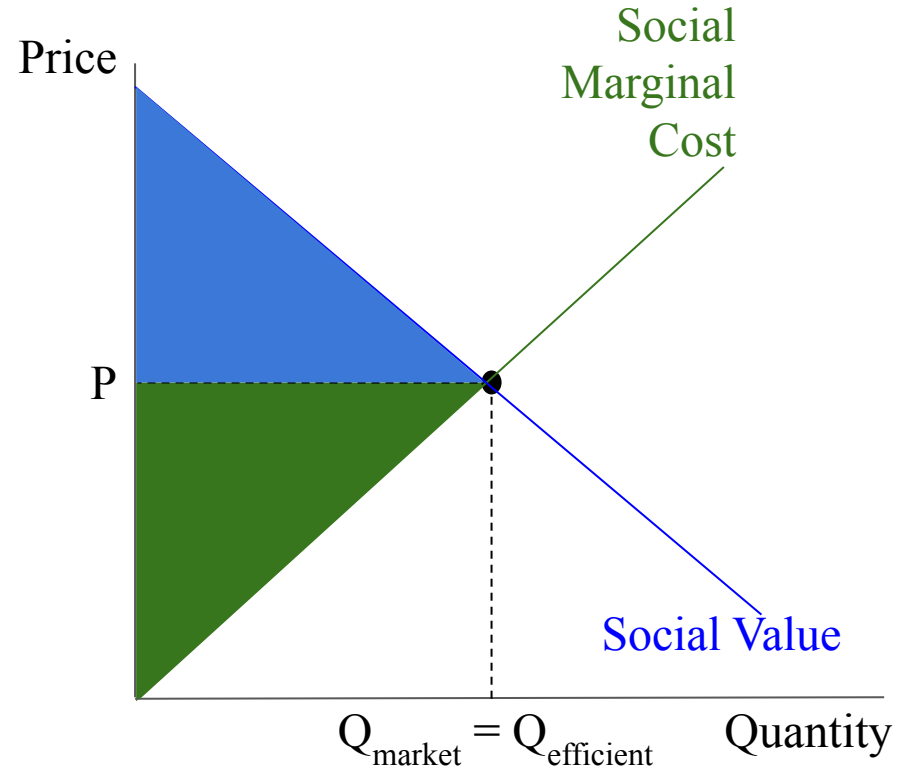
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- Government intervention reduces efficiency



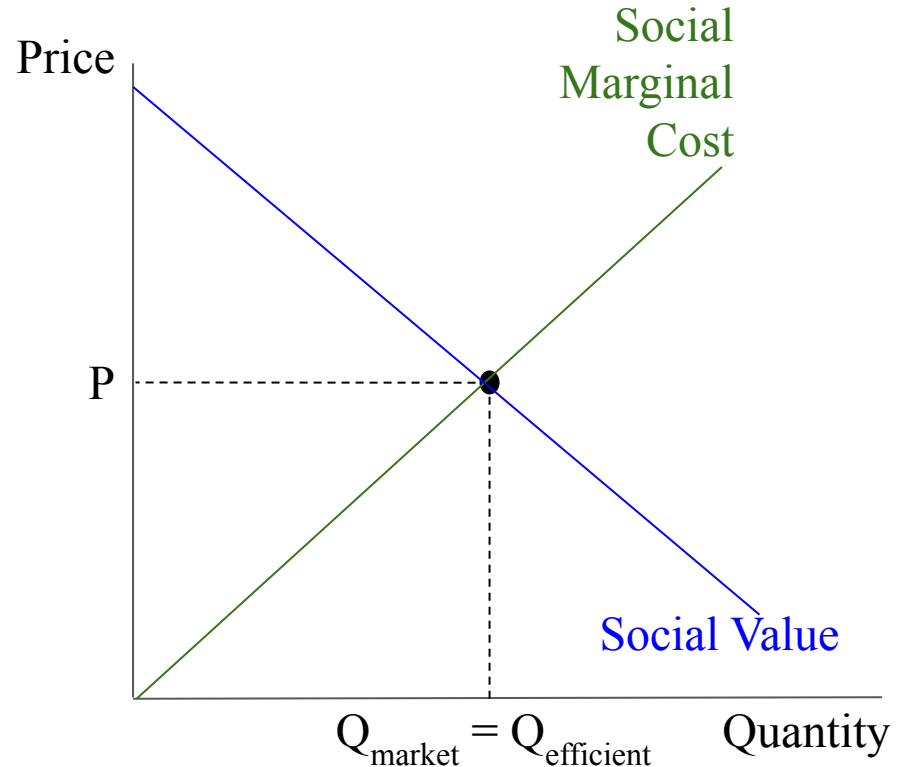
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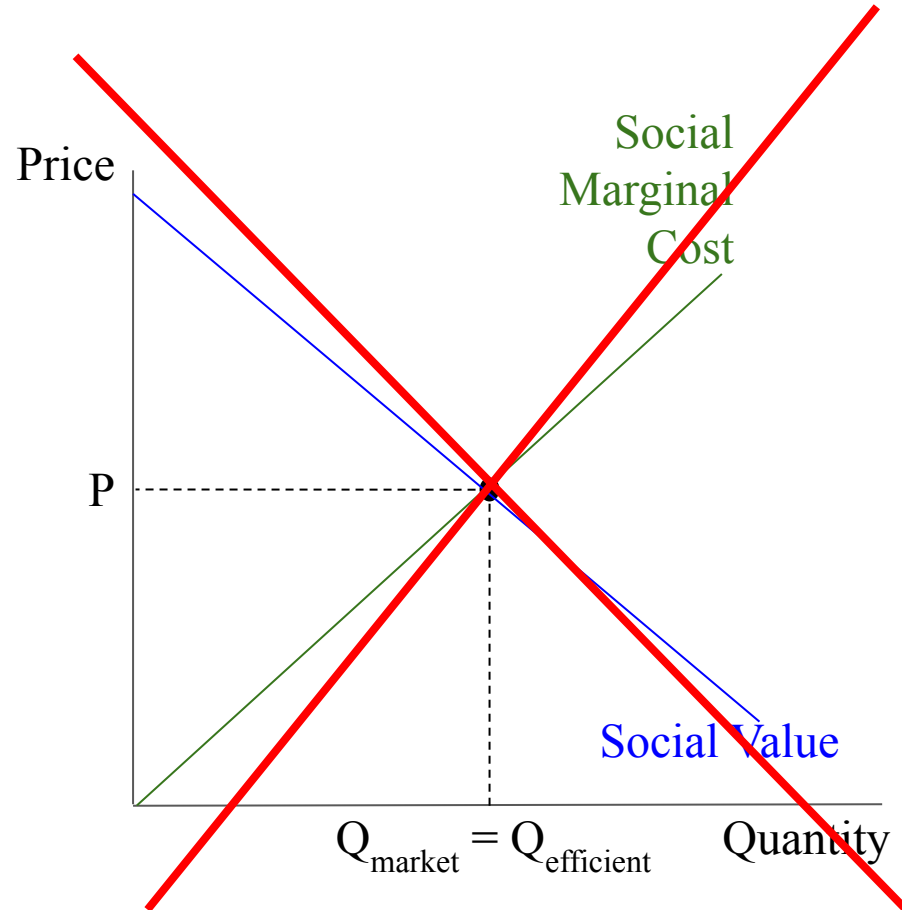
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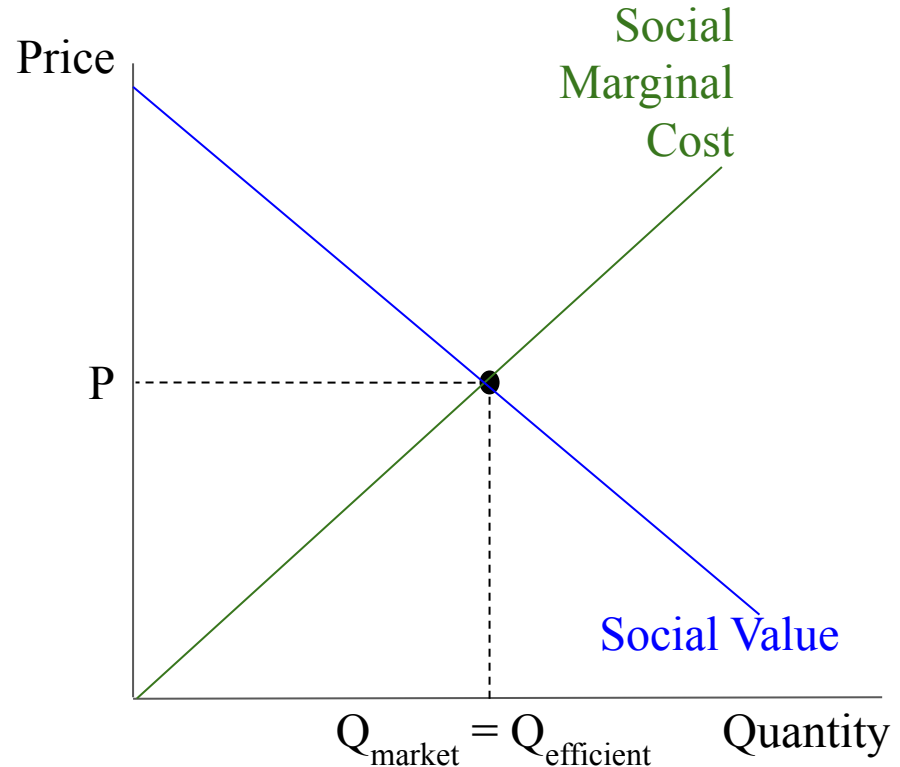
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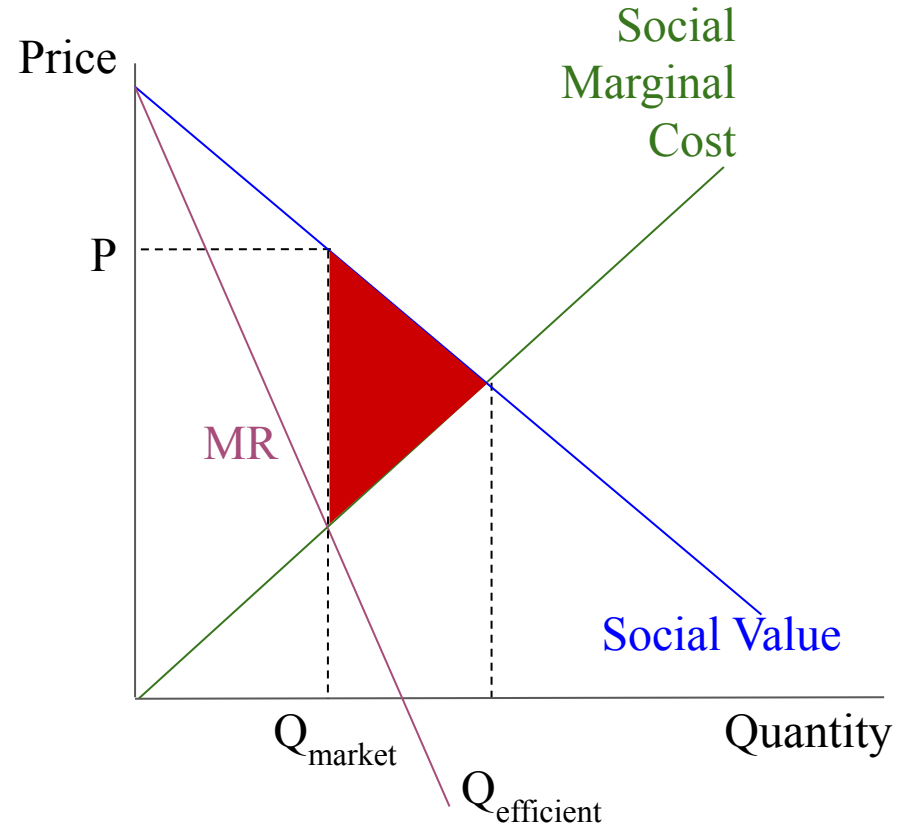
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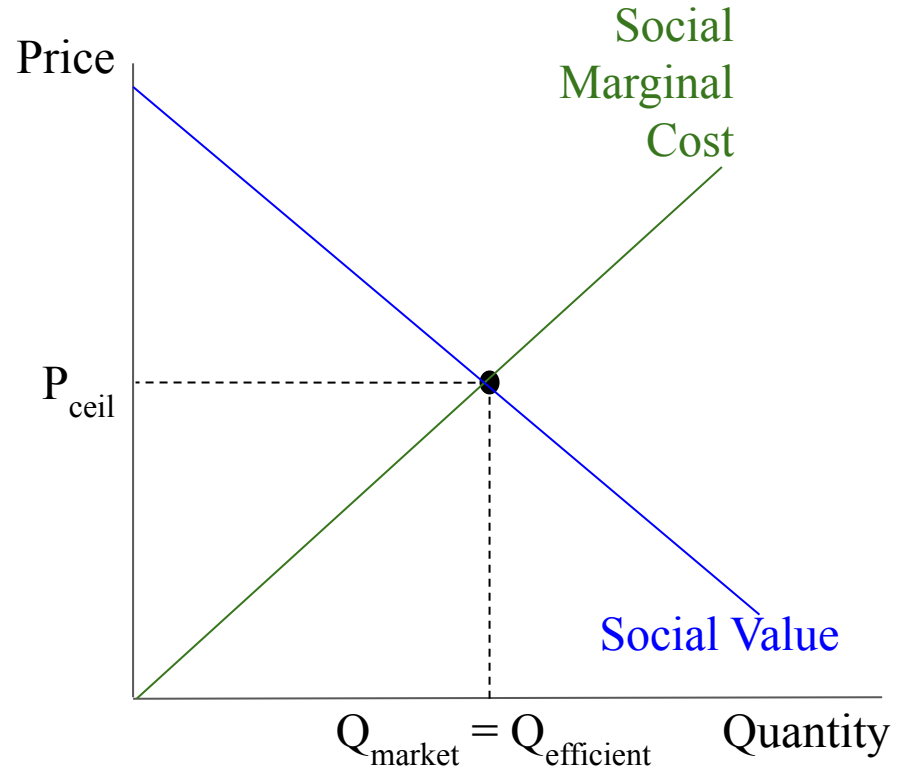
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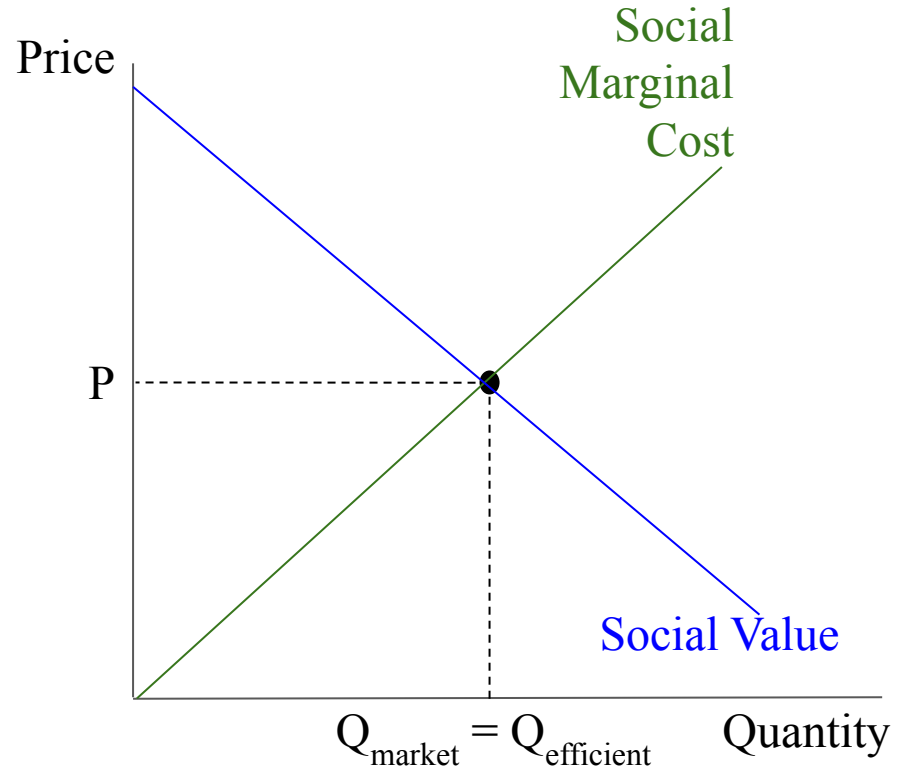
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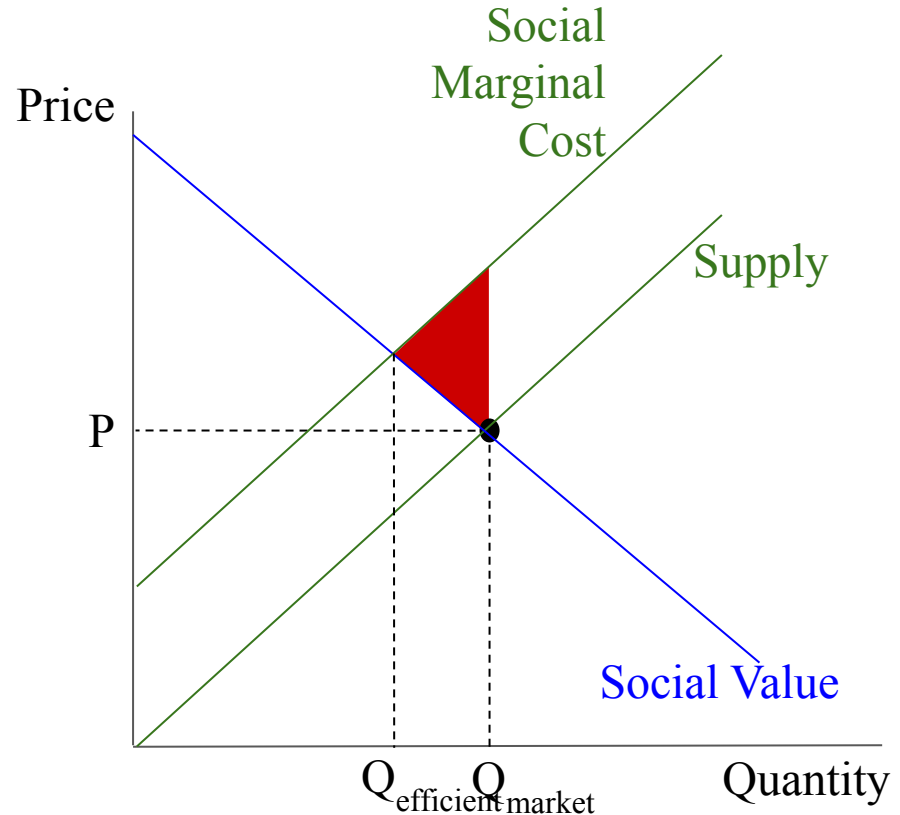
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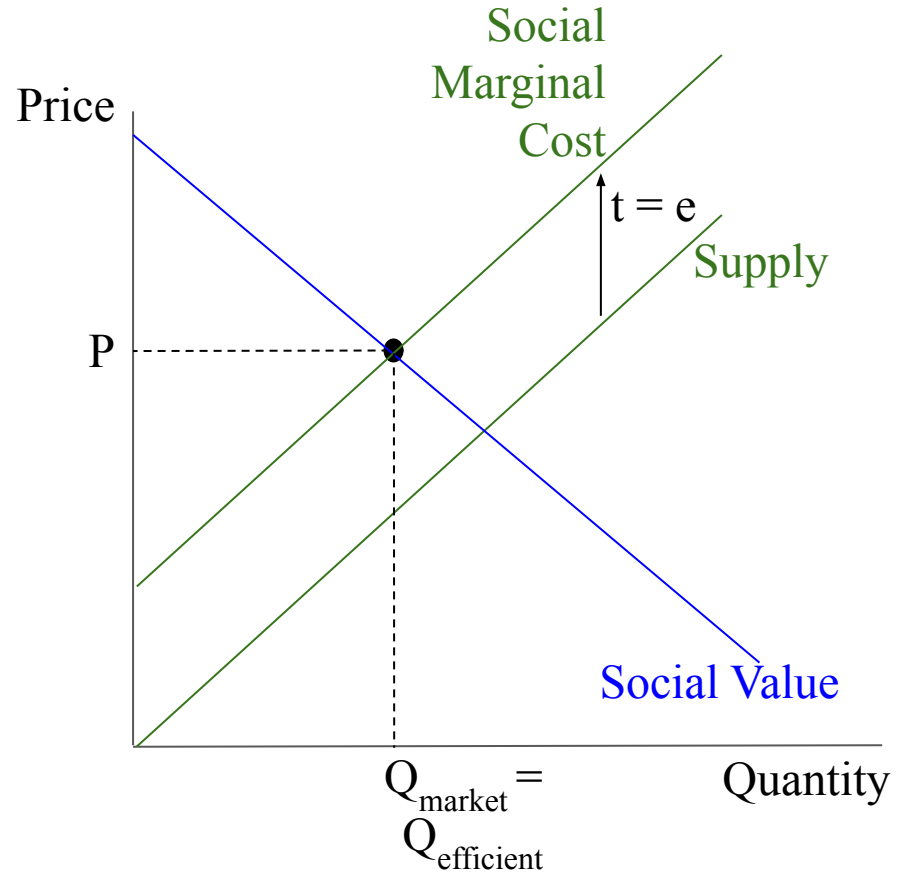
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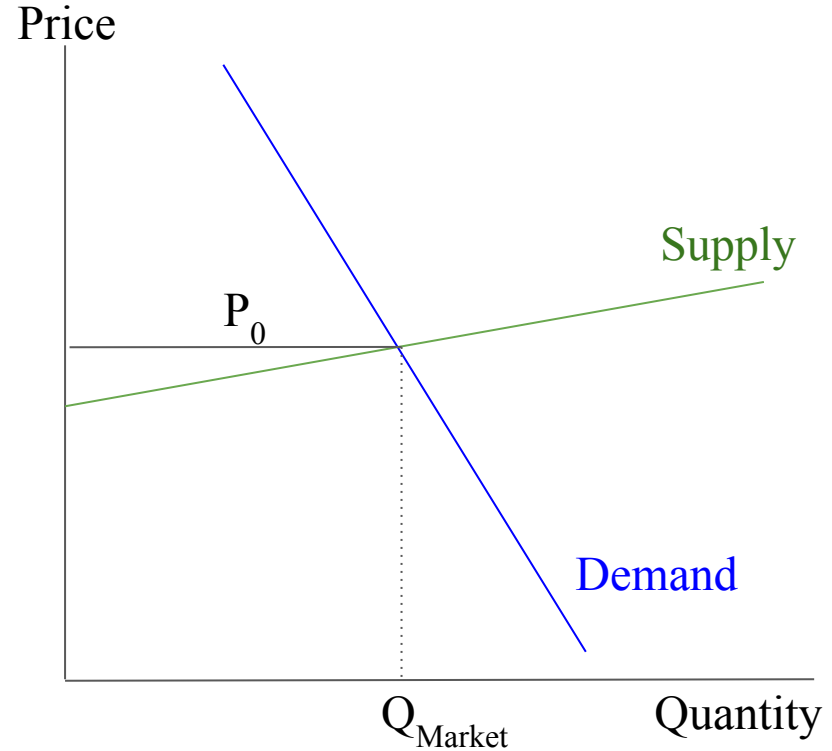
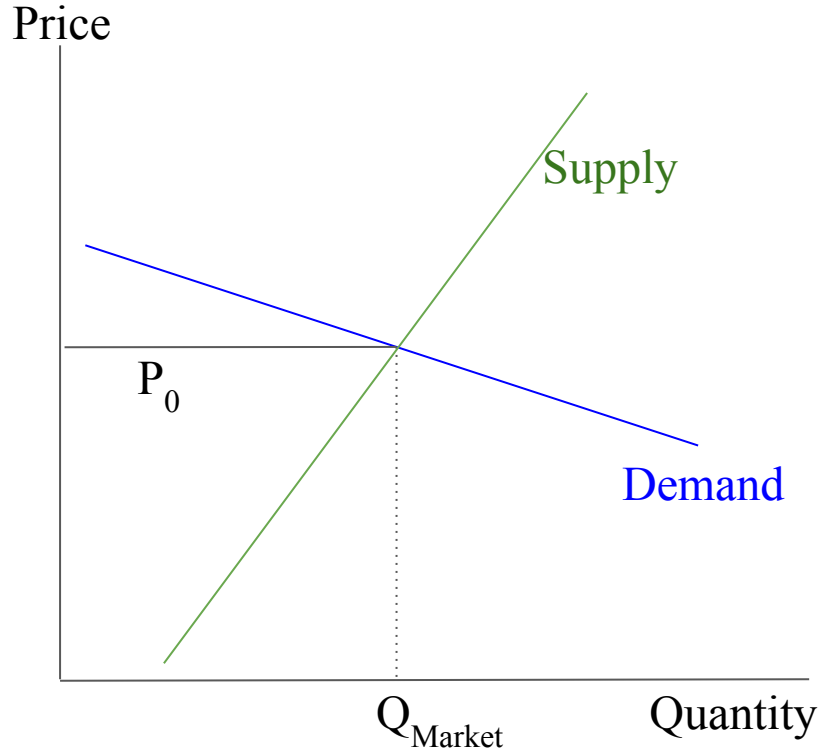
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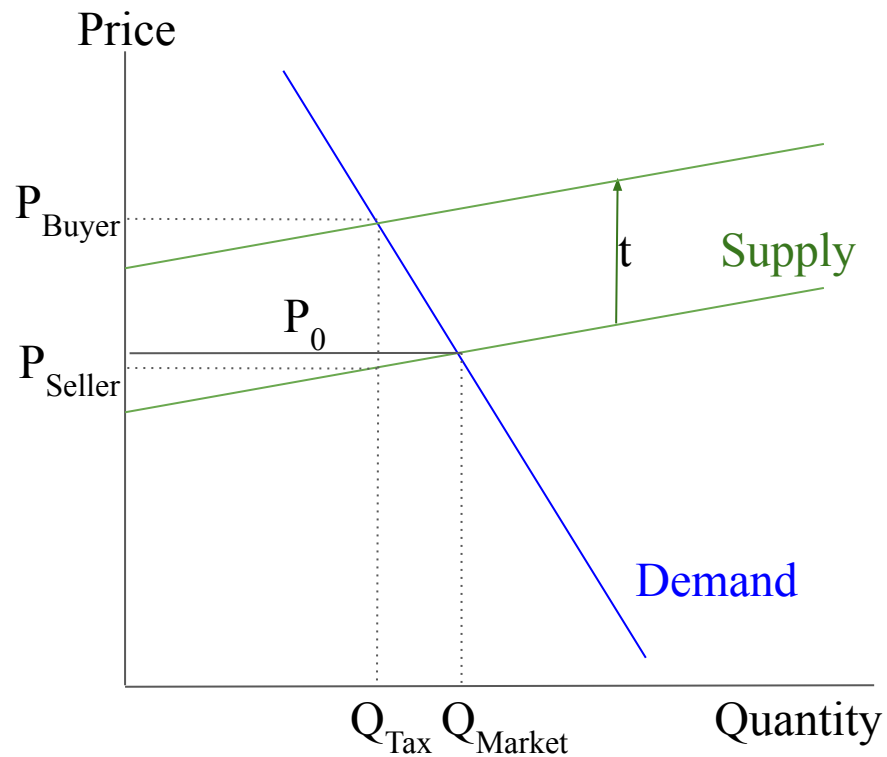
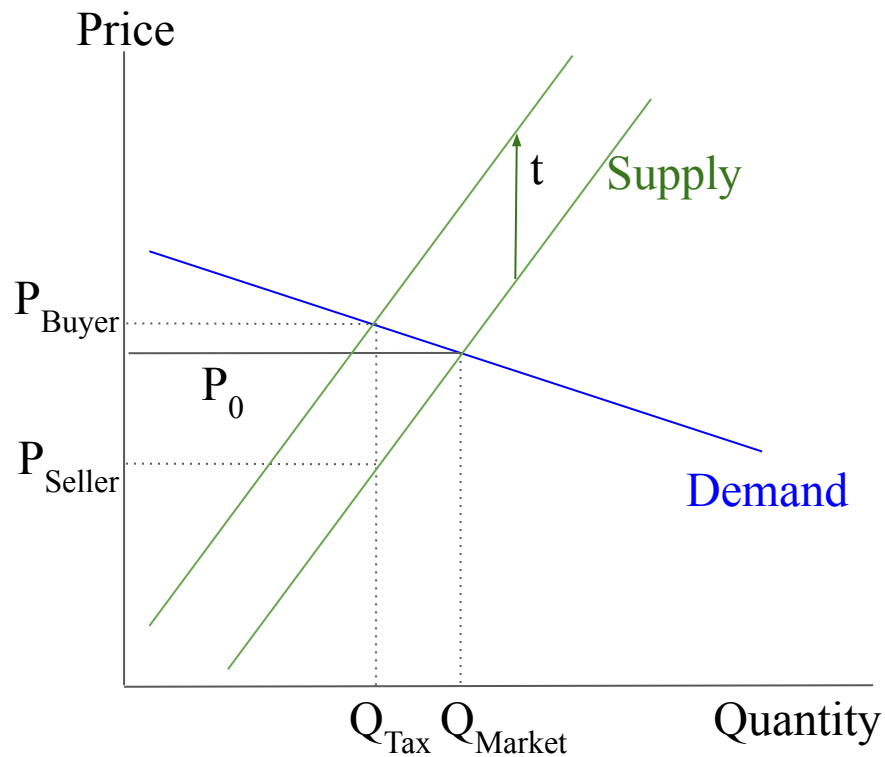
Distribution

- Policy affects distribution, not just efficiency (incidence)



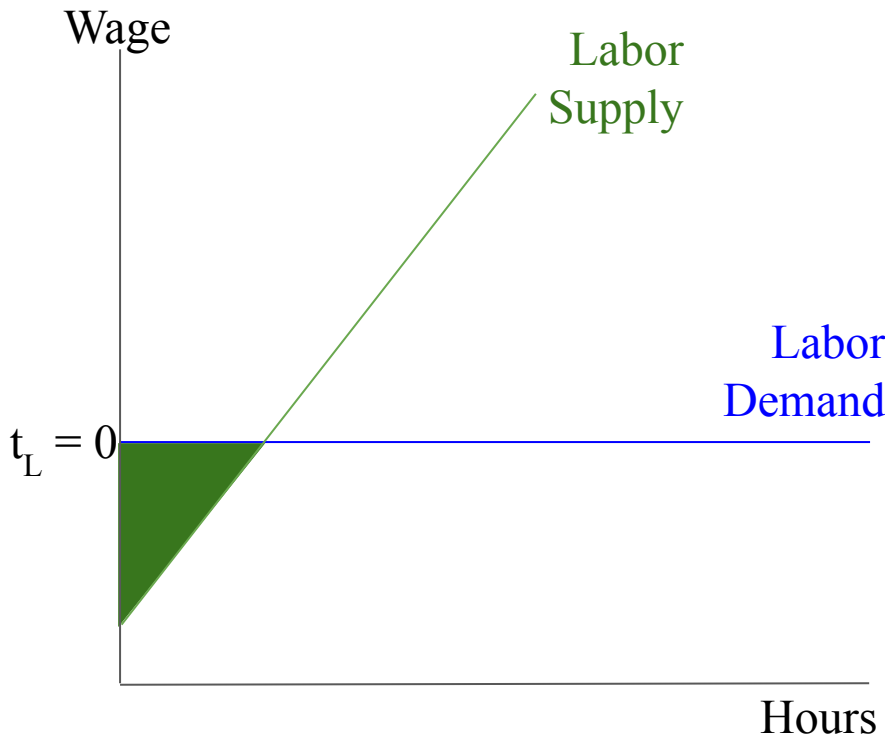
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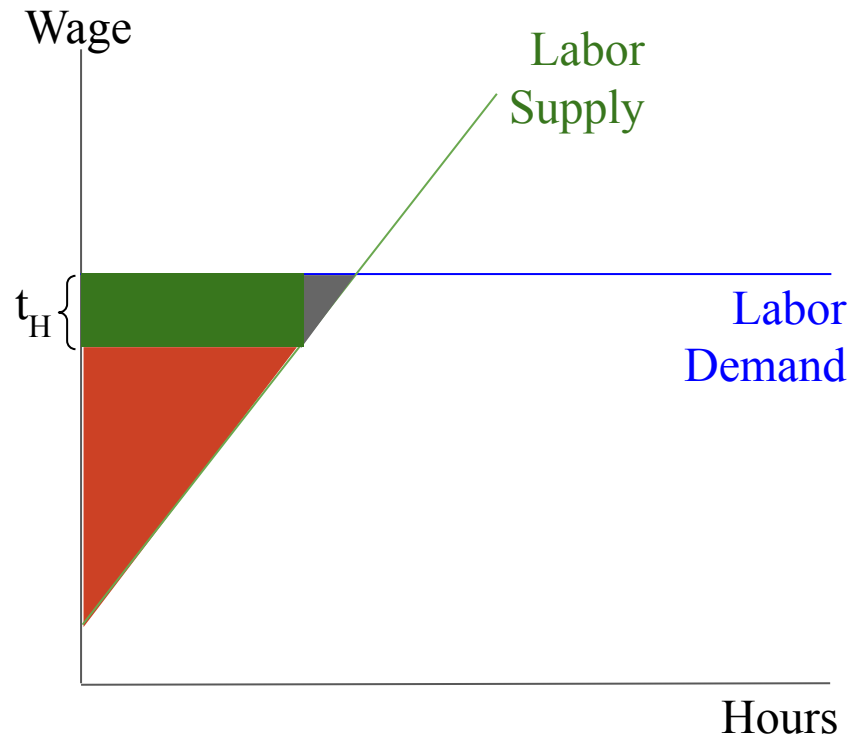


Distribution

- Policy affects distribution, not just efficiency (incidence)
- Policy affects efficiency, not just distribution (leaky bucket)



Low-Earner



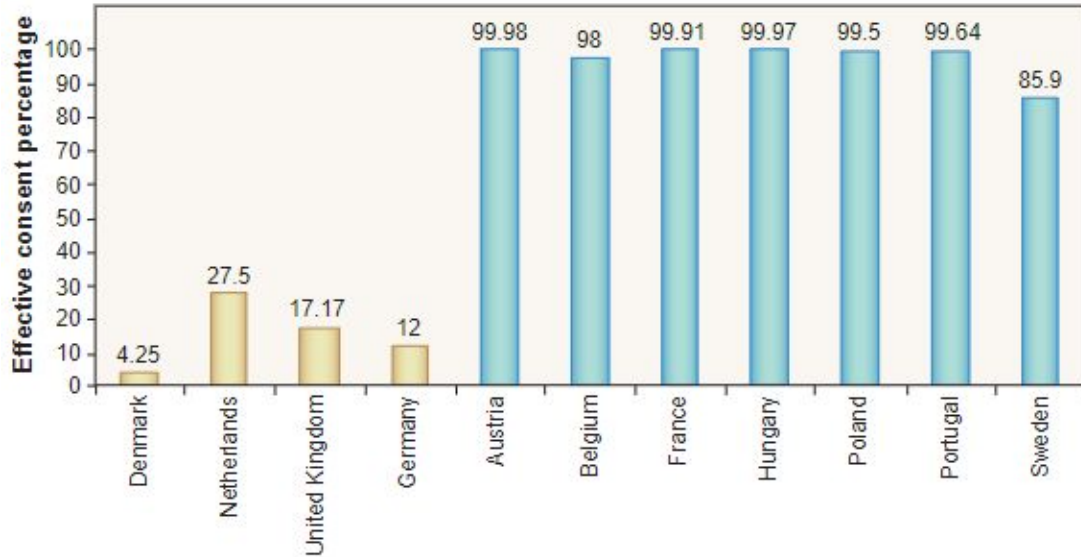
High-Earner

Policy Recommendations

- Clear market failures (inefficiencies) should be addressed with taxes/subsidies
 - In specific settings, price or quantity controls can make sense
- Distributional problems would ideally be dealt with by progressive income taxation
 - If explicit redistributive regime is weak, other interventions (price controls, commodity taxes/subsidies) can be beneficial
 - But these are less targeted and have greater efficiency costs

Behavioral Economics

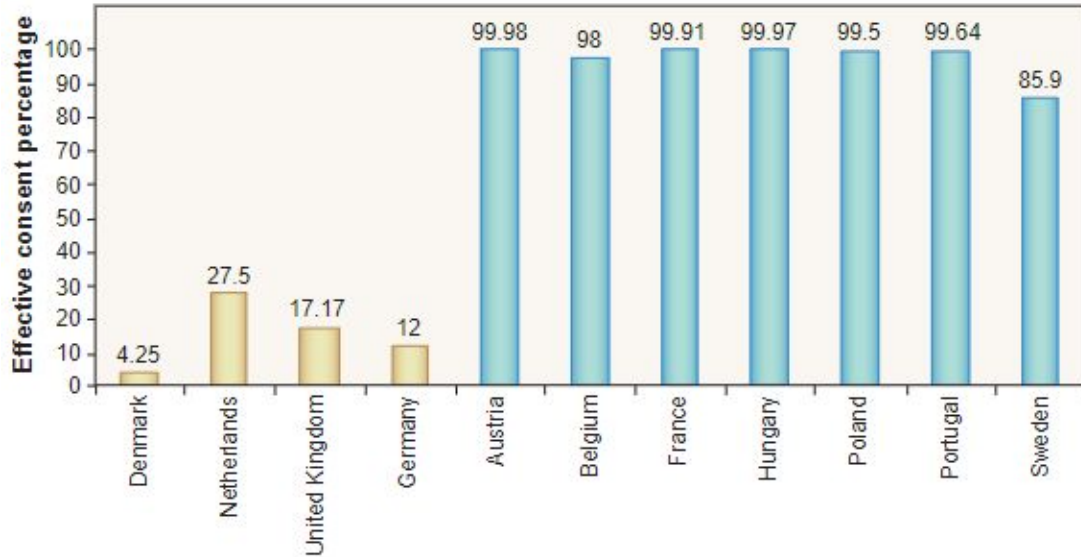
Default Bias: Organ Donor Status



Effective consent rates, by country. Explicit consent (opt-in, gold) and presumed consent (opt-out, blue).

- Johnson and Goldstein (2003)
- Countries where you have to opt **out** of being an organ donor have much higher rates than countries where you have to opt **in**
- Why?

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- Why?
 - “Inertia”?
 - Social norms?
- What do you think the default should be?

Default Bias: Retirement Plans

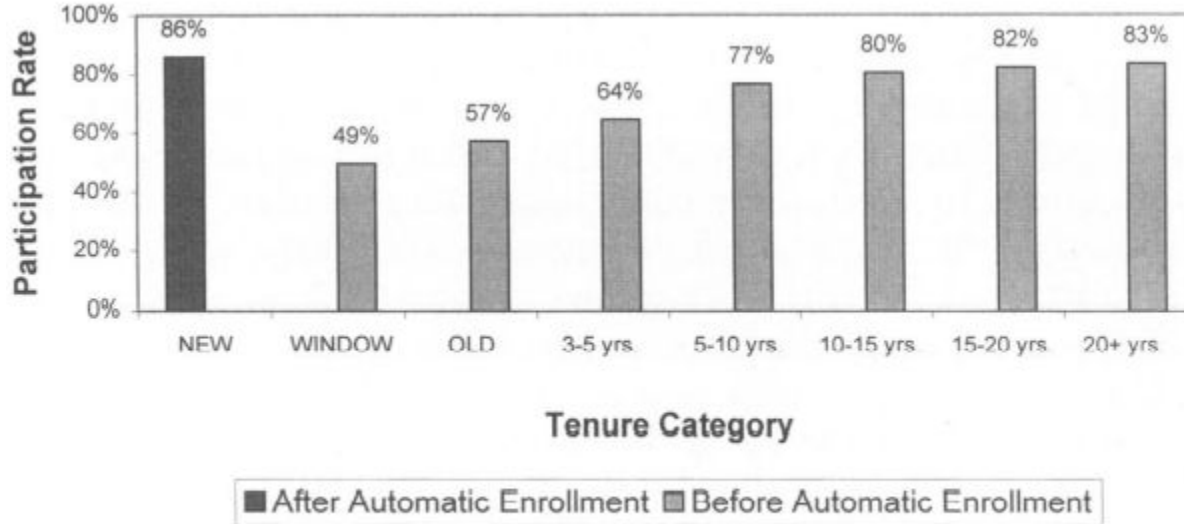


FIGURE I
401(k) Participation by Tenure

- Madrian and Shea (2001)
- A large company instituted automatic enrolment in 401(k)
- New employees hired after the change were much more likely to participate in retirement plan
- Suggests a tendency to choose the “default” option
- Why?

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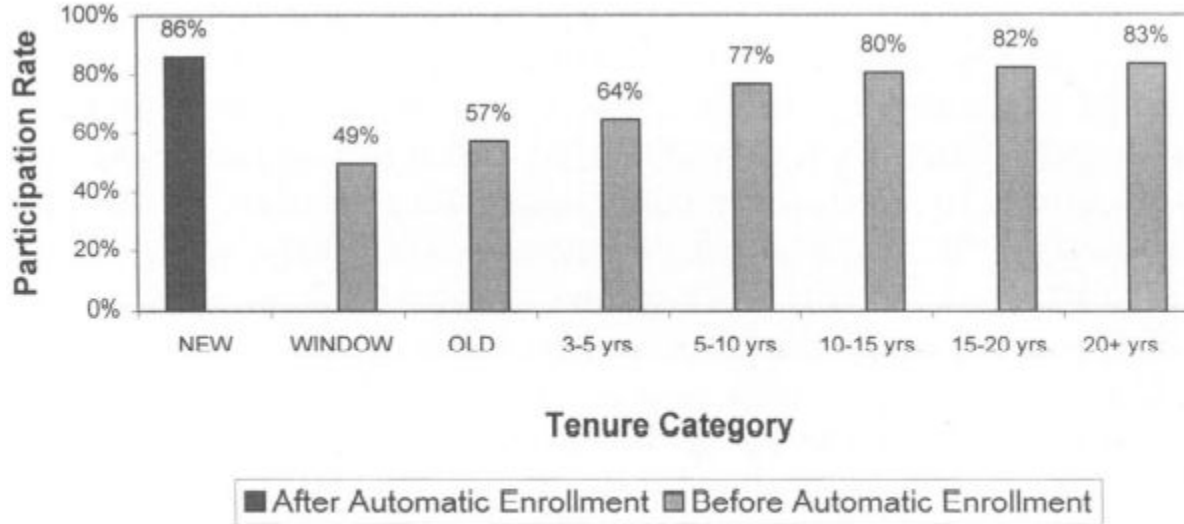
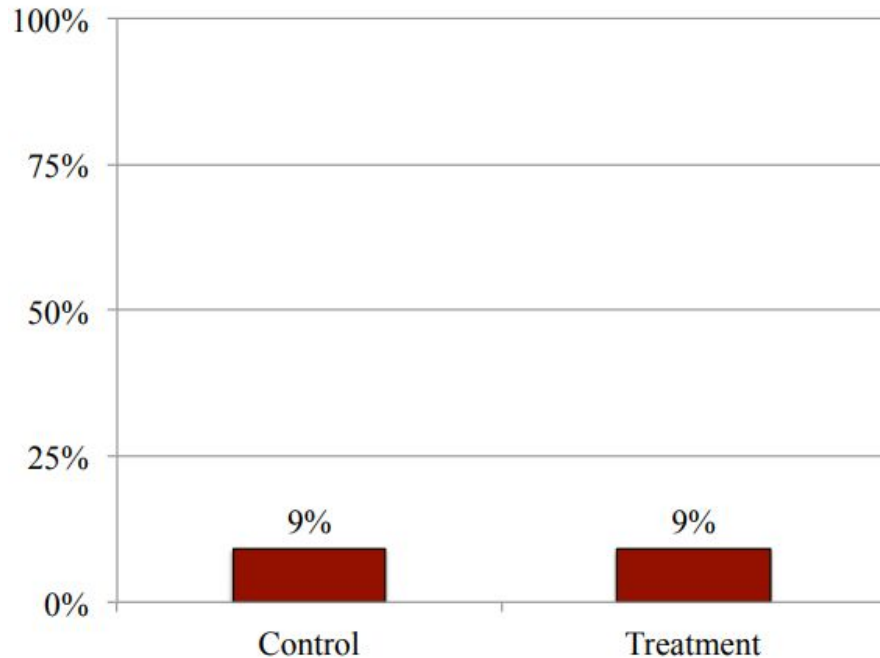


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 - “Inertia”?
 - Procrastination
 - Bounded rationality

Low-income Saving: No Default Bias?

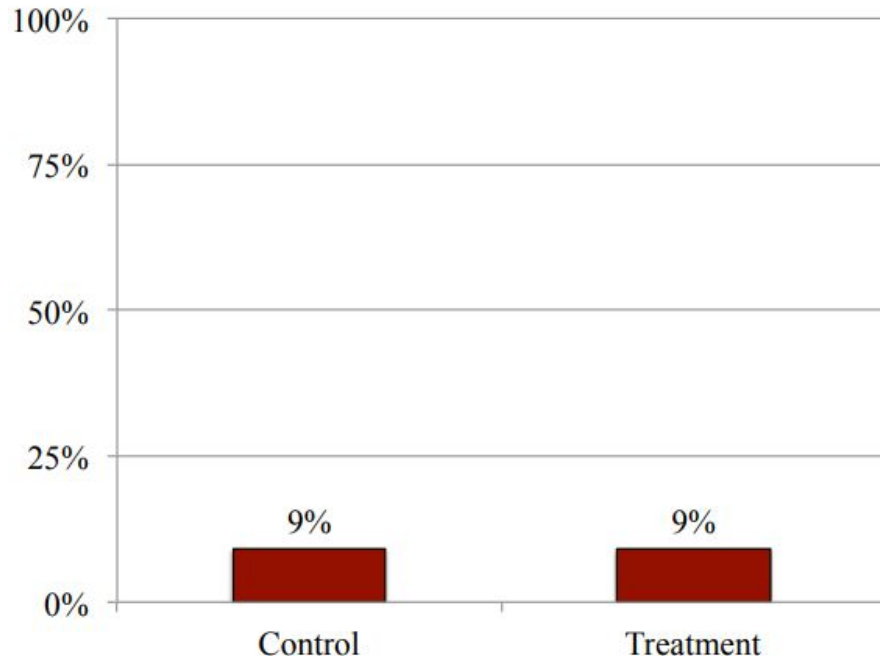
FIGURE 1. PERCENTAGE OF PARTICIPANTS PURCHASING SAVINGS BONDS, CONTROL AND TREATMENT GROUPS



- Bronchetti et al (2011)
- Tax refunds can be received as savings bonds
- Experiment performed at low-income tax clinic
- Found low participation rates, independent of default
- Why?

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- Why?
 - Already had plans for the money
 - If money's tight, you might have stronger convictions about how to use it?

Implications of Behavioral Errors

- If people cannot be trusted to make good decisions for themselves, who should be?
- Makes Normative analysis much harder
- Normative analysis requires 2 theories
 1. A theory of behavior (“a tax will reduce quantity produced”) – Positive analysis
 2. A theory of value (“the lost units were valued above cost”)
- Consumer rationality merges the two theories!
 - Value is revealed by behavior (the Demand Curve shows the Willingness-to-Pay)
- If people make irrational choices, we cannot infer values from behaviors
- Market outcomes are not likely to be efficient, but it’s hard to say anything more specific
 - Requires case-by-case analysis
 - May require government/economist/analyst to impose their values, which is concerning
 - “People don’t save enough!” (?)

Political Economy

Government in an Economic Model

- In most economic models, government is controlled by the analyst/economist
- We use the model as a laboratory for government policy
 - “What happens if we introduce a tax? Or a price floor?”

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- We use the model as a laboratory for government policy
 - “What happens if we introduce a tax? Or a price floor?”
- But governments are made up of people, who have their own incentives
- So we can make models that predict how governments will act
 - As opposed to predicting the effect of government actions...
- This is referred to as “Political Economy”

A Model of Elections

- Suppose there are 99 voters, lined up along the ideological spectrum
 - 1: Most liberal; 2: 2nd most liberal;...; 99: Most conservative
- There are 2 political parties: Democrats and Republicans
- Each party must choose platform/policies that place them somewhere on that spectrum
 - E.g. Somewhat liberal (modest income redistribution but no price controls): 25
 - E.g. Very conservative (small flat tax to fund only basic government functions): 95
- Suppose the only goal of a political party is to win the election
- Where on the ideological spectrum will Democrats and Republicans orient themselves?

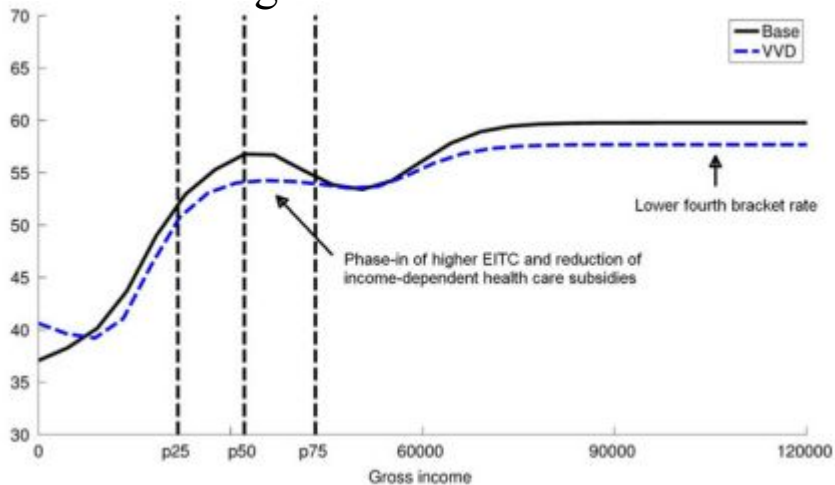
The Median Voter Hypothesis

- Model says parties will moderate their views to have broad appeal
- Do we observe this?

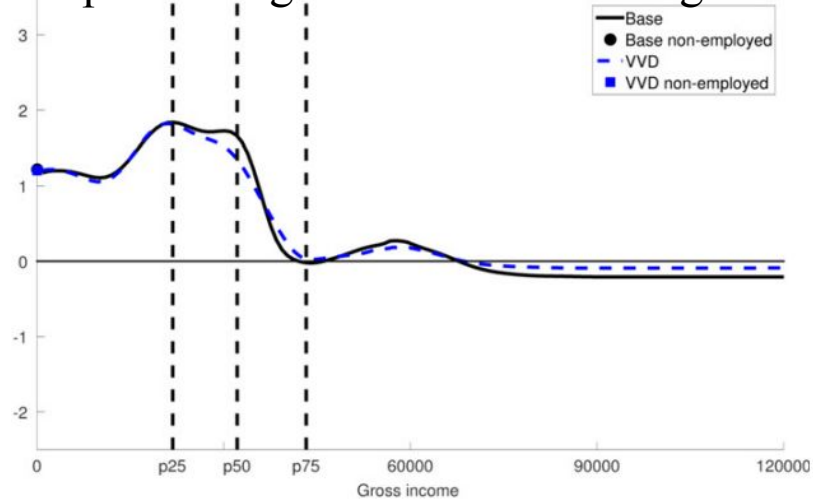
“Show me your budget, and I’ll tell you what you value.” (repeated)

- Modern states have very “non-linear” tax codes
 - Almost like a different tax rate on each dollar you earn
- Using fancy versions of the model we just used, economists can infer how much the tax code “cares” about people of different income levels
- Jacobs et al (2017) for the Netherlands

Marginal Tax Rates



Implied Marginal Soc. Welfare Wgts.



The Median Voter Hypothesis

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 - In some sense, yes.
 - Politicians do tend to become more moderate in a general election compared to the primary election
 - On the spectrum from Fascism to Communism, US politics occupies a very narrow sliver
 - But it's definitely missing something
 - Extreme platforms and policies are getting more common
 - What is missing from the model?

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 - What is missing from the model?
 - Voter turnout; credibility; genuine policy beliefs; fractured media environment

Time

Finance

- Many economic decisions have cost/benefits that unfold over **time**
 - Put money in a savings bond, it pays back when the bond comes due
 - Invest in a stock, pays dividends in the future
 - Go to school when young, earnings are higher when old
- A lot of decisions also have **uncertainty**
 - Will the company you lend money to actually pay back?
 - Will the company whose stock you bought have high dividends?
 - How much will a college degree increase your future earnings?
- Decisions for which time and/or uncertainty are important are studied in Finance
 - Today, we'll think about time

Time Value of Money

- Suppose you have a savings account with a 1% annual interest rate
- Someone offers you two choices:
 - You can have \$1 today, or
 - You can have \$1 in a year
 - Which do you choose?

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 - Which do you choose?
- If you accept the \$1 today, you can save it and it becomes \$1.01 in a year
 - Choose \$1 today!

Money today is worth more than money in the future

(assuming interest rates are positive)

Discounting Example

- Savings account has a 1% annual interest rate. What is \$1 in a year worth *today*?
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- How much is \$1 in 2 *years* worth today?

$$(x \cdot 1.01) \cdot 1.01 = 1$$

$$x = \frac{1}{1.01 \cdot 1.01} \approx 0.98$$

Present Discounted Value

- Consider an asset offering payments of D_1, D_2, D_3, \dots
- The present discounted value (PDV) is the sum of the discounted series of payments, given by:

$$\text{PDV}_0 = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \dots$$

Asset Pricing

- If markets are competitive and the payments are **risk-free**, an asset's price should equal its PDV:

$$P_0 = PDV_0 = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \dots$$

- Otherwise, Arbitrage (profit without risk) would be possible
 - Much of financial theory is based on the simple assumption that Arbitrage is impossible
- Suppose the the payments (Ds) were uncertain: maybe the true payments will be higher than expected, maybe they'll be lower...
 - How do you think that will affect the price investors are willing to pay for an asset?

Further Study in Economics

An Economics Major

- Principles
 - Micro, Macro
- Intermediate/theory
 - Micro, Macro, Metrics
- Electives
 - Game Theory, Finance, Behavioral Economics, Political Economy
 - Public Economics, Labor Economics, Industrial Organization, Health Economics
 - Development, Social Economics, Urban Economics, Economic History, Law and Economics
- Related disciplines
 - Psychology, Sociology, Political Science
 - Math