

# Lecture 1: Four Core Principles of Economics

August 27, 2024

# Welcome to Microeconomics

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2. Expectations
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  - What we learn should be clearly applicable
  - Come prepared to give examples, as I will call on you
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  - name
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  - what you want to do when done

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6. Ripped from Headlines Assignment

# Final Exam Date

December						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

- Exam is in person on paper
- Last class Tues. Dec. 10 – change due to election holiday
- First exam date Wed. Dec. 11
- Default exam date Tues. Dec. 17
- Does everyone prefer Friday Dec. 13 times?



# Expectations for Class

## Before Class

- Read assigned textbook pages
- Read ripped from headlines articles
- Work on problem set

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### During Class

- Recording! For within class use **only**

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## What you are responsible for on exam

- What we cover in class and in problem sets
- Today we don't cover the production possibility frontier
- You are not responsible for this

## Getting to Online Homework

- Piloting online homework
- Pass/fail
- TA hand grades policy question
- Ignore grades in Achieve
- Will ask for feedback next lecture
- Should have link via BB

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The screenshot shows a Blackboard course page for 'Stevenson/Wolfers Microeconomics 2e: Stevenson/Wolfers, Principles of Microeconomics 2e'. On the left is a dark navigation sidebar with icons for home, folders, courses, documents, analytics, and users. The main content area has a 'VIEWING BY:' dropdown menu set to 'Course Content' and a 'New Activities Available' button. Below this is a list of course content items, each with an unchecked checkbox and a folder icon:

- Welcome to Achieve!
- Math and Graphing Reviews
- Ch. 1 Core Principles
- Ch. 2 Demand
- Ch. 3 Supply

## Choosing Assignment

- Officially due 3:30
- We delay deadline for evening section to 6 pm
- But can't separate deadline online
- Check Achieve link works for you this week
- Not Monday at 11 pm!

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Stevenson/Wolfers Microeconomics 2e: Stevenson/Wolfer

VIEWING BY: Assignments

- Past Assignments  
Nothing has passed quite yet. Scroll for your u
- This Week Aug 18 - Aug 24  
Nothing's due this week.
- Next Week Aug 25 - Aug 31  
Nothing's due next week.
- Future Assignments Sep 01 - Dec 31

Ch. 1 EOC Problems: Core Principles  
Spts | Post-class | 0/13 Students Completed



## Homework Alternative: We'll Try This Lecture 2

- Make all end-of-chapter questions available as a study guide
- Assign other questions as homework
- Still include one policy-focused question

# Plan for Today

Welcome to economics! Then

1. Cost-Benefit principle
2. Opportunity cost principle
3. Marginal principle
4. Interdependence principle

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Welcome to economics! Then

1. Cost-Benefit principle
2. Opportunity cost principle
3. Marginal principle
4. Interdependence principle

With a policy example for each



## 0. Welcome to Economics

- Textbook written by married couple Stevenson and Wolfers
- **Famously** apply economics to married life
- Goal for the course is to show you the power of economics to explain decisions
- Economics is an important language for policy makers
- Need not like it, but should understand it

# 1. Cost-Benefit Principle

# The Basics

Benefits > Costs  
→ Take action

## The Basics

Benefits  $>$  Costs  
→ Take action

Benefits  $<$  Costs  
→ Do not take action



## The Basics

Benefits > Costs  
→ Take action

Benefits < Costs  
→ Do not take action

The trick is accurately measuring the costs and benefits

# Quantifying Costs and Benefits

Private transaction: Buy a cup of coffee

Benefits

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- enjoyment of flavor
- greater alertness
- cozy place to sit
- use of bathroom (?)

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Your **willingness to pay** is a measure of total benefits

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- waste associated with production
- waste associated with cup and lid

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### Costs

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- Total benefit - total costs defines decision
- “Money is the measuring stick, not the objective”

## Two Key Benefits of Private Transactions

### 1. (Usually) Benefits $>$ Costs for Buyer and Seller

- If you buy coffee for \$4, your coffee benefit is greater than coffee cost
- If coffee shop sells coffee for \$4, the coffee shop benefits at least \$4 from selling coffee

## Two Key Benefits of Private Transactions

### 1. (Usually) Benefits $>$ Costs for Buyer and Seller

- If you buy coffee for \$4, your coffee benefit is greater than coffee cost
- If coffee shop sells coffee for \$4, the coffee shop benefits at least \$4 from selling coffee

### 2. Everyone Maximizes Economic Surplus

- Economic surplus
  - total benefits - total costs from decision
  - consumer value above price \* units purchased
  - seller willingness to sell below price \* units sold



## Policy View: Federal Cost-Benefit Rules

The Beginning: EO 12291

- Reagan signs in 1981
- Requires analysis sometimes

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### Biden's Update: Circular A-4 [\[more info\]](#)

- Governs rules for doing benefit-cost analysis
- Biggest changes
  - how much you discount future benefits
  - weight welfare of poor more heavily
  - sometimes consider welfare of those outside US

If you're interested in this, go interact with GW's Regulatory Studies Center.

## 2. Opportunity Costs

# Opportunity Costs

## Definition

- Cost of the next best opportunity
- Opportunity cost of purchasing plastic bag at grocery store?

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## Why O.C. Are Important

- Because all choices have “or what”?
- “Or what” is the opportunity cost
- O.C. is a “measure of scarcity”
- Some call economics the study of scarcity



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# Sunk Costs: What They Are And Why They Don't Apply Looking Forward

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  - Logical: Stay because ongoing security needs demand it

## Policy Example: Policy Insights MVPF

What is the opp cost of  
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- Next best use of political capital spent on X

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Economists measure marginal value of public funds

$$\frac{\text{willingness to pay}}{\text{cost of public funds}}$$



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- Next best use of political capital spent on X

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[policyinsights.org](https://policyinsights.org) measures the value per dollar spent



# 3. Marginal Principle

## Marginal Principle

Make decisions “at the margin.” This means

- should I hire one more worker?
- should I make one more dollar of charitable donation?
- should I purchase an additional car?

## Restaurant: Marginal Benefits and Costs

Benefit and cost of one additional worker?

No. workers	Meals Served	Total Benefits	Marginal Benefit	Total Costs	Marginal Cost	Profit or surplus
2	160	4,000	-	3,700	-	300
3	210	5,250	?	4,500	?	?

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Using how many workers does marginal benefit = marginal cost?

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6	300	7,500	500	6,300	500	1,200
7	310	7,750	250	6,700	400	1,050



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6	300	7,500	<b>500</b>	6,300	<b>500</b>	<b>1,200</b>
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## Rational Rule: Keep Going Until Marginal Benefit = Marginal Cost

Action: Spend Another Dollar on Metro Repair?

- Compare marginal benefit of repair dollar to marginal cost
- If value of this dollar spent  $>$  opportunity cost of dollar, continue

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- If value of this dollar spent  $>$  opportunity cost of dollar, continue
- If value of this dollar spent  $<$  opportunity cost of dollar, stop
- If value of this dollar spent  $=$  opportunity cost of dollar – you've hit the sweet spot and are maximizing economic surplus

## Policy Example: Use Marginal Logic for Decisions About Taxes

Tax Rate	Single
10%	\$0 - \$11,600
12%	\$11,600 - \$47,150
22%	\$47,150 - \$100,525
24%	\$100,525 - \$191,950
32%	\$191,950 - \$243,725
35%	\$243,725 - \$609,350
37%	Over \$609,350

- Do you want to job at \$50/hour for 3 additional hours per week?
- You will owe taxes on these earnings
- Assume you make \$50,000/year
- How much is \$150/week in earnings after taxes?

## Policy Example: Use Marginal Logic for Decisions About Taxes

Tax Rate	Single
10%	\$0 - \$11,600
12%	\$11,600 - \$47,150
22%	\$47,150 - \$100,525
24%	\$100,525 - \$191,950
32%	\$191,950 - \$243,725
35%	\$243,725 - \$609,350
37%	Over \$609,350

- Do you want to job at \$50/hour for 3 additional hours per week?
- You will owe taxes on these earnings
- Assume you make \$50,000/year
- How much is \$150/week in earnings after taxes?
- **Marginal** rate is 22%
- You keep  $100 - 22 = 78\%$
- $\$150 * (0.78) = \$117$

## 4. Interdependence Principle

## Interdependence Principle

- Known among economists as “general equilibrium”
- We are interested in both “partial” and “general” equilibrium outcomes



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What happens if we change one thing – maybe cap prices – and keep everything else the same?

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What happens if we change one thing – maybe cap prices – and keep everything else the same?
- General equilibrium  
What happens if we change one thing – maybe cap prices – and allow actors to respond?

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### Immediate impacts

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### Interdependent effects?

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- Shortage
- Or producers cut quality

## For Next Class

- Do problem set 1
- Work with classmates, me or TA on problems
- Sign up for Ripped from Headlines
- Article finders email me by Wednesday midnight
- Read Chapter 2

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I will

- post these lecture notes on my webpage
- post link to lecture recording on Blackboard
- anything else?