



EconS 301: Intermediate Microeconomic Theory

Introduction

IMPORTANT INFORMATION

- INSTRUCTOR: ANA ESPINOLA-ARREDONDO (ANAESPINOLA@WSU.EDU)
 - OFFICE HOURS: THURSDAYS 1:30-2:30PM (HULBERT 101B)
- TA: KEVIN MORRIS (KEVIN.MORRIS@WSU.EDU)
 - OFFICE HOURS: TBA
- CLASS WEBSITE: [HTTPS://ANAESPINOLAAARREDONDO.COM/ECONS-301-INTERMEDIATE-MICROECONOMIC-THEORY/](https://anaespinolaarredondo.com/econs-301-intermediate-microeconomic-theory/)
- REQUIRED TEXT:
 - ANA ESPINOLA-ARREDONDO AND FELIX MUNOZ-GARCIA (2020). INTERMEDIATE MICROECONOMIC THEORY: TOOLS AND STEP-BY-STEP EXAMPLES. MIT PRESS.
- YOUR GRADE FOR THE COURSE WILL BE BASED ON:
 - PROBLEM SETS (35% FROM WRITTEN ASSIGNMENTS)
 - TWO MIDTERM EXAMS (15% EACH)
 - QUIZZES (10%) AND
 - FINAL EXAM (25%).

IMPORTANT INFORMATION

- EXAM DATES:
 - MIDTERM #1: THURSDAY, SEPTEMBER 29TH, IN CLASS
 - MIDTERM #2: TAKE-HOME EXAM.
 - IT WILL BE POSTED ON THE COURSE WEBSITE ON THURSDAY, NOVEMBER 3RD AT 10AM, AND IT WILL BE DUE IN CLASS ON TUESDAY, NOVEMBER 8TH.
 - FINAL EXAM: TUESDAY, DECEMBER 13TH, 1:30PM-3:30PM, IN CLASS (HULBERT 27).
- MAKE-UP EXAMS WILL ONLY BE GIVEN IF YOU HAVE A NOTE FROM A DOCTOR INDICATING THAT YOU WERE UNABLE TO TAKE THE EXAM AT THE SCHEDULED TIME.

WHAT IS MICROECONOMICS?

- **MICROECONOMICS** SEEKS TO UNDERSTAND “INDIVIDUAL” BEHAVIOR.
 - **CONSUMERS. PURCHASING DECISIONS.**
 - *IF YOUR FAVORITE SINGER IS COMING TO TOWN, WOULD YOU BUY ONE TICKET AT PRICE \$45?*
 - **FIRMS. INPUT DECISIONS.**
 - *HOW MANY WORKERS TO HIRE AND COMPUTER TO PURCHASE?*
 - **REGULATORS. PUBLIC OFFICIALS CAN ANTICIPATE HOW FIRMS AND CONSUMERS BEHAVE IN DIFFERENT MARKETS.**
 - *CAN SOME POLICY TOOLS, SUCH AS TAXES OR QUOTAS ON CONSUMERS OR FIRMS, BE BENEFICIAL?*

WHAT IS MICROECONOMICS?

- THE BEHAVIOR OF ECONOMIC AGENTS IS INVESTIGATED UNDER THE ASSUMPTION OF *RATIONALITY*:
 - EACH AGENT SEEKS TO MAXIMIZE HER PAYOFF (I.E., UTILITY OF THE CONSUMER, OR PROFITS FOR THE FIRM), GIVEN HER RESOURCES, AND THE INFORMATION TO WHICH SHE HAS ACCESS.
- TWO CONTEXTS:
 - WHEN AN AGENT SEEKS TO MAXIMIZE HER OWN MATERIAL PAYOFF.
 - WHEN SHE MAXIMIZES A COMBINATION OF HER OWN AND OTHER AGENTS' PAYOFFS (ALLOWING HER TO BE SELFISH OR ALTRUISTIC).

COMPARATIVE STATICS

- “**COMPARATIVE STATICS**”, TO MEASURE HOW AN INDIVIDUAL'S BEHAVIOR CHANGES WHEN ONE, AND ONLY ONE, VARIABLE VARIES (E.G., THE PRICE OF THE ITEM).
 - *IF YOUR FAVORITE SINGER IS COMING TO TOWN, WOULD YOU BUY ONE TICKET AT PRICE \$45?*
 - YES
 - *WOULD YOU MAKE A DIFFERENT CHOICE IF THE TICKET PRICE INCREASES TO \$55?*

OVERVIEW

- CONSUMER THEORY
- **CHAPTER 2: A MODEL TO REPRESENT A CONSUMER.**
 - NOTION OF CONSUMPTION BUNDLE (I.E., A LIST OF GOODS AND SERVICES).
 - HOW A CONSUMER'S PREFERENCES RANK DIFFERENT BUNDLES.
 - HOW TO REPRESENT THESE PREFERENCES IN A UTILITY FUNCTION, MEASURING THE CONSUMER'S WELL-BEING FROM EACH BUNDLE.
 - PROPERTIES THAT UTILITY FUNCTIONS CAN SATISFY.

OVERVIEW

- CONSUMER THEORY
- **CHAPTER 3: THE CONSUMER'S OPTIMAL PURCHASING DECISION.**
 - BUDGET CONSTRAINTS, WHICH ARE DICTATED BY GOOD PRICES AND AVAILABLE INCOME.
 - CONSUMER'S PURCHASING DECISION ("DEMAND" FOR A GOOD):
 - BUY THE BUNDLE THAT INCREASES MY UTILITY AS MUCH AS POSSIBLE BUT ... WITHOUT BREAKING THE BANK!

OVERVIEW

- CONSUMER THEORY
- **CHAPTER 4: CHANGES IN A CONSUMER'S DEMAND FOR A GOOD.**
 - WHEN HER INCOME INCREASES BY A SMALL AMOUNT.
 - AFTER WINNING THE LOTTO, YOU MAY INCREASE PURCHASES FOR MOST GOODS (E.G., A NICER CAR), AND YET MAY DECREASE PURCHASES OF SOME GOODS (E.G., FAST FOOD).
 - WHEN THE PRICE OF THE GOOD EXPERIENCES A SMALL INCREASE.

OVERVIEW

- CONSUMER THEORY

- **CHAPTER 5:** WELFARE LOSS DUE TO A PRICE INCREASE.

- THREE MEASURES TO EVALUATE THIS WELFARE LOSS:

- CHANGE IN CONSUMER SURPLUS.

- COMPENSATING VARIATION.

- EQUIVALENT VARIATION.

- SIMILARITIES AND DIFFERENCES, AND APPLICATIONS TO DIFFERENT CONTEXTS.

OVERVIEW

- CONSUMER THEORY
 - **CHAPTER 6: CHOICE UNDER UNCERTAINTY.**
 - SITUATIONS WHERE THE CONSUMER FACES UNCERTAINTY ABOUT SOME ELEMENTS THAT AFFECT HER UTILITY.
 - E.G., ACCEPT A JOB PAYING \$60,000/YEAR WITH CERTAINTY (100% PROBABILITY), OR WORK FOR A STAR-UP COMPANY THAT WILL PAY \$95,000 IF IT MAKES IT TO THE NEW YORK STOCK EXCHANGE (30% PROBABILITY) OR \$15,000 IF IT DOES NOT (70% PROBABILITY).
 - “EXPECTED UTILITY”.
 - RISK ATTITUDES.
 - MEASURES OF RISK AVERSION.

OVERVIEW

- PRODUCTION THEORY
 - **CHAPTER 7: THE FIRM'S OPTIMAL PRODUCTION DECISION.**
 - USE OF INPUTS (HOW MANY WORKERS TO HIRE OR MACHINES TO PURCHASE).
 - TECHNOLOGICAL CONSTRAINTS, INDICATING THE OUTPUT LEVELS THE FIRM CAN PRODUCE GIVEN ITS TECHNOLOGY.

OVERVIEW

- PRODUCTION THEORY
 - **CHAPTER 8: THE FIRM'S COSTS FROM ITS OUTPUT DECISION.**
 - UNITS OF EACH INPUT THAT THE FIRM HIRES.
 - AVERAGE COST (I.E., COST PER UNIT OF OUTPUT).
 - MARGINAL COST (I.E., INCREASE IN COST WHEN THE FIRM INCREASES ITS OUTPUT BY ONE UNIT).
 - HOW THE FIRM'S AVERAGE COST IS AFFECTED WHEN:
 - ITS SCALE EXPANDS (ECONOMIES OF SCALE).
 - IT OFFERS MORE PRODUCT LINES (ECONOMIES OF SCOPE).

OVERVIEW

- **MARKETS**
- **CHAPTER 9: PERFECTLY COMPETITIVE MARKET.**
 - MANY FIRMS, EACH PRODUCING A SMALL SHARE OF INDUSTRY OUTPUT.
 - FIRMS ARE “PRICE TAKERS.” WHEN CHOOSING TO PRODUCE A LARGER OUTPUT, EVERY FIRM CAN ANTICIPATE THAT IS DECISION WILL NOT AFFECT MARKET PRICES.

OVERVIEW

- **MARKETS**

- **CHAPTER 10: MONOPOLY.**

- A SINGLE FIRM OPERATES CHOOSING THE OPTIMAL OUTPUT TO MAXIMIZE PROFITS.
 - THE MONOPOLIST IS A “PRICE SETTER.” HIS OUTPUT DECISION UNIQUELY DETERMINES MARKET PRICE.
 - MULTIPLANT MONOPOLIES, A FIRM IS THE ONLY SELLER OF A PRODUCT, WHICH IS MADE AT TWO OR MORE PLANTS.
 - WELFARE LOSS UNDER A MONOPOLIZED INDUSTRY.

OVERVIEW

- STRATEGY—LET'S PLAY GAMES
- **CHAPTER 12-13: GAME THEORY.**
 - THE BRANCH OF ECONOMICS STUDYING STRATEGIC BEHAVIOR.
 - INTERACTIONS AMONG “PLAYERS” (FIRMS, CONSUMERS, OR GOVERNMENTS), WHEN THE ACTION OF ONE PLAYER AFFECTS THE PAYOFFS OF OTHER PLAYERS.
 - GAMES IN WHICH ALL PLAYERS (E.G., FIRMS) CHOOSE THEIR ACTIONS (E.G., OUTPUT LEVELS) SIMULTANEOUSLY (CHAPTER 12).
 - GAMES IN WHICH PLAYER ACT SEQUENTIALLY (CHAPTER 13).
 - “EQUILIBRIUM BEHAVIOR” (HOW PLAYER BEHAVE) IN EACH GAME.

OVERVIEW

- PUTTING GAME THEORY TO WORK
 - **CHAPTER 14: IMPERFECTLY COMPETITIVE MARKETS.**
 - APPLICATION OF GAME THEORY TOOLS TO INDUSTRIES WITH A LIMITED NUMBER OF FIRMS.
 - MARKETS IN WHICH FIRMS SIMULTANEOUSLY CHOOSE THEIR ACTIONS, EITHER COMPETING IN PRICE OR QUANTITY.
 - INDUSTRIES WHERE FIRMS ACT SEQUENTIALLY.
 - SETTINGS WHERE FIRMS SELL PRODUCTS THAT CONSUMERS REGARDS AS CLOSE (BUT NOT PERFECT) SUBSTITUTES.

OVERVIEW OF THE BOOK

- PUTTING GAME THEORY TO WORK
 - **CHAPTER 15: INCOMPLETE INFORMATION.**
 - CONTEXTS WHERE ONE PLAYER HAS MORE INFORMATION THAN ITS RIVALS.
 - A FIRM OBSERVING ITS PRODUCTION COST, BUT ITS RIVALS CANNOT PERFECTLY OBSERVE IT.
 - AUCTIONS, WHERE EACH BIDDER KNOWS HOW MUCH SHE IS WILLING TO PAY FOR AN OBJECT BUT SHE DOES NOT KNOW HOW MUCH OTHER BIDDERS ARE WILLING TO PAY.
 - FIRST-PRICE, SECOND-PRICE, AND ALL-PAY AUCTION FORMATS.
 - OPTIMAL BIDDING STRATEGY (I.E., HOW MUCH MONEY YOU SHOULD BID).

OVERVIEW

- MARKET FAILURES—WHEN MARKETS WORK WELL AND WHEN THEY DON'T
 - **CHAPTER 17: EXTERNALITIES AND PUBLIC GOODS.**
 - SITUATIONS WHERE ACTIONS OF ONE AGENT PRODUCE EXTERNAL EFFECTS ON ANOTHER AGENT'S WELL-BEING.
 - SUSTAINABILITY ISSUES IN COMMON-POOL RESOURCES (E.G., FISHING GROUND).
 - IN THE SHORT-RUN, WHEN AGENTS IGNORE THE LONG-TERM EFFECTS, THEY MAY EXPLOIT THE RESOURCE INTENSIVELY.
 - WHEN CONSIDERING LONG-RUN EFFECTS, THEIR OPTIMAL BEHAVIOR DICTATES A LESS INTENSE EXPLOITATION.