ECONOMICS 111: THE PRICE SYSTEM

Lessons 1-3: Introduction

I. Syllabus, attendance, other administrative

II. What is economics?
   a. Definition
   b. Absence of money
   c. Relation to other disciplines **(Slide 1.1) [This should be Daly means-ends diagram]**

III. Historical context
   a. Hunter-gatherer society
   b. Agriculture and the food surplus
   c. Specialization and the transition from feudalism to Kism

IV. Selection of chapter zero slides **(Slide 1.2 – Slide 1.9)**

V. Economic tradeoffs
   a. Review definition of economics: abundance and scarcity
   b. The PPF frontier
      i. Inefficiency, efficiency, and impossibility
         1. Opportunity costs
         2. Pareto improvements
      ii. Real world examples? E.g., military expenditures
      iii. Over time
         1. Increase in endowments
         2. Technological improvements

VI. Intermediate and final goals **(Slide 1.10)**

VII. Market basics
   a. Three definitions
      i. Place
      ii. Institution
      iii. Market economy
   b. Market types
      i. Retail/wholesale
      ii. Intermediate/finished goods
      iii. Resale
      iv. Labor
      v. Financial
      vi. Underground
   c. A bit about theory
      i. Simplifications: The circular flow **(Slide 1.11)**

ii. Theory and neoclassical economics
iii. Microeconomics in context **(Slide 1.12)**

Lessons 3-6: Supply and demand

I. Supply
  a. Law of supply, supply curve
  b. Supply determinants
    i. Technology
    ii. Input prices
    iii. Prices of related goods
    iv. Expectations about future prices and technology
    v. Number of sellers
  c. Market supply curve
    i. Horizontal sum of individual supply curves
    ii. A numerical example: Supply of coffee **(Slide 2.1)**
    iii. Algebraic representation: $P = 0.1(Q) + 40$
    iv. Graph **(Slide 2.2)**
  d. Change in supply
    i. Ceteris paribus
    ii. Change in a non-price determinant – supply curve shifts!
    iii. Increase in supply to $P = 0.1(Q)$ **(Slide 2.3)**
    iv. Decrease in supply to $P = 0.1(Q) + 80$ **(Slide 2.4)**
    v. Compare to change in quantity supplied

II. Demand
  a. Law of demand, demand curve
  b. Demand determinants
    i. Tastes and preferences
    ii. Income or assets
    iii. Prices of related goods or services
    iv. Expectations about future prices and incomes
    v. Number of buyers
  c. Market demand curve
    i. Horizontal sum of individual demand curves
    ii. A numerical example: Demand for coffee **(Slide 2.5)**
    iii. Algebraic representation: $P = -0.3(Q) + 320$
    iv. Graph **(Slide 2.6)**
  d. Change in demand
    i. Ceteris paribus
    ii. Increase in demand to $P = -0.3(Q) + 410$ **(Slide 2.7)**
    iii. Compare to change in quantity demanded

III. Equilibrium
  a. Supply and demand

i. The market "determines" a price and a quantity at the unique point where the quantity supplied equals the quantity demanded
ii. It does not truly make sense to say that "supply equals demand," as these are distinct concepts

b. The coffee market
i. Notice that at a price of $1.40, there is a surplus **(Slide 2.8)**
ii. At a price of $0.80, there is a shortage **(Slide 2.9)**
iii. Only at $1.10, can we say that the market "clears" **(Slide 2.10)**

c. Market adjustment
i. Supply shift to P = 0.1(Q) **(Slide 2.11)**
ii. Demand shift to P = -0.3(Q) + 440 **(Slide 2.12)**
iii. When both supply and demand shift **(Slide 2.13)**

d. Summary
i. Market effects of shifts of supply or demand **(Slides 2.14-2.22)**
ii. Effects when both supply and demand shift **(Slides 2.23-2.31)**

IV. Other examples

a. iPhones **(Slide 2.32)**
i. Demand and supply schedule:

Price	870	880	890	900	910	920	930	940
Q_D	875	800	725	650	575	500	425	350
Q_S	500	550	600	650	700	750	800	850

ii. Algebraic derivations:
1. P = 0.2(Q) + 770
2. P = -0.133(Q) + 986.67

iii. Surplus and shortage examples illustrated
iv. Homework: Look for equilibrium changes as supply and/or demand shift

b. Qualitative cases
i. Automobile market: gasoline prices rise
ii. Strawberries and vacations, peak vs. off-peak
iii. Coffee market: Taste for tea grows, wages of coffee bean pickers falls

V. Price floors and price ceilings

a. Floor: artificially high price (e.g., OPEC cartel, minimum wage)
b. Ceiling: artificially low price (e.g., rent control, US Govt response to Oil Crisis in the 1970s)

Lessons 7-8: Elasticity

I. Demand elasticity

a. Basics
i. Definition
ii. Formula

iii. Elasticity categories
iv. Examples **(Slide 2.33)**
v. Elasticity and slope **(Slide 2.34)**
vi. Some examples from the iPhone demand function (earlier slide 2.32)

b. Determinants of elasticity
i. Need vs. desire
ii. Availability of substitutes
iii. Price relative to budget
iv. Time

c. Elasticity and total revenue
i. Effects of price changes **(Slide 2.35)**
ii. Taxes and elasticity (2 purposes)

II. Other elasticities
a. Price elasticity of supply
b. Income: inferior, normal, and luxury goods
c. Cross-price: substitutes, complements, and unrelated

Lessons 9-11: Welfare analysis

I. The essential question in welfare economics
a. Estimating the social welfare of different scenarios in order to maximize net social benefits
b. Social welfare: Total net benefits to society (i.e., benefits minus costs)
c. The principal actors concerning us:
i. Consumers
ii. Producers
iii. The rest of society
1. Citizens
2. Workers
3. Future generations
4. Ecological context

II. Consumer and producer surplus **(Slide 3.1)**
a. Consumer surplus
i. Willingness to pay and consumer surplus
ii. Consumer surplus and the demand curve
b. Producer surplus
i. Marginal cost and producer surplus
ii. Producer surplus and the supply curve

III. Problem: Calculate consumer and producer surplus for iPhone market **(Slide 3.2)**

IV. Social efficiency

a. Equilibrium
    i. The total of consumer and producer surplus is at maximum when the market is at equilibrium
    ii. This is seen as the sum of the two triangles
b. But when we introduce price controls, distortions are introduced which make the market "inefficient"
    i. The effect of a price ceiling for apartments **(Slide 3.3)**
        1. Gains and losses in consumer and producer surplus
        2. Deadweight loss
    ii. The effect of a price floor in the labor market **(Slide 3.4)**
        1. Gains and losses in consumer and producer surplus
        2. Deadweight loss
c. **Practice another problem by introducing a distortion on iPhone market

V. Audi A4 market
a. Solve for supply and demand equations **(Slide 3.5)**
b. Solve for equilibrium price and quantity
c. Graph supply, demand, and equilibrium
d. Calculate consumer surplus and producer surplus
e. Calculate the effect of a price floor set at $60,000

VI. iPhone market again
a. Graph demand and supply curves
    i. $P = 0.2(Q) + 770$
    ii. $P = -0.133(Q) + 986.67$
b. Solve for consumer surplus and producer surplus
c. Calculate new CS and PS when demand curve $P = -0.133(Q) + 1{,}100$
d. Ditto for when supply curve $P = 0.2(Q) + 950$
e. What is the deadweight loss?

VII. Policy inferences
a. Welfare analysis as justification for laissez-faire
    i. Social benefit maximized
    ii. Objective standard – efficiency
b. Market failure
    i. Citizens, workers, society, environment, not counted
    ii. Lack of information (information not perfect)
    iii. Power not considered – markets not "democratic"
    iv. Monopolies and public goods

Lesson 12: Behavior and rationality

I. Rationality **(Slide 4.1)**
a. Classical view and Adam Smith
    i. Invisible Hand and self-interest

ii. Respect of and for others
iii. Concern for wellbeing of others

b. Neoclassical model
   i. Rationality axiom: "Rational economic man maximizes utility"
      1. Self-interest
      2. Perfect information
   ii. Utility and consumption
   iii. Profit maximization

c. Are people rational? Why assume so?

II. Behavioral economics **(Slide 4.2)**

a. What it is

b. "Irrationality"
   i. Framing
      1. Show class two slides **(Slides 4.3** and **4.4)**
      2. A saves exactly 200; B saves 600 w 1/3 probability and 0 with 2/3 probability VS C lets 400 die vs D which lets nobody die with 1/3 probability and everyone die with 2/3 probability
      3. Survey class to see if any difference
   ii. Anchoring
      1. Ask students to write the last 2 digits of their SS #s on a sheet of paper, and ask them also to write down what they think is the population of Venezuela and how many symphonies were composed by Franz Joseph Haydn
      2. Collect responses and review for correlations
   iii. Confirmation bias
   iv. Survivorship bias
   v. Sunk cost fallacy (e.g., $100 spent on ski trip #1 and $50 on BETTER ski trip #2)

c. Ultimatum, dictator, and trust games

d. Time
   i. What is discount rate?
   ii. Examples
      1. Decision to go to college
      2. Company stock prices (short term business decision)
      3. Environmental regulation

e. Emotions
   i. Neoclassical theory presumes that we are "rational"
   ii. Importance of emotions in decision-making as short-cuts
   iii. Studies
      1. Too many choices, less satisfaction
      2. Brain experiment where patient without capacity for emotions unable to make decisions

III. Economic rationality **(Slide 4.5)**

a. Goals
    i. Traditionally regarded as "consuming more"
    ii. More properly regarded as realistically "wellbeing-enhancing"
b. Constraints and information
    i. Optimizing vs satisficing
    ii. Bounded rationality
c. Influence
    i. Advertising/propaganda
    ii. "Framing" is influential to our decisions
d. Self-interest and altruism
e. Economic behavior in context
    i. People do the best they can with limited information
    ii. People sometimes think and behave inconsistently
    iii. People are not always self-interested

Lessons 13-14: Consumption and the consumer society

I. Traditional or neoclassical theory
   a. Consumer sovereignty: The idea that consumer's needs and wants independently shape market outcomes (discuss)
   b. The budget line
      i. Analogy to production possibilities **(Slide 4.6)**
      ii. Increase in income **(Slide 4.7)**
      iii. Change in the price of nuts **(Slide 4.8)**
   c. The utility-maximizing rule
      i. Nut and chocolate utility **(Slide 4.9)**
      ii. Graph of total vs marginal utility
      iii. Non-satiation vs. Law of diminishing marginal utility
      iv. **Utility-maximizing rule
   d. Indifference curves
      i. Utility map **(Slide 4.10)**
      ii. Maximizing utility **(Slide 4.11)**
      iii. Response to a price change **(Slide 4.12)**
   e. Limitations of neoclassical model
      i. Modeling "as if" behavior
      ii. Studies
          1. We do not properly "predict" our utility
          2. More choice *reduces* our utility

II. Limits to consumerism
   a. Needs vs wants
      i. Absolute vs relative deprivation
      ii. Affluenza
      iii. Happiness
   b. Consumer sovereignty?

i. From where do "preferences" come?
ii. Advertising

c. Consumerism, wellbeing, and debt
i. Leisure preferred in the early days
ii. Unions shift in the 1920s from shorter hours to higher wages and working conditions
iii. Department stores/shopping malls
iv. Credit cards/revolving debt **(Slide 4.13)**

d. Consumption and the environment
i. Ecological impact **(Slide 4.14)**
ii. "Green" consumption
iii. Footprintcalculator.org

Lessons 15-16: The Labor Market

I. Theory of labor markets
a. The firm's decision
i. Marginal factor cost of labor (MFC_L) = w
ii. Marginal revenue product of labor (MRP_L)

b. Individual's decision
i. Wage
ii. Opportunity cost
1. Household production
2. Education
3. Self-employment
4. Leisure

c. Individual supply curve
i. Upward sloping
ii. Backward-bending
-Substitution and income effect

d. Market supply curve
i. Upward sloping
ii. Elasticity
-Human capital
iii. Labor force participation rate

e. Market demand curve
i. Downward sloping
ii. Elasticity
1. Time
2. Substitutes (low vs high skill)

f. Adjustment example: Real estate agents pre-financial crisis **[Slide 5.1]**

II. Explaining variations in wages
a. Neoclassical
i. Human capital **[Slide 5.2]**

ii. Effort
iii. Compensating wage differentials
iv. Other inputs (productivity) **[Slide 5.3]**

b. Bargaining power and labor unions
i. Monopsony and oligopsony
ii. Decline in union density **[Slide 5.4]**

c. Efficiency wages and dual labor markets
d. Discrimination **[Slide 5.5]**

III. Contemporary issues
a. Labor force participation rates **[Slide 5.6]**
b. Labor market "flexibility"
c. Immigration
d. Co-operatives
e. Work-life balance **[Slide 5.7]**
f. Inequality and power **[Slide 5.8]**

Lessons 17-19: Economic and Social Inequality

I. Defining and measuring inequality
a. Inequality of what?
i. Income or wealth
ii. Health/education/capabilities
iii. Environmental/climate change impacts

b. Measuring inequality
i. Distribution of income **(Slide 4.1)**
ii. Lorenz curve **(Slide 4.2)**
iii. Comparing other countries' Lorenz curves **(Slide 4.3)**
iv. The Gini coefficient **(Slide 4.4)**

c. Issues
i. Pre- or post-tax income?
ii. Income or wealth? (Wealth Gini approximately 0.8)
iii. Wealth and power

II. Data and trends
a. U.S. Inequality
i. Steady rise in income inequality since 1960s **(Slide 4.5)**
ii. U-shape trend over past century **(Slide 4.6)**
iii. Gini coefficients **(Slide 4.7)**

b. Wealth inequality
i. Reality **(Slide 4.8)**
ii. Perception and preference **(Slide 4.9)**

c. Medians versus means
i. Median income **(Slide 4.10)**
ii. Median assets **(Slide 4.11)**

iii. Median net worth, by country **(Slide 4.12)**

III. Causes and consequences
   a. Causes **(Slide 4.13)**
      i. Demographics—elderly and single-parent families **(Slide 4.14)**
      ii. Change in functional income distribution – wage share of income down from 72% in 1970 to 64% **(Slide 4.15)**
      iii. Globalization and elimination of manufacturing jobs **(Slide 4.16)**
      iv. Technological change and rise of "skilled" sector incomes **(Slide 4.17)**
      v. Weakening of unions **(Slide 4.18)**
      vi. Deliberate policy **(Slide 4.19)**
         1. Tax cuts – borrowing money from the rich at interest
         2. Cuts in social spending
   b. Consequences **(Slide 4.20)**
      i. Fewer have access to quality education and adequate healthcare **(Slide 4.21)**
      ii. Adverse stress-related health effects **(Slide 4.22)**
      iii. Slower economic growth **(Slide 4.23)**
      iv. Lower social capital **(Slide 4.24)**
      v. Self-reinforcing – requires policy to reverse **(Slide 4.25)**

IV. Responses
   a. Determinants of inequality: Effort, luck, wealth, talent/intelligence
   b. Philosophies **(Slide 4.26)**
      i. Equality of outcomes
      ii. Equality of opportunities
      iii. Equal rewards for equal contributions
      iv. Equal rights
      v. Basic needs
   c. Policies **(Slide 4.27)**
      i. Tax and redistribute
      ii. Minimum wage
      iii. Change spending priorities to education, etc.

Lessons 18-21: Costs, profits, and competitive markets

I. Introduction
   a. Goals of production
      i. Neoclassical economics historically assumes **profit**
      ii. Recently focusing on "**triple bottom line**"
   b. Costs
      i. Fixed vs. variable
      ii. Accounting vs. economic costs **(Slide 7.1)**
      iii. Private vs. external costs

II. The production function
   a. Thinking about inputs and outputs
      i. Y = f (many different things)
      ii. This can be simplified to Y = f (fixed input, variable input)
      iii. Short run vs. long run (limiting factor)
   b. Corn example
      i. Input-output Table **(Slide 7.2)**
      ii. Total product curve **(Slide 7.3)**
      iii. Marginal returns **(Slide 7.4)**
   c. Diminishing, constant, and increasing returns
      i. Graphically **(Slide 7.5)**
      ii. Which is most common? Possibly all three (restaurant)
      iii. **Law of diminishing returns** illustrated **(Slide 7.6)**

III. Costs
   a. Short run
      i. Corn example assuming FC = $500 and VC = $15
         1. Total cost **(Slides 7.7-7.8)**
         2. Marginal cost **(Slide 7.9)**
   b. Relationship between **law of diminishing returns** and **marginal cost (Slide 7.10)**
   c. Long run
      i. All inputs variable
      ii. Increasing, decreasing, and constant returns to scale
      iii. Production process choice
         1. Input substitution
         2. E.g., capital-intensive vs labor-intensive production methods

IV. Exercise
   a. Lynn hand-knits mittens
   b. Given
      i. 1st hour, 4 pairs, 2nd hour, 3 pairs, 3rd hour, 1 pair
      ii. Her wage is $15 per hour
   c. Table relating hours worked to # of mittens and production function graph
   d. Graph of total (labor) cost curve
   e. What is pattern of marginal returns? Marginal costs?
   f. What is the marginal cost going from 4 pairs of mittens to 7? For the 8th pair?

V. Perfect competition
   a. Business decision making: understanding competition and market power
      i. Business perspective
      ii. Consumer perspective
      iii. Citizen perspective

iv. Economists' perspective

b. Perfect competition conditions
   i. Many sellers, all small (small = no market power = "price takers")
   ii. Homogenous or identical products
   iii. Free entry and exit
   iv. Perfect information
c. Real world examples?
   i. Financial (stock) markets perhaps come the closest
   ii. Dry cleaners, laundromats, are highly competitive

VI. The production decision
a. Demand
   i. Market vs. firm demand under perfect competition
   ii. Price automatically "given"
   iii. For corn, we will assume $4/bushel
b. Profit maximization
   i. Firm maximizes profit at greatest difference between revenue and cost
   ii. In corn example, this is where 154 bushels of corn are produced **(Slide 7.11)**
   iii. Graphical representation of the max vertical distance **(Slide 7.12)**
c. Marginal analysis
   i. Notice that profit is also maximized more or less where MC = P = MR (think why!) **(Slide 7.13)**
   ii. Graphical representation **(Slide 7.14)**
   iii. Bottom line: Profit is maximized where P=MC, so the "production decision" is to produce up to this point
   iv. Draw graph showing the "profit function" that corresponds to this case
d. Profit maximization
   i. Review profit maximization rule
   ii. Market equilibrium and firm profit maximization (dual graphs)
   iii. Economic profit and firm entry
   iv. Positive economic profit induces more firms to "enter" market, shifting supply and lowering price until economic profit equals zero

VII. Firm entry and exit
a. In competitive markets (no entry barriers), others will enter profitable markets, driving down the price **(Slide 7.15)**
b. The effect of this will be a reduction of the production level of each of the firms as price "slides down" the marginal cost curve **(Slide 7.16)**
c. Notice what this means: The marginal cost curve ***is*** the supply curve when markets are competitive
d. Long run
   i. Eventually enough firms enter so that industry profit = 0

ii. There might be "overshoot" in the short run
iii. Economic profit vs. accounting profit

e. Even when price drops to the point where profit is negative, the profit-maximizing rule applies **(Slide 7.17)**

VIII. Summary

a. Perfect competition has the effect of determining the market price for the producers (they are all price takers)
b. Profit induces more competitors to enter the market, driving down the price, inducing less production at lower cost
c. This leads to the "efficient" low-cost outcome
    i. Good for consumers (lower price)
    ii. Bad for business (lower profit)
    iii. Ambiguous for citizens (lower price and lower cost good, but consequences for quality, safety, etc.?)

Lessons 22-23: Market Power

I. General market structure differences

a. Perfect competition (previous chapter)
b. Monopoly
c. Monopolistic competition
    i. Many sellers, most small, some large
    ii. Product differentiation
d. Oligopoly
    i. Few sellers that control more than 85% of market
    ii. Collusion, cooperation among big players

II. Monopoly

a. Conditions
    i. One seller
    ii. No close substitutes for product
    iii. Barriers to entry
b. Barrier types
    i. Economic barriers
        1. High fixed cost
        2. Limited size of market
        3. Network externalities (PC – MS-Windows relation to existing software)
    ii. Legal barriers
        1. Copyrights
        2. Patents
        3. Franchises
    iii. Deliberate barriers
        1. Exclusion/e.g., influencing suppliers

2. Predatory pricing/dumping

c. Monopoly examples
   i. Local monopoly
      1. Wal-Mart in small communities
      2. Barnes & Noble here at Adelphi
   ii. Regulated (or "natural") monopoly
      1. Railroads
      2. Utilities
      3. Postal services (no longer, with new competition)

III. Profit maximization under monopoly
   a. Crucial difference is that monopolist is a **price maker** (not a price taker)
   b. MR as distinguished from AR by way of example (**Slide 8.1)**
   c. Add following cost structure:

Q	MC
1	13
2	8
3	9
4	10
5	12
6	15
7	20
8	35
9	60

   d. Show profit, comparing with competitive case
   e. Graphically (**Slides 8.2 and 8.3)**

IV. Pros and cons of monopoly
   a. Cons
      i. Deadweight loss (**Slide 8.4)**
      ii. Consumers lose
      iii. Laziness/complacency
      iv. Rent-seeking to preserve monopoly, etc.
   b. Pros
      i. Natural monopoly
      ii. R&D and innovation – Intellectual property
      iii. "Pressure" to appear competitive

V. Perfect price discrimination (efficient but highly inequitable)
   ▪ Show this effect graphically (**Slide 8.5)**

VI. Monopolistic competition
   a. Conditions
      i. Numerous buyers and sellers, mostly small
      ii. Goods are not identical; product differentiation is present
      iii. Easy entry and exit

iv. Perfect information
b. Examples
c. Profit maximization
d. Competition and long-run efficiency

VII. Oligopoly
a. Conditions
i. Few sellers
ii. Market power
iii. Entry is difficult
b. The concentration ratio
c. Oligopoly examples
d. Behavior
i. Strategic interaction and game theory (**Slide 8.6)**
ii. Collusions, cartels, and price leadership
e. Is oligopoly rampant?

VIII. Market structure summary (**Slide 8.7)**