SUNY-Binghamton
Spring 2014   Economics 160
                             Principles of Microeconomics
                             Christopher Hanes
                             PRELIMINARY outline

I) Introduction
        A) Origins of the discipline
                1) *Oikonomia* - household or estate management
                2) *Polis* - (city) state
                3) Political economy
        B) Positive *versus* normative economics
                1) Positive statements - statements of fact
                2) Normative statements - advice, what ought to be done
        C) Microeconomics *versus* macroeconomics
                1) Macroeconomics topics
                        a) Recessions, booms, unemployment
                        b) Inflation
                        c) Development - what makes a country rich, poor
                2) Microeconomics topics - everything else
        D) What we will cover in this course
                1) Production and trade, in general terms
                        a) Production possibilities
                        b) Gains from trade
                2) Markets, in general terms
                        a) Demand
                        b) Supply
                        c) Market price and quantity
                        d) Efficiency
                        e) Elasticity
                3) Public policy questions analysed in competitive markets
                        a) Taxation
                        b) International trade
                        c) Pollution, global warming, government-provided goods and services
                4) Market structure (how many sellers)
                        a) Costs of production
                        b) Perfect competition (many sellers, same good)
                        c) Monopoly (one seller)
                        d) Monopolistic competition (many sellers, differentiated goods)
                        e) Oligopoly (a few sellers, same good)
        E) Techniques used in this course
                1) Graphs
                2) Algebra
        F) This course as an introduction to the economics major

II) Seven principles of economics (Mankiw Ch. 1)
 not covered in class, but you're responsible for:
*People face tradeoffs; the cost of something is what you give up to get it (opportunity cost); rational
people think at the margin; people respond to incentives; trade can make everyone better off (gains
from trade); markets are usually a good way to organize economic activity; governments can
sometimes improve market outcomes.*

you're not responsible for:
A country's standard of living...; prices rise...; society faces a short-run tradeoff...

III) Production possibilities frontier (PPF) (Mankiw Ch 2,3)
      A) Introduction
            1) Story
            2) What the model illustrates
                  a) Tradeoff
                  b) Opportunity cost
                  c) Efficiency
                  d) Technological or organizational improvement
                  e) Specialized resources
                  f) Gains from specialization and exchange (gains from trade)
            3) The model's unrealistic simplification
      B) Family farm with a straight PPF
            1) Story
            2) Numbers for example
            3) Graph
            4) Tradeoff
            5) Opportunity cost
            6) Efficiency
            7) Tech. or org. improvement
                  a) Get better at potatoes
                  b) Get better at meat
                  c) Get better at both, same proportion
      C) Bowed-out PPFs
            1) Examples
            2) What's it about? Specialized resources
            3) Simple example: Family farm with bent-out PPF
                  a) Story
                  b) Numbers for example
                  c) Graph
                  d) What's going on: specialized inputs

IV) Gains from specialization and exchange (gains from trade) (Mankiw Ch 3)
      A) Introduction
            1) Story
            2) What the model illustrates
                  a) If units coordinate, specialize and exchange, more stuff
                  b) Two ways to get these gains
                        i) Powerful central planner
                        ii) Mutually agreed-upon trades
      B) Farmer and rancher without exchange (self-sufficiency)
            1) Good at different things
            2) PPF's
            3) Total output
      C) Farmer and rancher cooperating
            1) PPF
            2) More stuff than self-sufficiency
            3) What's going on: specialization
      D) One way to achieve this: taking orders from central planner
      E) Another way: mutually agreed-upon trade

1) What deals will farmer accept?
2) What deals will rancher accept?
3) Room for a deal
F) What do real societies do?
1) Central planning
2) Property rights, contract enforcement and trade
3) Firms: central planning within a trade economy

V) Gains from trade: absolute advantage and comparitive advantage (Mankiw Ch 3)
A) Introduction
B) Definitions
1) Comparitive advantage
2) Absolute advantage
3) Examples
C) When are there potential gains from trade?
D) Example
1) Overview
2) Farmer's point of view
a) Productivity and PPF
b) No trade
c) Deal that makes farmer specialize in meat production
d) Deal that makes farmer specialize in potato production
3) Rancher's point of view
a) Productivity and PPF
b) No trade
c) Rancher takes deal that makes farmer specialize in potatoes
d) Rancher won't take deal that makes farmer specialize in meat
E) This works for countries

VI) Circular-flow diagram (Mankiw Ch 2)
A) Introduction
1) What it illustrates
2) What it leaves out
B) Definitions
1) Households
2) Firms
3) Factors of production
4) Market
C) What households do
1) Own factors of production (labor, land and capital goods)
2) Rent or hire them out to firms, get income
3) Buy goods and services from firms
D) What firms do
1) Rent or hire factors of production
2) Produce and sell goods and services
3) Any profits go to households (owners of firms)
E) Diagram

VII) Perfectly competitive market: supply and demand (Mankiw Ch 4)
- A) Introduction
  - 1) Markets
  - 2) Market structures
  - 3) Perfect competition
    - a) Many sellers
    - b) Selling exactly same good
    - c) Seler is "price taker"
    - d) Examples of perfectly competitive markets
    - e) Simplest kind of market
  - 4) preview
- B) Demand
  - 1) Quantity demanded
  - 2) Determinants of demand
    - a) Price of good itself
    - b) Income
      - i) Normal good
      - ii) Inferior good
    - c) Related-goods' prices
      - i) Substitutes
      - ii) Complements
    - d) Tastes
    - e) Number of buyers
  - 3) Demand curve
    - a) Demand curve: what it looks like
    - b) Curves we don't draw, but could if we wanted
    - c) What shifts demand curve
  - 4) Shifting the curve *versus* moving along the curve
- C) Supply
  - 1) Quantity supplied
  - 2) Determinants of supply
    - a) Price of good itself
    - b) Input prices
    - c) Technology
    - d) Number of sellers
  - 3) Supply curve
    - a) What it looks like
    - b) What shifts curve
  - 4) Shifting the curve versus moving along the curve
- D) Supply and demand together
  - 1) Equilibrium price and quantity
  - 2) Excess supply or surplus
  - 3) Excess demand or shortage
- E) Supply and demand in equations
  - 1) Supply equation
  - 2) Demand equation
  - 3) Equilibrium P*
  - 4) Equilibrium Q*
- F) Changes in equilibrium P &/or Q
  - 1) What events can change P &/or Q?
  - 2) How to analyze events
    - a) Which curve shifts?

b) In what direction?
                    c) Compare old *versus* new equilibrium
            3) Examples
                    a) Shift in demand
                    b) Shift in supply
                    c) Shift in both demand and supply
        G) Aggregation of individual components to get total market demand or supply
            1) Example of demand
            2) Example of supply
        H) Fixed or flat supply and demand
            1) Fixed or "perfectly inelastic"
            2) Flat or "perfectly elastic"

VIII) Elasticity (Mankiw Ch 5)
        A) Introduction
            1) Response of Q's to ΔP can be strong or weak
            2) Coefficients in S&D equations
            3) Coefficients affected by units of measurement
        B) Price elasticity of demand
            1) Definition
            2) Example
                    a) Demand equation
                    b) Demand curve
                    c) Elasticities
            3) Ignore negative sign
            4) Flatter/steeper D curves are more/less elastic
            5) Economists' jargon: degrees of elasticity
                    a) "Perfectly elastic"
                    b) "Inelastic"
                    c) "Unit elastic"
                    d) "Elastic"
                    e) "Perfectly inelastic"
            6) When is price elasticity likely to be high?
                    a) The good has close substitutes
                    b) "Luxury" not "necessity"
                    c) Narrowly defined good
                    d) Long time horizon
            7) Price elasticity of demand and total revenue
        C) Other elasticities
            1) Price elasticity of supply
            2) Cross-price elasticity of demand
            3) Income elasticity of demand

IX) Price controls and taxes: introduction (Mankiw Ch 6)
        A) Introduction
        B) Price controls
            1) Price ceilings
                    a) What it is
                    b) Is it binding?
                    c) Shortage (excess demand)
                    d) Allocation of good among people who want to buy
            2) Price floor

           a) What it is

           b) Is it binding?

           c) Surplus (excess supply)

           d) Allocation of sales among willing sellers

        3) Short run vs. long run

           a) Elasticity can be different

           b) Example: rent control

    C) Taxes

        1) Definitions

           a) Excise tax

           b) Ad valorem vs. per-unit or specific tax

           c) Tax incidence

        2) Tax collected from sellers

           a) It affects supply curve

           b) Effect on price

           c) Effect on buyers and sellers

        3) Tax collected from buyers

           a) It affects demand curve

           b) Effect on price

           c) Effect on buyers and sellers

        4) Lesson: it doesn't matter which side you tax

        5) Tax incidence and elasticity

           a) Preview: inelastic side suffers more

           b) Graphs

               i) Elastic demand, inelastic supply

               ii) Inelastic demand, elastic supply

X) Consumer surplus, producer surplus (Mankiw ch. 7)

    A) Introduction

        1) CS, PS on a graph

        2) Public policies affect people differently

        3) What to do?

           a) Apply moral rules directly to policies

           b) Count heads

           c) Measure how much policy helps/hurts a person

           d) Adopt policy only if everyone wants it; or some want it, others indifferent:

               "Pareto improvement"

        4) What CS, PS is

           a) A measure of how much policy helps/hurts

           b) Potential Pareto improvement

    B) Demand curve and CS

        1) Intro

           a) CS is what buyers WTP for right to buy at a price

           b) Increase in CS is what buyers WTP for price reduction

         2) Why does quantity demanded increase when price falls?

        3) Each household may or may not buy one unit

           a) WTP for successive units

           b) Difference between market price and height of DC

           c) Area between market price and DC

         4) All buy, but can buy more or less

           a) WTP for successive units

           b) Difference between market price and height of DC

      c) Area between market price and DC
    5) Generalization: CS
    6) Income and CS
  C) Supply curve and PS
    1) Intro
      a) Farmer's market and fee to participate
      b) PS is what suppliers WTP for right to sell at market price
      c) Increase in PS is what suppliers WTP for price increase
    2) Selling in a perfectly competitive market
    3) What makes producers choose to produce and sell a unit? Price vs. opportunity cost
    4) Height of SC is total OC of resources needed to produce that unit
    5) PS if P > OC
  D) WTP and compensation for losses

XI) Welfare economics: price controls, taxes, international trade
  A) Intro
    1) What we will do in this section
    2) Economists' jargon
      a) Welfare economics
      b) Total surplus or net social benefit
      c) Transfers
      d) Deadweight loss
      e) Potential Pareto improvement
  B) Price controls *not in Mankiw*
    1) Price ceiling
      a) Impose a ceiling
      b) Get rid of a ceiling
      c) In terms of PPI
        i) Getting rid of ceilnig is PPI
        ii) Imposing ceiling cannot be PPI
    2) Price floor
  C) Excise taxes *Mankiw chapter 8*
    1) Intro
      a) One goal of tax policy: minimize cost to public/tax revenue
      b) Preview:
        i) Tax has DWL
        ii) DWL is smaller if demand or supply inelastic
    2) Tax paid by suppliers
    3) Tax paid by buyers *covered in section*
    4) DWL and elasticity
  D) International trade *Mankiw chapter 9*
    1) Simplifying assumption: world price, small country
    2) Import or export?
    3) Gains from trade
      a) To exporting country
      b) To importing country
    4) Tariffs *(revised; we will not cover "quotas" as on old outline)*
      a) On a graph
      b) Compare tariff with free trade
  E) Lessons for public policy
    1) General principles
      a) Do things that are PI's

     b) If you want to help a group, do it in way that hurts other groups the least
   2) Obvious lessons
     a) Collect tax revenue from inelastic markets
     b) To help groups, don't use price controls or restrict international trade
   3) Economists' usual advice
     a) Follow policies that maximize TS
     b) Give money or resources to poor, funded by taxes on inelastic markets

XII) Costs of production *Mankiw chapter 13*
  A) Introduction
   1) "Costs" means opportunity costs, not "accounting" costs
   2) Long-run *versus* short-run, fixed costs *versus* variable costs
  B) Inputs to production
   1) Land
   2) Labor
   3) Materials
   4) Capital
  C) Costs of inputs
   1) Materials
   2) Labor
     a) Opportunity cost of labor
     b) Ordinary employees
     c) Owner-managers
   3) Land and capital
     a) How firms get land and capital
       i) Rent it
       ii) Take out loans and buy it
       iii) Buy it with money put in by firm's owners
     b) Costs
       i) Rented land or capital
       ii) Capital or land bought with loans
       iii) Capital or land bought with owners' money
  D) Marginal versus average
   1) Costs, revenue, product
   2) Example of marginal *versus* average
   3) How marginal changes average
  E) Example of production: cookie factory
   1) Concepts it illustrates
     a) Production function
     b) Marginal product (MP)
     c) Fixed, variable, average, marginal costs
     d) Fixed, variable factors
   2) Story
   3) Production function and marginal product
   4) Diminishing MP
   5) Slope of production function graph
   6) Total cost
     a) What it includes
     b) Graph
     c) Why graph is bowed up
  F) Example of costs: coffee shop
   1) Concepts it illustrates

            a) Marginal versus average cost
            b) Components of average cost
        2) MC and ATC
        3) ATC = AFC + AVC
    G) How to draw typical short-run cost curves
    H) Costs in LR
        1) Intro
            a) New terms
            b) Recall: efficient scale
        2) For every Q, an efficient scale
        3) Scale and SRATC curves
            a) Constant returns to scale
            b) Economies of scale
            c) Diseconomies of scale
            d) Economies, then diseconomies
        4) What economies/diseconomies of scale mean
            a) What it's not
            b) Economies of scale from centralized functions
            c) Diseconomies of scale from problems in monitoring, coordinating

XIII) Market structure: preview
    A) Introduction
    B) Market structure models
        1) Monopoly
            a) What it is
            b) Examples
        2) Oligopoly
            a) What it is
            b) Examples
        3) Monopolistic competition
            a) What it is
            b) Examples
        4) Perfect competition
            a) What it is
            b) Examples
    C) Concepts
        1) Price maker versus price taker
        2) Entry and exit
        3) Marginal revenue
        4) Strategic behavior
        5) Sunk cost
    D) General assumption: a firm tries to maximize profit

XIV) Perfect competition *Mankiw chapter 14*
    A) Each firm is price taker
        1) What it means
        2) How can it be?
        3) Demand for product of one firm
        4) Marginal revenue
    B) Choices in SR *versus* LR
    C) Profit-maximization in short run
        1) What firm can choose
            a) Produce or shut down
            b) If produce, choose q
        2) Profit-maximizing q
            a) What it is
            b) Why this maxxes profit
            c) General principle: at q*, MR = MC.
        3) How much profit does the firm receive?
            a) On a graph
            b) Possible situations
        4) What does profit mean?
        5) Shut down or produce?
            a) In SR, Fixed cost is sunk
            b) What happens if you shut down *vs.* produce
            c) TR vs. VC
            d) P vs. AVC
            e) Graphs
                i) Produce and make economic profit (supernormal profit)
                ii) Produce and make zero economic profit (normal profit)
                iii) Produce and make negative economic profit (subnormal profit)
                iv) Shut down
    D) SR market supply curve
        1) Review
        2) q and Q
        3) P and q
        4) P and Q
    E) Long-run supply
        1) Review and Introduction
        2) Entry and exit
        3) Effect of entry and exit on P
        4) Possible effect of entry and exit on costs of inputs
        5) Supply of inputs, opportunity costs and producer surplus
        6) Long-run supply curve
            a) If entry/exit does not affect costs of inputs
            b) If entry raises costs of inputs

XV) Monopoly *Mankiw chapter 15*
    A) Introduction & review
        1) What monopoly is
        2) Preview: unregulated monpoly is bad
        3) To maximize profit, choose q so that MR = MC
        4) For firm in perfect cometition, MR = P
    B) Monopoly chooses price(s)
        1) Price maker not price taker

2) Price discrimination
3) MR if monopoly charges just one price
     a) Demand curve
     b) MR < P
     c) Example
     d) How to draw a MR curve
          i) Where Q = 0, hits DC
          ii) MR steeper
          iii) MR if DC straight line
4) Profit-maximizing P & Q (=q) if monopoly charges just one price
     a) Cost curves
     b) Demand and MR
     c) Setting MR = MC
     d) P at this Q
     e) Economic profit ("Monopoly profit")
     f) Monopoly can get economic profit even in LR
C) Welfare consequences of monopoly
    1) Intro
    2) Monopoly versus perfect competition
       a) Situation
       b) Supply curve and monopoly's cost curves
       c) Compare monopoly and perfect competition
    3) Natural monopoly
       a) What is it: downward-sloping ATC
       b) How it can happen: big fixed cost
       c) A simple case: flat MC
       d) What unregulated monopoly will do
       e) Regulation
           i) Average cost pricing
           ii) Marginal cost pricing
D) Definitions
    1) Excess capacity
    2) Mark-up

XVI) Monopolistic competition *Mankiw chapter 16*
    A) Introduction
    B) Product differentiation
       1) What it means
       2) What differentiates products
          a) Attributes of good or service
          b) Location of firm
       3) Variety is good
       4) Tradeoff variety against price
    C) Characteristics of monopolistically competitive industry
       1) Differentiated products
       2) Lots of firms
       3) For each type, natural monopoly
       4) Free entry of close substitutes
    D) Market equilibrium
       1) Short run
       2) Entry, exit
       3) Long run

     a) Zero economic profit
     b) What graph looks like
     c) What's true in LRE
       i) Markup
       ii) Excess capacity
  E) Welfare
    1) Obvious problems
    2) But how do you fix it?
     a) Can't make market for each variety perf. comp.
     b) Can't regulate with MC pricing
     c) Force firms to produce just one variety?
  F) Advertising & brand names
    1) Intro
    2) Bad: creating false differentiation
    3) Good
     a) Info about prices
     b) Quality, reputation

XVII) Oligopoly *(Mankiw chapter 17)*
  A) Intro
    1) What oligopoly is
    2) How oligopoly is different
    3) What we'll see: lots of possible outcomes
  B) Game theory
    1) Intro
    2) Strategy
     a) Definition
     b) Dominant strategy
    3) Equilibrium
     a) Definition
     b) Minimum requirement: Nash equilibrium
    4) Simple game: 2x2 matrix
    5) Example: prisoner's dilemma
  C) Oligopoly
    1) Intro
     a) If firms win, we lose
     b) Possible outcomes
     c) Simple case we'll discuss
    2) Cartel
    3) Bertrand competition *(not in Mankiw)*
     a) Each firm sets P, produces to meet demand at that P
     b) Allocation of sales
     c) Cartel price is not a Nash equilibrium
     d) Equilibrium: $P_A = P_B = MC$
    4) Cournot competition
     a) Each firm sets its Q, price adjusts to clear market
     b) Cartel P & Q
     c) Is cartel agreement Nash equilibrium? No
     d) Is $MC < P < P_{Cartel}$ Nash equilibrium? Yes
  D) Complications
  E) Antitrust policy

XIX) Public goods, club goods, common resources *(Mankiw chapter 11)*
    A) Intro
    B) Definitions
        1) Characteristics of goods
            a) Excludable
            b) Rival in consumption
        2) Categories of goods
            a) Private goods
            b) Public goods
            c) Club goods
            d) Common resources
    C) Private goods
    D) Club goods
    E) Public goods
        1) Examples
        2) Free rider problem
        3) How government can provide the good
    F) Common resources
        1) What can happen without government
        2) What if resource can be destroyed by overuse?
        3) Tragedy of the commons
            a) What it is
            b) As a prisoners' dilemma game