Course Title: **A.P. Microeconomics, Spring 2008**
Teacher: **Stephen E. Reilly, Ph.D.** (Home Phone 610-828-4323; call before 9 p.m.)
Room: **324, Block 3** (E-mail: reilly@havsd.net)

COURSE DESCRIPTION AND METHODS:
Economics is the study of how society allocates scarce resources among mutually exclusive ends.

This course will prepare students to take the Advanced Placement examination in microeconomics--the study of how individual units within the economy (a person, a business, an institution) makes logical decisions about production, distribution and consumption. The class meets five times a week. Reading assignments before class is essential since the instructor will not go over everything covered in the text, yet the student must master each concept. Students are strongly encouraged to do the exercises in the DiscoverEcon 3.1 Software Tutorial before class; they should ask in class about exercises that they find difficult. They should bring their notebook and the text containing the daily assignment to class. Every student should participate in class each day.

GOALS: The instructor has four major goals in teaching this course:

1. To introduce you to the discipline of economics and microeconomics in particular.
2. To prepare you for success in a rigorous college course.
3. To encourage you to think for yourself through critical reading and class discussion.
4. To use the educational technology available consistent with goals 1, 2, and 3.

EXPECTATIONS OF STUDENTS:

1. Take responsibility for your actions and achievement; make the most of opportunities.
2. Be respectful of others; no student has the right to interfere with the learning of others.
3. Be on task in class—no devices such as walkman or other distractions.
4. Ask questions when there is something that you do not understand.

QUIZ AND RE-QUIZ POLICY:
There will be a quiz each week during class time to provide the student feedback on his or her mastery of the material. Quizzes will be available in both multiple choice and identification and problems format; students may choose which format of quiz they wish to take. Those planning to take the AP exam should take quizzes in the multiple choice format since that will be an important component of the AP exam.

Developing the ability to master material efficiently is part of learning. To that end, students may take one re-quiz a week but will be given an incentive to become more self-sufficient learners as the year progresses. They will receive the highest grade earned on a re-quiz during the first quarter and some fraction of the improved grade in the second quarter and less in the third quarters; in the fourth quarter there will be no re-quizzes. Students are encouraged to meet with the teacher for review before taking a re-quiz. All re-quizzes for a particular week must be completed before the first quiz on the material studied the next week is given.

A WORD TO THE WISE: Keep up with the assignments and the quizzes! While an occasional re-quiz may prove helpful, you will find it difficult to do well if you are constantly behind. Allocate your study time efficiently--this will be your personal economic challenge.

(OVER)

TEXTS: Campbell McConnell and Stanley Brue, Economics (E) 14th edition
Russell Roberts, The Choice (C)

GRADES will be determined by points earned out of total points available weekly quizzes, homework/classwork assignments, exercises, four unit tests, and a final examination. The instructor will find a way to give credit for intellectual activities that demonstrate an understanding of the material being studied at the time—talk to him about this option as soon as possible. Students will earn 1 point on making period grades for each chapter set of "Key Questions," hand-written, turned in before the weekly quiz. Consideration will also be given for class participation.

OUTSIDE READING: Do some—the more the better!

Newspapers including but not limited to:

Philadelphia Inquirer, The New York Times, Washington Post and TheWall Street Journal

Newsmagazines including but not limited to:

Newsweek (Robert Samuelson's column in particular), Time, Business Week, Forbes, Fortune, The Economist, and The National Revie

The Internet:

While there is much on the internet that is a mind rotting waste of time, there are some sites useful for the study of economics. See E pp. xxxi-xxxii for examples. While we will never "surf the net" in class, we will use the internet when appropriate. The publisher of your textbook (E) has provided a rich web page for your use (www.mhhe.com/economics/mcconnell/student). It includes self testing quizzes, answers to key questions, a statistical update, and much more. See for yourself! If you have trouble locating it, please see me—the sooner the better.

Columnists Who Write about Economic Available on the Web--A Challenge: Find an article on something we are studying , bring it to class and discuss with me for 10 points extra credit. Discover a new economic columnist with a critique, earn 20 points!

Boston Globe: (www.boston.com/globe/columns/warsh/)-- Michelle Singletary (Sunday)
Newsweek: (http://newsweek.com/)--Robert Samuelson (biweekly)
Washington Post: (www.washingtonpost.com/)
Robert Samuelson
David Ignatius
Time (www.time.com/time/) Daniel Kadlec
BusinessWeek (www.businessweek.com/contents.htm)--"Economic Viewpoint" Column
New York Times (www.nyt.com/)
Paul Krugman writes about economics on the editorial page.
The Wall Street Journal: Known for its conservative editorial page and for excellent reporting.

Please sign and date to signify that you have read and understood this syllabus.

Student Michael Plasmeier Date 1/28/08

4 Factors of Production

1/29/08

Land
- natural resourses only
- wild corn (not planted)

Capital
man made
don't use it up
used to create other things
hammer = capital
nails → used up → not capital

Labor
in return for getting paid

Entrepreneurial Ability
- managment
- vision
- innovator
- risk bearer
- put whole system in motion

WSJ.com THE WALL STREET JOURNAL. ONLINE

January 24, 2008

COMMENTARY

Beyond Payday Loans

By WILLIAM J. CLINTON and ARNOLD SCHWARZENEGGER
January 24, 2008; Page A17

The American dream is founded on the belief that people who work hard and play by the rules will be able to earn a good living, raise a family in comfort and retire with dignity.

But that dream is harder to achieve for millions of Americans because they spend too much of their hard-earned money on fees to cash their paychecks or pay off high-priced loans meant to carry them over until they get paid at work.

Here is one initiative that can unite progressives and conservatives as well as business leaders and community activists: helping the "unbanked" enter the financial mainstream by opening checking and savings accounts, and working collaboratively with financial institutions and community groups to develop and market products that work for this untapped market. This will put money in the pockets of individuals and grow the economy. And it won't cost taxpayers a dime.

Imagine the economic and social benefits of putting more than $8 billion in the hands of low- and middle-income Americans. That is the amount millions of people now spend each year at check-cashing outlets, payday lenders and pawnshops on basic financial services that most Americans receive for free -- or very little cost -- at their local bank or credit union. Over a lifetime, the average full-time, unbanked worker will spend more than $40,000 just to turn his or her salary into cash.

Many nonbank customers are either leery of banks or believe they do not have the products they need. The result is that the market for basic financial services is booming. Today, the number of check cashers, payday lenders and pawnshops is more than double the number of McDonald's franchises in the United States. More than 20 million Americans cash more than $60 billion in checks each year at check-cashing businesses. Full-time workers without a checking account typically pay $40 on average to cash their paychecks. And payday lenders sell an additional $40 billion in expensive small-dollar loans each year that carry fees 30 times the average credit-card rate.

But these Americans can become bank customers if they have access to the right products at the right terms, and the support they need to make good, responsible financial decisions. People outside of the financial mainstream are the heart of America. The vast majority of people without bank accounts work, and they have an average household income of $27,000. Most are also married, have at least one child, and are employed by a small business.

And consider that, according to a new Brookings Institution report, as much as $360,000 in pre-tax wealth could be created if the average, full-time unbanked worker invested in the stock market what he will spend over his lifetime paying to cash his paychecks. That would allow one of those workers

he will spend over his lifetime paying to cash his paychecks. That would allow one of those workers to finance about 25 years of retirement at his current standard of living.

This year, California will become the first state in the nation to launch an effort to help unbanked residents open starter accounts -- the first step into the financial mainstream. Approximately 11% of California households, including 25% of Latino and African-American households, do not have a checking account. And nearly half of households in the state don't have a savings account.

In coordination with the Federal Deposit Insurance Corporation, we will partner with financial institutions to increase the supply of starter accounts that work for unbanked consumers and banks. We will form regional coalitions of financial institutions, mayors and community groups to market accounts and help the unbanked build financial literacy. And we will build on work already being done in San Francisco, where city officials, working with banks and credit unions, have already signed up 11,000 individuals who previously had no checking or savings account.

The William J. Clinton Foundation's Economic Opportunity Initiative will help more people enter the financial mainstream by supporting the work of California -- as well as that of mayors in Boston, Los Angeles, Miami, New York, Providence, San Francisco, Savannah and Seattle, each of whom are spearheading their own efforts. It will also work to engage additional cities and states, and the private sector.

We need other leaders across the country in the public, private and nonprofit sectors to join this effort. Banks and credit unions can expand their efforts to broaden access to transaction accounts and alternatives to payday loans with terms attractive to the unbanked and underserved. They already have the storefronts to compete for this business: More than 90% of nonbank alternatives are located within one mile of a bank or credit union branch.

Employers can also help reduce the financial stress in workers' lives and boost workplace morale by helping employees to gain access to banking services, and to save and better manage their finances. Community-based organizations can work with the public and private sectors to help people access the trustworthy, high-quality money management support they may need to develop and sustain good personal financial practices.

By working together, we can improve the lives of millions of people, boost our economy, and strengthen our communities.

Mr. Clinton was the 42nd president of the United States. Mr. Schwarzenegger is governor of California.

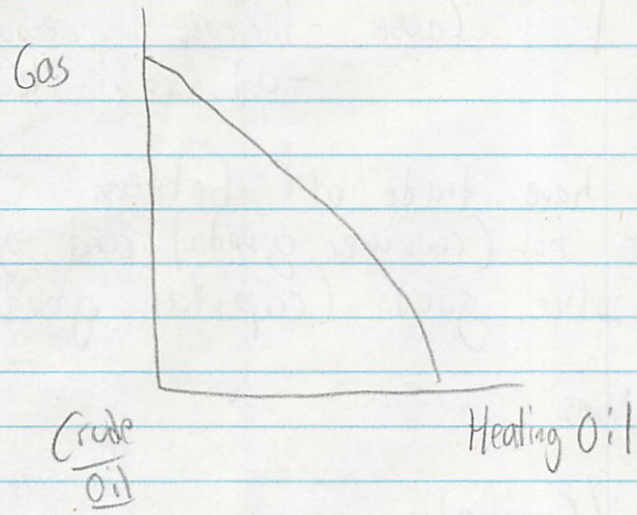
URL for this article:
http://online.wsj.com/article/SB120113610711211855.html

Econ Notes

1/30

Models = simplifed representations of reality

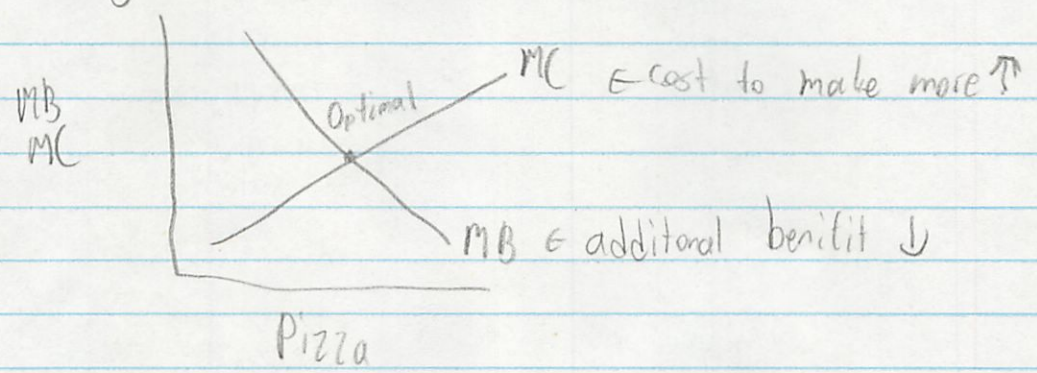
PPC - choice between 2 products

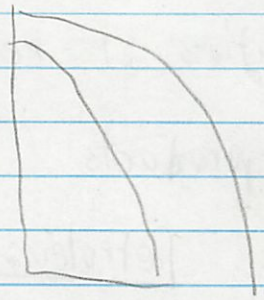


Petroleum
- gas
- lubricants
- kerosine
- jet fuel
- heating oil
- plastic

Opportunity Cost
- what you give up in order to do other choice
- you decide it's the 2nd best thing

Marginal Cost + Benifit





← Expanding PPC

Cause - increase in resources
- advance in technology

Can also have trade off between goods for now (consumer goods) and goods to make other goods (capital goods)

Economic Systems

- Market / Capitalism
- Traditional
  - feudalism
  - caste
- Communism / Command → North Korea
- Mixed (Market Socialism) → Communism w/ capitalism

Us →

Authoritarian Capitalism → Capital w/ gov control

Michael Plasmeier

Economics

Exercise Using the PPF Model.

In a speech before the American Society of Newspaper Editors on April 6, 1953, President Eisenhower stated:

> Every gun that is made, every warship launched, every rocket fired signifies, in the final sense, a theft from those who hunger and are not fed, those who are cold and not clothed. This world in arms is not spending money alone. It is spending the sweat of its laborers, the genius of its scientists, the hopes of its children. . . . This in not a way of life at all in the true sense. Under the cloud of threatening war, it is humanity hanging on a cross of iron.

Answer the following questions on the basis of this quotation from a speech by the President who, as a general, had led the victorious forces of the U.S., the English, and the French against the Nazis in the western theater of World War II:

1. What factors of production did Eisenhower identify as the resources that must be allocated to either defense spending or consumer goods?
   (A) Guns, warships, rockets
   (B) Food, clothing
   (C) Money
   (D) Laborers, scientists, and the hopes of our children.

2. What are the final goods and services that society desires?
   (A) Guns
   (B) Warships
   (C) Clothing
   (D) All of the above.

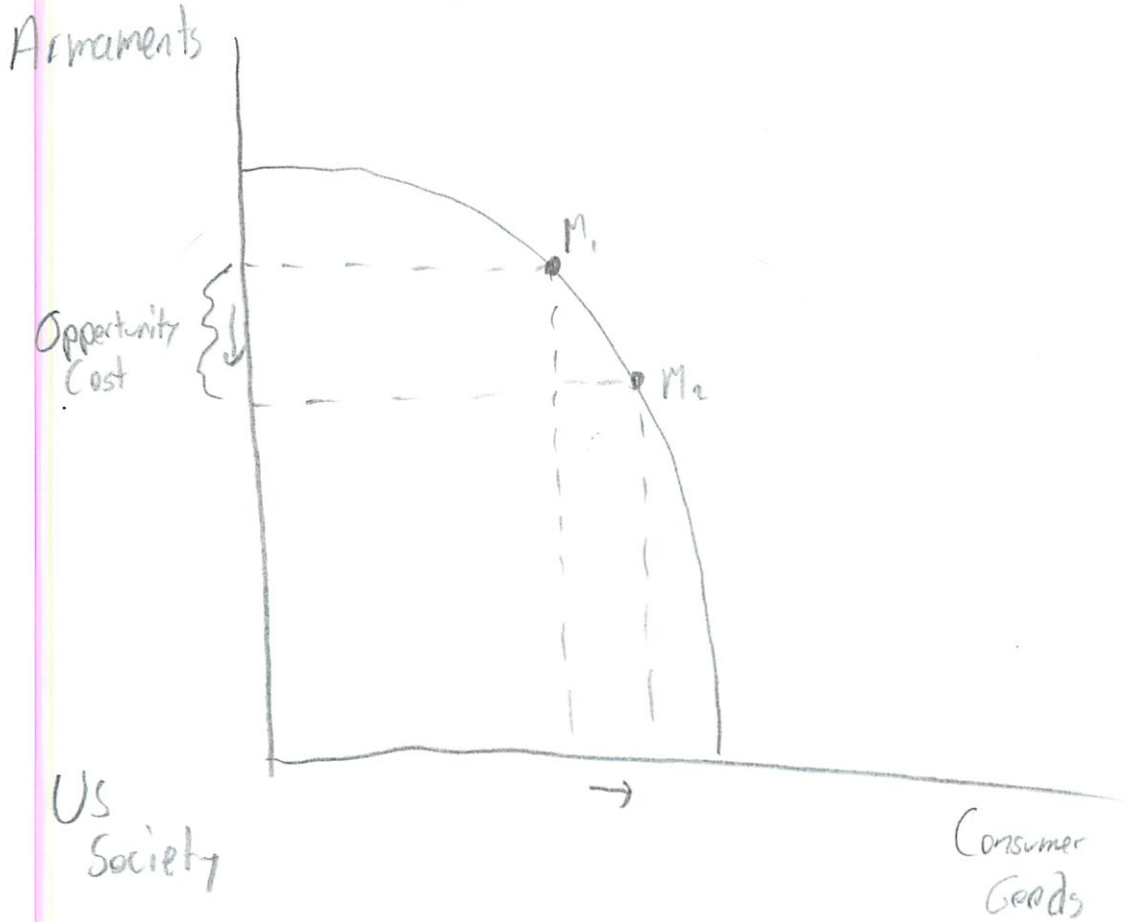
   GDP

3. What would be placed on one of the axes of the production-possibilities frontier that Eisenhower has implicitly described?
   (A) Guns, warships, rockets, and other armaments
   (B) Laborers, scientists, and other labor
   (C) Money
   (D) None of the above.

4. Which of the following is the opportunity cost of armaments (guns, warships, and rockets)?
   (A) The amount of food and clothing given up to produce a given quantity of armaments
   (B) The cost of armaments purchased for the national defense.
   (C) The dollar amount of money that Congress appropriates for purchasing armaments.
   (D) None of the above.

5. Implicitly, President Eisenhower recommended that there be greater
   (A) expenditure on armaments relative to clothing and on food relative to armaments.
   (B) expenditure on clothing and on food relative to armaments
   (C) development of labor, genius, and hopes to make more armaments, food, and clothing possible.
   (D) expenditure of money for all of society's needs.

6. Graph the PPF described above, being sure to clearly label both axes, and indicate an efficient level of spending on armaments and consumer goods (that is, food and clothing). Use a bracket to show the opportunity cost of an increase in the production of consumer goods.



Scarcity

Activity #1

The Dreaded Disease

Teams

First, make certain that all team members understand "The Dreaded Disease." Then answer the questions below. Have a spokesperson ready to explain your team's decision.

The Dreaded Disease

Imagine an island economy that is periodically struck by an epidemic disease that affects only children. From past experience the islanders found that the disease strikes randomly, affecting 80% of all children. They also discovered a preventive antidote that reduces the chance of death if it is taken before the disease strikes.

A child who has taken no doses of the antidote has a 90% chance of dying when he or she contracts the disease. With one dose of the antidote, the chance of death is reduced to 10%. Two doses reduce the chance to 8%; three doses reduce the chance to 6%; four doses reduce the chance to 5%. Beyond four doses, the antidote has no further effect, and the chance of death remains at 5%.

Suppose the island has 1000 children and that at the first sign of a new outbreak of the dreaded disease, the people have produced 1000 doses. The antidote must be used immediately if the children's lives are to be saved.

Questions:

1. What would be a "market" solution to the problem?

Sell at a dutch action

a. What would be the benefits of this solution?

- for families with children?
- for pharmaceutical companies?
- for families without children?
- for the economy?

they would have pay lots $ - rich families could save children
not subsizing paying for vaccine (could be employed by drug company
rich + could develop new vacine

→ work harder
grows w/ new jobs
but families sacrifice discretionary spending
less workers in the future

b. What would be the opportunity cost of this solution?

Cut back on discrentionary spending
- less restorants, vacations, etc
poor people don't get it + die

2. What would be a "command" solution to this problem?

Gov sets distrubution

a. What would be the benefits of a command solution?

Poor families can still get it

b. What would be the opportunity costs?

Profit which could be applied towards further drug development

continued

3. Which solution would your team choose? Why?

Mixed - Gov would pay for vacies for the poorest people. Could set limit on max purchase.

Medical care in the U.S.

Teams

Pass this sheet of paper around your team. Each team member writes down one idea, then passes it on.

Examples of market allocation of medical care in the U.S. today:

1. Paying out of pocket
2. Over the Canter
3. Insurance from Employer

Examples of non-market allocation of medical care in the U.S. today:

1. ~~Social Security~~ Medicare/cade
2.
3.

Poll your teammates on the following question: Do you think medical care should be treated as a product--such as clothing or food--or a 'right' for everyone?

Economics
Dr. Reilly

me _____

Date _____

STRATEGY FOR GRAPHING DEMAND-SUPPLY #3:
Shifting the Demand Curve: "Pay the Piper"

UNDERSTANDING THE IDEA:

Remember the story *The Pied Piper of Hamlin*? In this classic story for children the towns-people promised to pay the piper for ridding their town of rats. When they reneged on their promise, he used his magical powers to lure their children away, thus teaching the lesson that people must be careful to keep their obligations or pay the consequences.

In economics, we must be careful to think logically or risk misunderstanding what we observe. You have learned that only five factors can shift the demand curve. Recall from the text and from class that the five "shifters" are:

Population
Income
Preferences
Expectations
Related goods

"Pay the PIPER" will help you remember that when on of these determinants of demand changes, the demand curve shifts - a shift to the left decreases demand and a shift to the right increases demand! If we observe a change in price and one of these five shifters of demand is <u>not</u> involved, then we conclude that the quantity demanded has changed - we have moved <u>along</u> the established curve - rather than think that the demand curve has shifted.

TASKS FOR TODAY:

I. Determine whether a headline means that demand has decreased (shifted left = SL), has not changed (NC), or has increased (shifted right = SR). Read the following headlines and circle the appropriate abbreviation. One headline represents no change in demand.

1. "Orange Juice Reported To Reduce Risk of Stroke" SL NC SR
2. "Breakthrough In Manufacture of OJ Reduces Its Cost of Production" SL NC SR
3. "Tomato Juice On Sale for Half Price" SL NC SR
4. "Stock Market Boom Means Americans Have More Money To Spend" SL NC SR
5. "Drought Expected To Reduce The Orange Crop in Florida" SL NC SR
   today → buy more
6. "Rate Of Population Growth Increasing" SL NC SR
   ↑ or shift left due to related goods

II. Now illustrate the effect of these developments on price and quantity on graphs 1 through 6. The TOPIC for these graphs is "The Market for Oranges."

.. Now try again on graphs 7 through 12. The TOPIC for graphs 7 through 12 is "The Market for Gasoline." Again, for one graph there will be no change in demand. First circle the appropriate answer for the likely change: demand has decreased (shifted left = SL), has not changed (NC), or has increased (shifted right = SR). The headlines are:

expectations could be

7. "Midwestern Refinery Explodes" but can't really stock up — SL NC SR

8. "Recession Means A Decline In National Income" — SL NC SR

9. "Survey Shows More People Staying Home This Summer" — SL NC SR

10. "Price Of Cars Rising" — SL NC SR

11. "Gas Shortage Expected To Continue Throughout Summer" — SL NC SR ← change plans to not drive as far

Possible NC

12. "More Teenagers Driving Than Ever Before" — SL NC SR

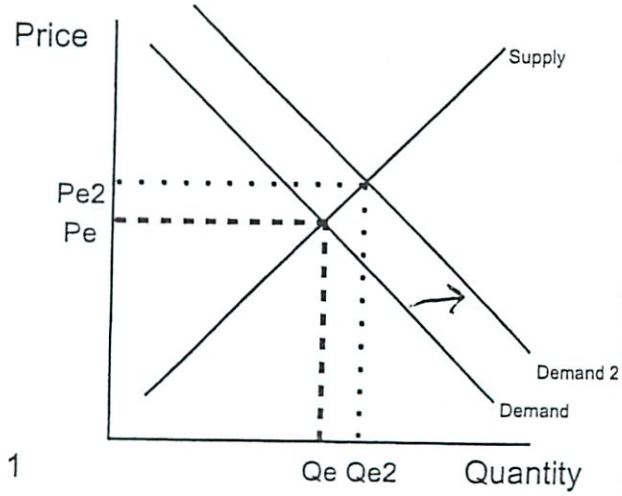
already happened so? NC

GRAPHING A SHIFT IN THE DEMAND CURVE:

1. Identify the shifter involved: which element of PIPER applies?

2. Has demand increased (Shifted Right) or decreased (Shifted Left)?

3. Graph the old and new demand curves and label the consequent changes in price and quantity



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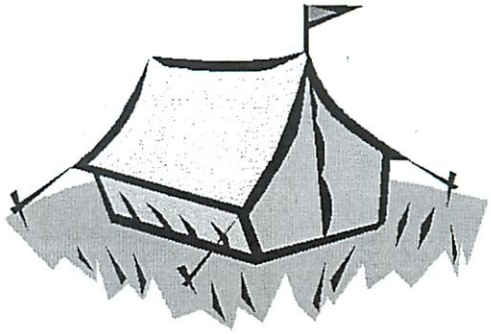
Remember: **Pay the PIPER!**

Economics
Dr. Reilly

Name_____

Date_____



STRATEGY FOR GRAPHING DEMAND-SUPPLY #4:
Shifting the Supply Curve: "Tent Rip"

UNDERSTANDING THE IDEA:

Imagine you are on a camping trip. You have travelled far from civilization and have carefully planned for everything. Sure the mosquitoes are biting and it is starting to rain, but you are safe and cozy in your trusty old tent. What could go wrong? RIPPPP! A big tear appears in the side panel - rain starts to drizzle in and you soon hear the buzz of hungry mosquitoes. Your tent was older than it was trusty. A **tent rip** threatens to ruin your entire trip.

Recalling this story and the phrase "**TENT RIP**" will help you recall the six factors that can shift the supply curve. From the text and from class discussion you know that the six "shifters" of the supply curve are:

Technology
Expectations of Producers
Number of Sellers
Taxes and Subsidies
Regulations set by government
Input **P**rices
Resources

A change in any of these will shift the supply curve. These are the determinants of supply - a shift to the left decreases supply, and a shift to the right increases supply! If we observe a change in price and one of these six shifters is <u>not</u> involved, then we conclude that the quantity supplied has changed - we have moved along the established curve - rather than think the supply curve has shifted.

TASKS FOR TODAY: Market for Oranges

I. Determine whether a headline means that supply has decreased (shifted left = SL), has not changed (NC), or has increased (shifted right = SR). Read the following headlines and circle the appropriate abbreviation. One headline represents no change in supply.

13. "New Machine Increases Productivity of Orange Pickers" SL NC SR

14. "Oranges Found to Counter Mad Cow Disease" ↑ in Demand SL NC SR

15. "Texas Farmers Plant Orange Groves" SL NC SR

16. "Georgia Offers Cash Payments for Planting Orange Trees" SL NC SR

17. "Feds Strengthen Regulations on Interstate Shipment of Oranges" SL NC SR
increases cost of doing business

18. "Migrant Orange Pickers Strike for Higher Wages" SL NC SR
Input Price

II. Now illustrate the effect of these developments on price and quantity on your graphs 13 - 18. The TOPIC for these graphs is "The Market for Oranges."

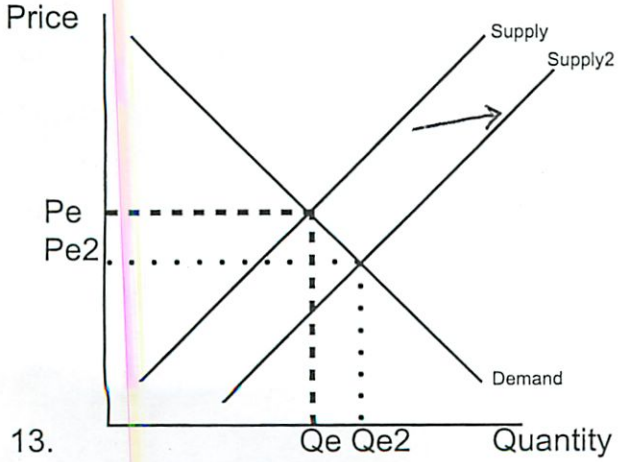
.I. Now try again on graphs 19 through 24. The TOPIC for graphs 19 through 24 is "The Market for Gasoline." Again, for one graph there will be no change in demand. First circle the appropriate answer for the likely change: supply has decreased (shifted left = SL), has not changed (NC), or has increased (shifted right = SR). The headlines are:

19. "EPA Requires Additives for Gas to Reduce Pollution" SL NC SR
20. "Taxes on Gas Raised to Fund Highway Maintenance Projects" SL NC SR
21. "Boom in Economy Increases Travel Plans for Summer" SL NC SR
22. "New Refining Technique Promises to Speed Up Production of Gas" SL NC SR
23. "Fear of Domestic Terrorism Will Probably Reduce Travel This Summer" SL NC SR
24. "Price of Crude Oil Falls as North Slope in Alaska Begins to Produce Oil" SL NC SR

GRAPHING A SHIFT IN THE SUPPLY CURVE:

1. Identify the shifter involved: which element of TENT RIP applies? - both could be - but producers try to expect demand
2. Has supply increased (Shifted Right) or decreased (Shifted Left)?
3. Graph the old and new supply curves and label the consequent changes in price and quantity

Remember: **TENT RIP!**



13.

TOPIC:_____

Michael Plasmeier State of Union 08

1/28/08

tax cuts should be permanent

- veto it not 50% cut

earmarks

health care - shouldn't be "socializing"

NCLB → working

- accounting

Pell Grants for kids

- poor children in failing public school

trade

- free trade
- wants more agreements
  - Colombia

new energy

- new tech
- clean coal
- nukes
- battery
- for all countries
- confronting climate change
- fund my programs

approve judges

extend funding for faith-based org

you didn't do my social security
immigration

- fenses
- guards
- need guest worker program
- resolve illegal immigrants

- spread of freedom + liberty
  - oposed by terrorists
    - stay on offense
    - diliver justice
  - terriorists deny freedome
  - we spread hope of freedom
  - Al Queta is on the run in Iraq
  - double AIDs funding

- very defensive in Iraq

Commentary - "minimalist agenda of lame-duck" - Russert
- bittersess social security + immigration failed
  - nothing will be done

Michael Plasmeier
2/6/08

Hillary narrowly won (in terms of delagates) over Obama - but the race goes on. Obama has been gaining in poll # in recent weeks. McCain won a lot of Republicans' delegates. Huckabee + Romney seem to be dividing the conservitives - letting McCain pull ahead.

CNN.com

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Keys to victory on Super Tuesday

- Story Highlights
- White women appeared to overwhelmingly support Clinton
- Black voters favored Obama, as did younger voters
- Evangelicals favored Huckabee; McCain did well among seniors
- Economy a winning issue for McCain; Romney scored with immigration issue

'he CNN Political Unit took a look at what dynamics could play significant roles in victory -- or defeat -- for the various candidates as they slug it out on Super Tuesday. Here's how those ssues were playing out in early voting on Tuesday, based on early exit polls of voters in states with Democratic or GOP primaries where polls have already closed.

CNN) -- For Democrats, these reflect voter samples in Alabama, Arizona, California, Connecticut, Delaware, Georgia, Illinois, Massachusetts, Missouri, New Jersey, New Mexico, New 'ork, Oklahoma, Tennessee and Utah.

)verall, the surveys interviewed 16,290 voters.

'or Republicans, they reflect voter samples in Alabama, Connecticut, Georgia, Illinois, Massachusetts, Missouri, New Jersey, Oklahoma, Tennessee, New York, Arkansas, California, Jtah and Arizona.

'hey will be updated throughout the night with additional surveys from across the country as polls close in other states.

SSUES FOR THE DEMOCRATS:

Iow did the overall female vote play out?

, majority of women (52 percent) threw their support to Sen. Hillary Clinton of New York, versus 45 percent for Sen. Barack Obama of Illinois.

among men, the trend was reversed, with 42 percent of men backing Clinton and 53 percent of them backing Obama.

The former first lady was spurned by women only in Illinois, where she got just 33 percent, and New Mexico, where she was being edged out by Obama 43 percent to his 47 percent, according to the exit polls. - Watch analysts evaluate the Democratic candidates »

How did African-Americans vote?

Black voters of either gender went overwhelmingly to the Obama camp. In all, 86 percent of black men and 79 percent of black women voted for Obama.

Illinois again was a big win for Obama, with 95 percent of African-Americans voting for him. The state sent him to the Senate in 2004.

How did the Latino vote go?

Clinton drew more Latino votes, especially among Latina women, nearly two-thirds (65 percent) of whom said they voted for her.

But Obama's home-field advantage appeared to have helped him in Illinois, where he was leading Clinton 52 to 46 percent among Latinos.

How did white voters vote?

White Democratic men did not appear unified on how they voted Tuesday. In Connecticut, they favored Obama over Clinton by 54 to 40 percent. Those numbers were nearly reversed in Tennessee, where Clinton was ahead of Obama among white men by 59 percent to 29 percent.

Overall, white men were favoring Obama 49 percent, to 44 percent for Clinton.

But white women appeared to strongly support the white female candidate. In all, 58 percent of white women said they had voted for Clinton, versus 38 percent who said they had voted for Obama.

In all of the primary states except for New Mexico and Illinois, more than half of white women said they had voted for the former first lady.

And in all cases except New Mexico, where white men and white women were equally supportive of Clinton (39 percent for both), white women favored Clinton in greater numbers than did their white male counterparts.

In some cases, the difference was striking: In Massachusetts, nearly two-thirds of white women said they had voted for Clinton, versus fewer than half (48 percent) of white men.

Is Obama still dominant among young voters?

Yes.

Among the youngest voters, 59 percent said they had voted for the 46-year-old senator from Illinois, versus 38 percent who had gone for his 60-year-old New York counterpart.

Obama was outpolling the youngest voters in some states by more than 2-to-1 and in all states by a solid majority. That was not the case among those voters of retirement age. In nearly all states, Clinton was riding a sizable lead with that group. The glaring exception was Illinois, home to Obama, where seniors said they favored him by 57 percent, versus 40 percent for Clinton.

Health care, Iraq and the economy: Still the same?

In general, voters who felt the war in Iraq was the biggest issue affecting the country were more likely to have voted for Obama (55 percent) than for Clinton (40 percent).

/oters who felt the economy was most important were about evenly split between Obama (46 percent) and Clinton (50 percent).

ınd voters who thought health care was the biggest issue were more likely to vote for Clinton (52 percent) than Obama (43 percent).

Vhich candidate's key quality was more important?

'he buzzword in recent weeks has been change, and voters continued to cite it Tuesday as something Obama could effect.

ımong those who said one of the candidates could bring about change, more than two-thirds (68 percent) said it was Obama. Fewer than a third (29 percent) cited Clinton.

ɜut the two-term senator from New York surpassed the one-term senator from Illinois when voters were asked about experience, with 91 percent of voters saying she "has the right ·xperience," versus just 5 percent who said the same thing about Obama. See the qualities that voters were seeking »

SSUES FOR THE REPUBLICANS:

low did the evangelical, or born-again, vote play out?

ı most states, former Arkansas Gov. Mike Huckabee, who is also a former pastor, won the broad support of voters who described themselves as born-again or evangelical Christians.

lowever, in Illinois, 41 percent of these voters chose Sen. John McCain, and in Massachusetts, 60 percent of these voters chose their former governor, Mitt Romney. In Arizona, 45 ·ercent of evangelical voters chose McCain, with only 15 percent voting for Huckabee. Thirty-two percent voted for Romney there.

ı Illinois and Massachusetts, Huckabee garnered one-quarter and 17 percent of the evangelical vote.

lis support among these voters seemed to peak in Alabama, where he won nearly half the vote -- 45 percent. He did poorly among them in Utah and California, winning only 12 and 6 ·ercent, while Romney picked up 83 percent in Utah and McCain won among them in California, with 38 percent.

'here was not enough data on born-again voters in Connecticut to tell who they had voted for. In New York, where evangelicals were only 20 percent of voters, they narrowly chose ⁄cCain over Romney, 32 to 31 percent.

low did the senior vote play out?

⁄cCain, 71, fared especially well among the senior age group in the states whose polls closed at 8 p.m. or earlier, winning them by wide margins in all but two states. In Massachusetts, ⁄cCain and Romney both won the support of 45 percent of seniors, and in Missouri, Romney won the support of that 65-and-older age group, with 43 percent of them, edging out ⁄cCain's 30 percent.

⁄cCain's support among seniors appeared broadest in Illinois, where he won 54 percent of them, with Romney coming in second, with 31 percent.

ı Arkansas, Huckabee won more than half of the senior vote, winning broadly over McCain, who had 27 percent.

lowever, in Utah, Romney won a landslide among senior voters, winning 92 percent of them.

Vhat was more important: personal qualities or issues?

/oters who named personal qualities as more important than issues most often chose McCain, although they chose Romney in his home state.

'or voters who named issues as more important than personal qualities, Huckabee did well in the South -- winning Alabama, Georgia, Tennessee and Oklahoma.

omney and McCain divided the votes of issue voters in other regions -- with Romney winning them in Massachusetts, Missouri and New Jersey, while McCain won them in Connecticut nd Illinois.

his home state of Arkansas, Huckabee did best among both sets of voters -- winning with 57 percent to McCain's 17 among issues voters, and 55 percent to McCain's 29 percent mong personal quality voters there.

nd in Utah, Romney scored well with issues and personal quality voters, winning 86 and 94 percent of them.

low did anti-Bush Republicans vote? Did McCain get the Republican "change vote"?

oters who said they had a "negative opinion" of President Bush's administration flocked to McCain, who picked them up by wide margins in most states.

California, McCain's margin was slimmer, winning 40 percent to 33 over Romney.

Alabama, Tennessee and Arkansas, McCain lost these voters to Huckabee. The former Arkansas governor narrowly edged McCain among those voters in Alabama and in ennessee, beating him 35 to 31 percent in Alabama and 32 to 28 percent in Tennessee. However, in Arkansas, Huckabee beat McCain handily among these voters, 55 to 25 percent.

Massachusetts, Romney won more than half of those voters, and McCain came in second there, with 35 percent. In Utah, Romney was far and away the frontrunner for these voters, nd won 83 percent of them.

low did conservatives vote?

oters who described themselves as "conservative" chose Huckabee in the Southern states of Alabama, Georgia and Tennessee, although Huckabee only narrowly edged Romney with onservative voters in Georgia, 38 to 37 percent. Huckabee won these voters in Oklahoma, beating out Romney 35 percent to the former Massachusetts governor's 28 percent.

lortheastern and Midwestern "conservative" voters seemed divided between Romney and McCain, who has come under attack from Romney and Huckabee on his conservative redentials.

cCain won these voters in Illinois and squeaked by Romney with these voters in Connecticut, while Romney had broad support from them -- 73 percent -- in his home state of assachusetts. They also chose Romney in Missouri and in Arizona, polls showed. McCain won only 36 percent of conservative voters in his home state, compared with Romney's 47 ercent.

New York, Romney edged out McCain 41 to 39 percent among these voters, and in Utah, he beat all other candidates handily among them -- garnering an impressive 93 percent.

California, conservatives also chose Romney over McCain, 46 to 30 percent.

or those concerned about the economy as the top issue, how did they vote? Immigration?

oters who named the economy as their top issue showed their support for McCain in most states, a blow to Romney, who touted that issue often in his campaign. Romney won among ose voters in Massachusetts, while Huckabee won them in Alabama.

mong voters who named immigration as their top issue, Romney did well -- picking up support from these voters in Georgia, Connecticut, Illinois, Massachusetts, Missouri Arizona, New ork, California and New Jersey.

luckabee won them in Alabama and Oklahoma. He also handily won among both sets of voters in Arkansas, and Romney also easily won among both sets in Utah.

lot surprisingly, voters mostly concerned about immigration did not choose McCain, who came under fire for the McCain-Kennedy bill on immigration, which some condemned as

amnesty." However, Arkansas voters who named immigration as their top issue chose McCain over Romney, and in Arizona and New York, they chose McCain over Huckabee.

Which way did the Latino vote go?

lthough information was scant for most states, in Arizona and California, where data was available, McCain had the edge. He won handily in Arizona with 62 percent, while Romney arnered 31 percent. In California, McCain won with a third of the Latino vote, over Romney's 25 percent and Huckabee's 23 percent.

ind this article at:
ttp://www.cnn.com/2008/POLITICS/02/05/super.issues/index.html

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ECONOMIC RESEARCH AND ANALYSIS BY STUDENTS FOR PROFESSIONALS

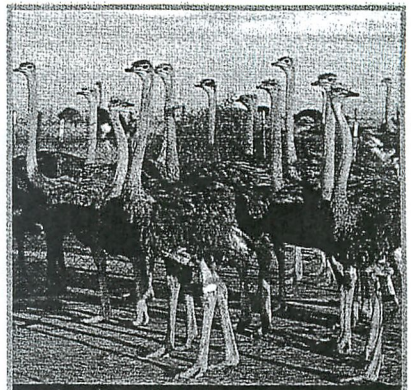
Mort's Ostrich Farm produces high-protein, low-fat ostrich meat for restaurants and consumers. Mort's currently supplies a small number of customers, but the firm believes it can increase the quantity it produces and the price it charges with strategies to increase the demand for ostrich meat.

Mort's has approached Economic Consultants for advice on how to increase the demand. Prepare a report for Mort's that addresses the following issues:

1. What strategies can Mort's implement to increase the demand for ostrich meat?
2. Explain to Mort's the difference between changing the demand for ostrich meat versus changing the quantity demanded. Explain what strategies will cause a change in demand versus a change in the quantity demanded.

You may find the following resources helpful as you prepare this report for Mort's:

- **Ostrich Central** (http://www.connect.net/ratites/), **Ostriches On Line** (http://www.achiever.com/ostrich/index.html), and **Warren Ostrich Foods** (http://www.warrenfoods.com/)—These suppliers of ostrich meat offer distribution across the United States.
- **The Clio Awards** (http://www.clioawards.com/index.html)—The Clio Awards highlight the best advertising campaigns in print, radio, and television.



WHY CAN'T THEY BE SATISFIED WITH GOOD OLD HAMBURGERS?

Michael Plasmeier

100

In order to increase demand for ostriches, Mort should expand its horizons beyond meat. Mort could sell and market the other useful parts of ostriches, for example: The feathers, which are decorative, could be sold for clothing and are also used for feather dusters. Its skin is used for could be used for leather if prices for cows rise.

It should try to influence fashion to make ostrich feathers more fashionable, thus increase the demand for them.

The leather is the strongest commercially available leather.

It should try to market the meat as healthy food in natural-food stores such as Whole Foods and Trader Joe's. It could launch a public awareness campaign to inform the public about the benefits of Ostrich meat. It could also optimize the product packaging to inform consumers about the benefits of ostrich meat. Ostrich meat tastes similar to lean beef and is low in fat and cholesterol, as well as high in calcium, protein and iron.
It could convince growers of its lower feed to ~~wright~~ gain ratio of 4:1 not 10:1 for beef cattle. This could increase profit margins over raising cattle.

weight

Change in demand is when the demand curve shifts as a result of a change in one of the detriments of demand. These are:

- Consumer's taste and preferences
- Number of consmers in the market
- Consumer's incomes
- Price of related goods
- Consumer expectations of future prices

Change in quantity demanded is when the price changes and the amount which is demanded changes. The curve does not shift, only the position along the curve.

Market System

2/7

3 Fundamental Questions

1. What will be produced?
2. How will the goods be produced?
3. Who will get the goods and services?

Market System
- invisible hand
- efficency, incentives, and freedoms

Capitalist Fundimentals

2/6

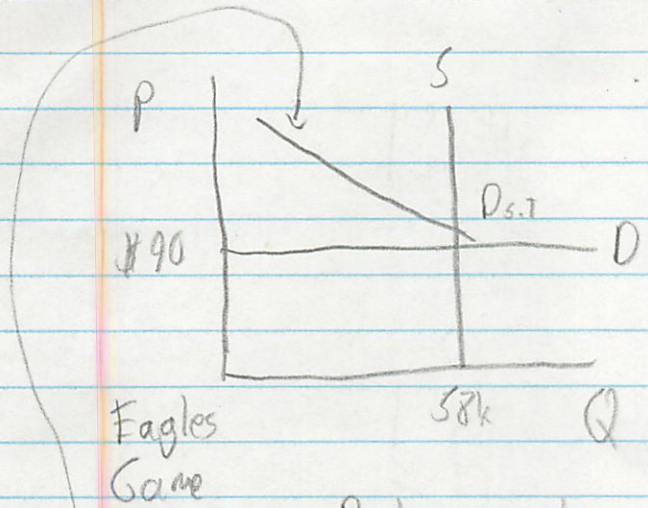
- private property
- freedom of enterprise + choice
- self interest
- competition
- reliance on market system
- limited role in gov

- choice
  - for good + bad

Limited Supply

Tickets

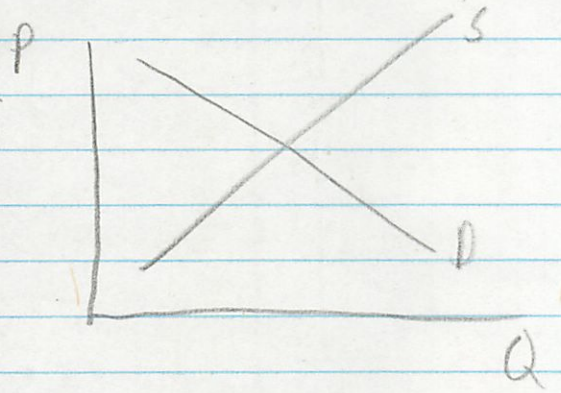
2/6



← Limited supply 58,000 seats regardless

← Fixed price

But Secondary Market



← is normal market

Michael Plasmeier

STEAL EVERYTHING NOW

Top Ten Reasons Not To Pay

1. It's the American way. (You're standing on stolen land.)
2. Chain stores ruin small businesses. Big chains put more power in fewer people's hands. Theft makes these businesses less profitable and gives small business a chance.
3. Taking things without paying doesn't drive the cost up. Store owners already charge as much as the market will bear. That's how capitalism works.
4. It's like boycotting, except you don't have to do without.
5. Why should you do without just because you were born without?
6. If you don't pay, you won't need to work at jobs that suck, and you can do something meaningful with your time.
7. You could put that stuff to use. (Instead of letting it rot on the shelf.)
8. They charge too much.
9. Making capitalist ventures less profitable encourages people to do things more meaningful than selling junk to people who don't need it.
10. Sharing is good. Teach capitalists the value of sharing.

DON'T PAY.

Well, what if everyone did these things? the economy would fall apart. Competition produces the lowest prices. Sure they can charge what the market will bear if they don't have competitions - but most industries have competition. Prices would rise due to? shrink. This would hurt everyone else. Also you would get free food in prison because our society does not look favorably towards stealing. As for selling junk they can only sell it if someone will buy it. to them, it is not junk.

Unclassified **ECO/WKP(2005)5**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development **10-Feb-2005**

English - Or. English

ECONOMICS DEPARTMENT

Update Graphs

REFORMING TURKEY'S PUBLIC EXPENDITURE MANAGEMENT

ECONOMICS DEPARTMENT WORKING PAPERS No. 418

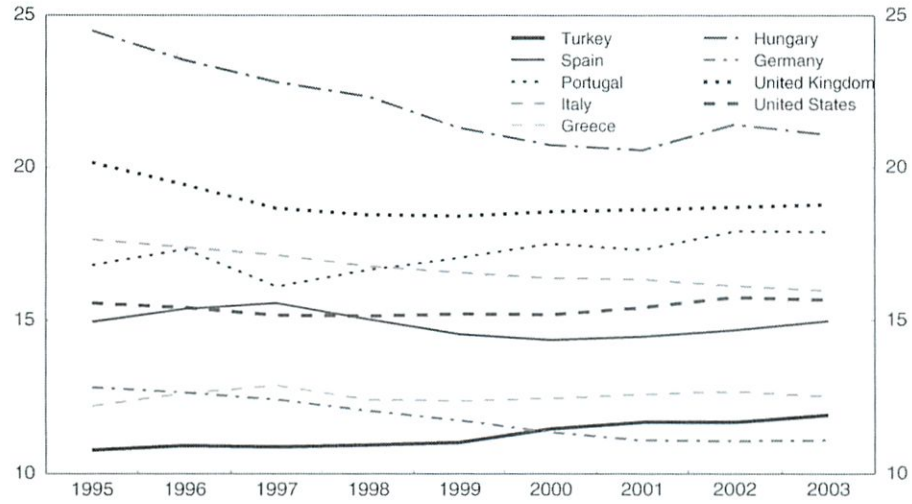
By Rauf Gönenç, Willi Leibfritz and Erdal Yilmaz

JT00178336

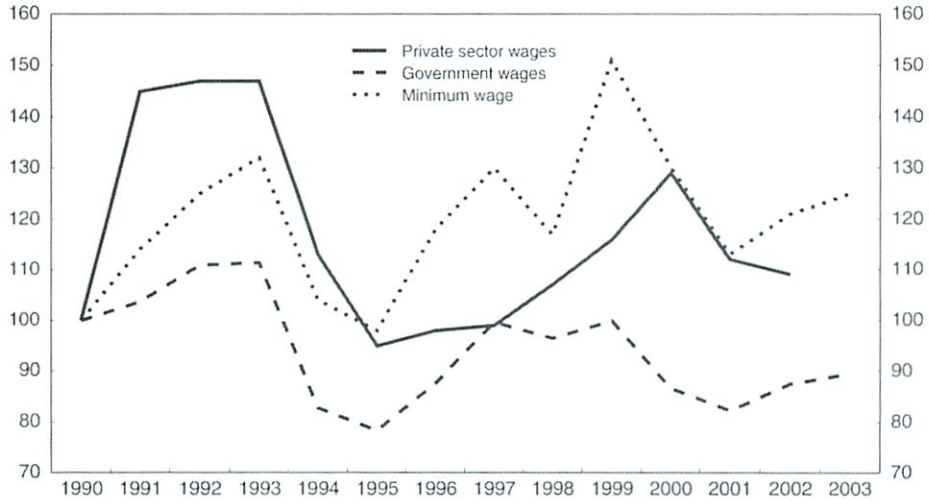
ECO/WKP(2005)5
Unclassified
English - Or. English

Figure 6. Pressures on the government wage bill

A. Government employment as a percentage of total employment: International comparison



B. Real wage growth in the private and public sectors
(1990 = 100)



Source: OECD.

Barriers to Trade

2/15

- tarrifs
  - taxs on imports
- quota
  - limit the number of imports
- regulations
  - add extra costs
- subsidies
  - subsidie exports
  - other countries don't like this

Michael Plasmeier 2/15/08

Trade

Activity #60

Comparative advantage in paper-folding?

Teams

Form teams of two. For this exercise you need a watch or clock, any book and some pieces of scrap paper.

Step 1
Time your partner for 30 seconds, counting how many pages he or she can turn one at a time using one hand.

	Plaz Person 1	Rhian Person 2
# of page turns	36	27
# of paper folds	52	46

Step 2
Time your partner to see how many folds he or she can make in a piece of paper in 30 seconds using one hand. (Unfolding the paper after each fold.)

Step 3
Compare your results with your partner.

Who has an **absolute** advantage in page turning? Plaz

In paper folding? Plaz

Who has a **comparative** advantage in page turning? Plaz
Explain:

Who has a **comparative** advantage in paper folding? Rhian
Explain:

Rhian turned $\frac{46}{27} = 1.7$ folds

Folds $\frac{27}{46} = .58$ turns

least given up

Page turns - me

$\frac{52}{36}$ e other e this $= 1.44$ folds

folds $\frac{36}{52} = .69$ turns

Opportunity costs

Step 4
1. In the theory of international trade, absolute advantage means?
The country who can do the best of a group of countries.

- In the theory of international trade, comparative advantage means?

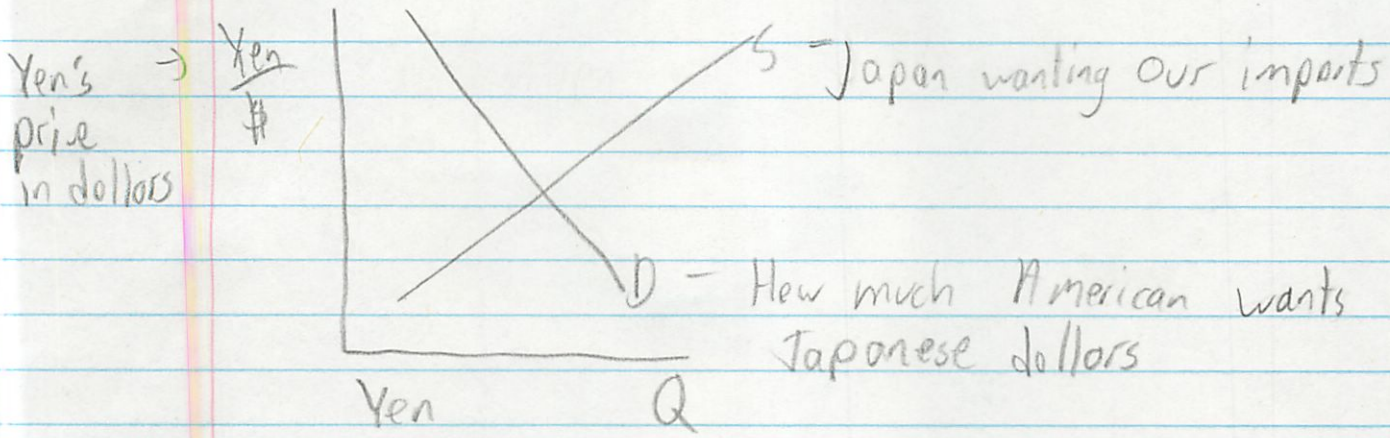
How much better than everyone else. Each country has a comparative advantage in something - so it is benifical to trade

2. Describe a situation in which the principle of comparative advantage is used to determine which person will do which task. Your example may come from a workplace, a sport or your household.

Your mom is good at setting the table, cooking, however she has a comparitive advantage at cooking - meaning she can let you set the table while she maximies her cooking time

Currency Markets

2/15



Start of

New

Material

Day 1 Notes P1

Chap 20

Demand Elasticity

p 404 - 411

2/19/08

microeconomics - efficently using resourses to try and fill unlimited wants

Markets set prices → price elacticity

price elasticity of demand - responsiveness of consumers to changing prices

$\frac{\% \Delta Q \uparrow}{\% \Delta P \downarrow}$ ↑ bigger = elastic

%
>
<

→ elastic - small Δ in prices = large Δ in demanded

→ inelastic = " " " " = small " " " whatever the price

% Q ↓ / % P ↑ ← purchase

$$E_d = \frac{\text{percent change in quantity demanded}}{\text{\% change in price}} = \frac{\% \Delta Q}{\% \Delta P}$$

absolute value

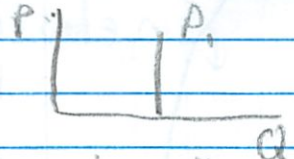
or $\frac{\Delta \text{ quant demanded}}{\text{Original quant demanded}} \div \frac{\Delta \text{ price}}{\text{original price}}$

- Use percents
  - choice of units affects - $1 = 40 items; 100 pennies = 40 items
  - can compare products

- E_d will always be negitive - so just take the absolute value

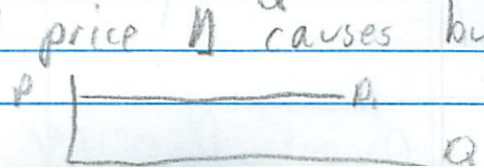
Unit elasticity = $\boxed{1}$ → 1% ↓ prices = ↑ 1% supply

perfectly inelastic - heroin - will buy whatever the price



↓ perfect competition

perfectly elastic - small price Δ causes buyers to go from 1 to all they can get - fruit market

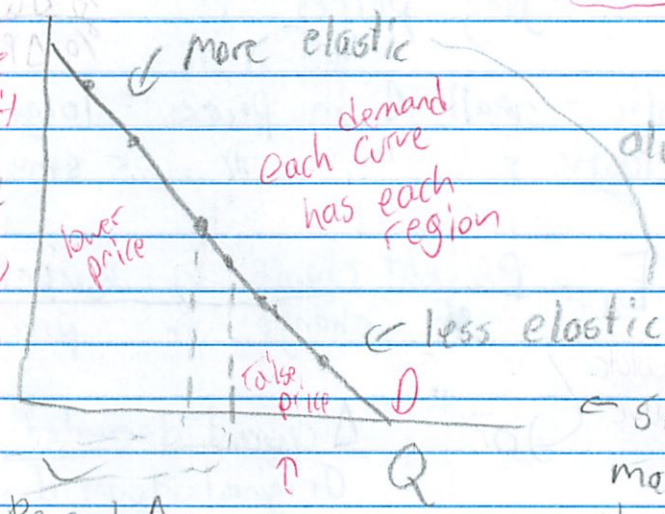


Use the average when you are looking at a range of prices

average of range

$$E_d = \frac{\Delta \text{ quantity}}{\text{sum of quantities}/2} \div \frac{\text{change in price}}{\text{sum of prices}/2}$$

inelastic
- buy whatever the price
- if price goes ↓ - don't stock up
- price goes up pay as much as you could



always

$$\frac{\frac{Q_2 - Q_1}{\frac{Q_1 + Q_2}{2}}}{\frac{P_2 - P_1}{\frac{P_1 + P_2}{2}}}$$

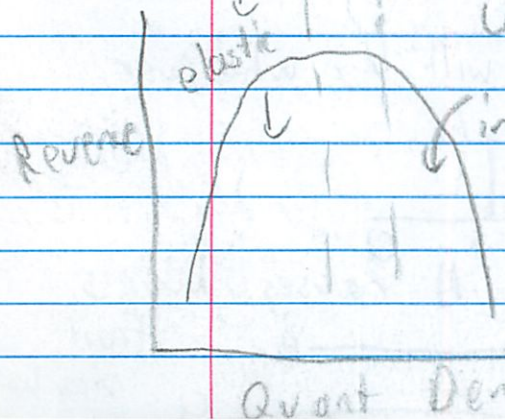
← slope doesn't matter - it's the absolute Δ - where elasticity is a relative Δ and not linear

Percent Δ in quant large

can not always raise prices

Total revenue = Price · Quantity
- can tell elasticness by seeing how TR changes

elastic - decrease in price = increase in revenue
- even though lower price - you move more units to more than make up the difference



inelastic - price ↓ = ↓ revenue
- modest ↑ in sales does not make up revenue loss

d1 p3

Unit elasticity - change in price leaves revenue unchanged
- exactly offset

elastic = revenue Δ opposet price Δ
inelastic = revenue Δ same as price Δ
memorize

Determinants of Demand Price Elasticity

Substitutability - more substitutes avalible = more elastic the demand
- if were many perfect substitutes (fruit market) demand would be perfectly elastic
- depends on how defined
  - Quaker state brand is more elastic than entire category.

Proportion to Income
- elaticity low for low-priced items
- elaticity high for high-priced items
  - like cars ← except house ← type of car

Luxuries vs Necessities
necessities = price-inelastic
luxuries = price-elastic ← luxuries are near to high price
- still need bread + doctors visits
- but vacation may be skipped if too expensive

Time
demand is inelastic the longer purchase is considered
consumers will not switch immeditly
gas is inelastic in short term - but more elastic in long term (alternatives, smaller cars)
everything is elastic in short run

d2 p1

Applications of Demand Price Elasticity

411-41B

2/19/08

Bumper Crops
demand for farm products mostly inelastic
thus for farmers it is not good to have extra crops

Automation
automations effect on an industry depends on industries elaticity
lower costs might cause total revenue to increase
or decrease - depending on elasticity

Airline Deregulation - initally caused profit ↑ b/c more
customers - but in long term the competition drove
down prices

Exise Taxes - higher taxes on products w/ elastic
demand might lower revenue
- gov seeks products w/ inelastic demands
- catestrophic impact when taxing yachts

Drugs + Street Crime - demand for illegal drugs is inelastic
- if supply is reduced, prices go way up - meaning
addits commit more crimes for $ - and inriching
drug lords + terrorists - while not really
reducing quantity
- orgvments to leagalize it to control it better -
since demand is inelastic - would not cause
increase in demand
- oponents say market more elastic - b/c dabblers
↑ might cause increase in street crime

Minimum Wage

Demand for teen labor seen as inelastic - the min. wage does not exclude enough from being offered jobs that the pay difference causes less income

price floor

d3 p1

Price Elasticty of Supply

p 413-421

2/21

Also applies to supply

ed > 1 elastic = producers responsive to price change

ed < 1 inelastic -- producers unresponsive to price change

$$E_{d_s} = \frac{\% \Delta \text{ in quant. supplied}}{\% \Delta \text{ in price}}$$

- still use midpoint in ranges

main determinent - is time to react to changes

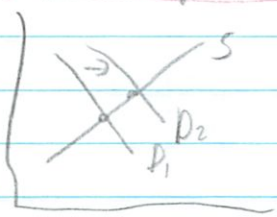
<u>market period</u> - time after price Δ before producers can react

- farmer selling tomatoes must sell them
  - can't produce more
  - cost doesn't matter → he needs to make something

higher prices
same quantity

- though this doesn't hold true if product can be easily stored
- not at all if can be stored forever

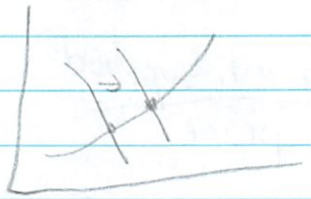
<u>short run</u> - plant capacity is fixed but can ramp up production



<u>more elastic prices</u>
higher prices
more supplied

<u>long run</u> - time period is long enough to change production capacity
- farmer can buy more land + tractors

change all factors of production



larger quantity increase
less price increase
) even more elastic

* price + total revenue move together

Morton Activity 1

Do You Think Like an Economist?

2/20

All False

1. False - or possibly true - only enough surface area

2. ~~True~~ F - easy to get

3. ~~True~~ F - parents don't have children sometimes because of costs

4. ~~True~~ F - and time - giving up income (at cheap schools)

5. False - people will buy more cars

6. False

7. False - trade = mutual gain

8. False

9. ~~True~~ F - can charge any price it wants

at high price - low quantity

p - still need to fight w/ consumers

10. False

Estimating Elasticity of Demand

Teams

Your group will be assigned one good or service. Your goal is to estimate the price elasticity of demand for it.

Step 1 Dinner for 2 at Oatmeal Pub

Write out the formula for elasticity of demand:

Step 2 $\left|\frac{\%\Delta Q}{\%\Delta P}\right|$ $\frac{Q_2 - Q_1}{\frac{Q_1 + Q_2}{2}} \Big/ \frac{P_2 - P_1}{\frac{P_1 + P_2}{2}}$

In your own group, find out what is the highest price at which **only** one person will buy this product?

(Write down P1 = $35 Qd1 = 1)

$35
$30
$29
$32

Lower the price so that **at least** one more person in your group will buy this product.

(Write down P2 = $32 Qd2 = 2)

Step 3

Given these two prices, survey students in one other group as to their willingness to buy. Total the quantity demanded at these prices, including your group as well as the other students you surveyed.

P1 = $35 Qd1 = 1 P2 = $32 Qd2 = 2

4 factors
substutes
ressisty vs luxory
time
proportion to income

Step 4

1. Now calculate the price elasticity of demand.

$\frac{2-1}{\frac{1+2}{2}} \Big/ \frac{32-35}{\frac{32+35}{2}} = 7.44$

2. Is demand in this case elastic or inelastic?

Very elastic

3. What factors might explain why it is elastic or inelastic? Substitutes

Discrenatory, lot of compition (fast food, eat home)

luxory

4. How does it compare with other elasticities listed in your textbook?

It is very heigh - although restaurants are one of the heighest (2.77)

4

Cross Income + Elasticty of Demand p415-416

2/20

Cross Elasticty of Demand

- would reducing price of Sprite hurt sales of Coke?
- gov needs to think about with monopolies

$$E_{xy} = \frac{\% \Delta \text{ quantity demanded product } X}{\% \Delta \text{ price product } Y}$$

↑ if positive = Substute goods
larger it is - the more substuties it is

↑ if negitive = complementary goods
price of 1 increases ⇒ quantity of other decreases
more negitive it is = more of a complement

near zero relationship = independent good

Income Elasticity of Demand

- how much their income matters

$$E_i = \frac{\% \Delta \text{ quantity demanded}}{\% \Delta \text{ household income}}$$

↑ positive = normal or superior goods
+3 = autos
+.2 = form products

↑ negitive = inferior goods
buy more as income ↓
long-distance bus tickets

this # shows how much industry grows w/ income
healthcare = +1 - with income ⇒ so price ↑ due to other factors

5

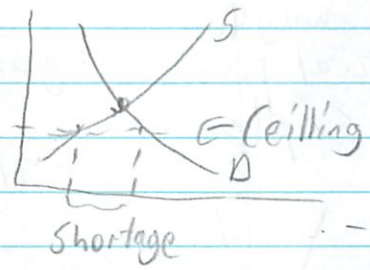
Applications: Gov Controlled Prices p417-421

2/26

gov sometimes controls prices

Price Ceilings

- max legal price charged
- lets consumers get "essential" goods consumers could not afford at equallibrium prices
- rent control
- usury laws - max interest set
- during wars → butter WWII
- causes shortage



how to distribute?
- first come 1st serve
- favoritism
- rationing
- black market big issue

Rent Controls

tries to make housing affordable
but bad for suppliers - abandon them, convert to condos
so actually cause housing shortages

Credit Card Price Ceilings

set max interest rates
- would be harder to get cards
- fees might increase
- shorter grace periods
- less enhancements + incentives
- retailers might have to ↑ prices - hurting cash customers

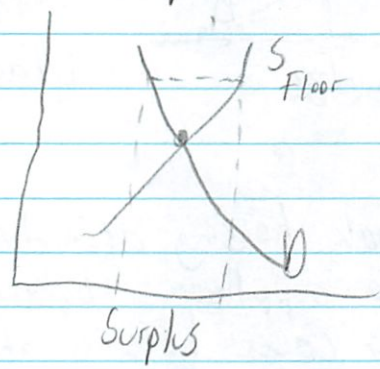
Rock Stars

might sell tickets cheaper
this lets scalpers resell tickets
but gives artists more publicity
- which helps their record sales

Price Floors

- minimum prices
- have to sell above that price
- tries to ↑ income for producers
- minimum wage
- agricultural products regorlly ← for political reasons
- causes surplus

min. wage

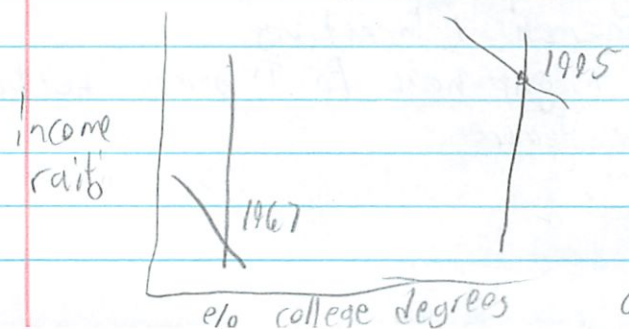


- sellers make more than buyers want
- gov can reduce surplus by taking some land out of service or by ↑ demand
- gov may also buy surplus output

So price limits have problems associated with them
- need to look at tradeoffs

can have side effects

Last Word: Market Forces + Education



increase demand for college-d workers
Supply does not rise quickly
technology + capital
also world competition pushed down low
also cost of college ↑ faster than inflation income workers

Elasticity and the demand for drugs

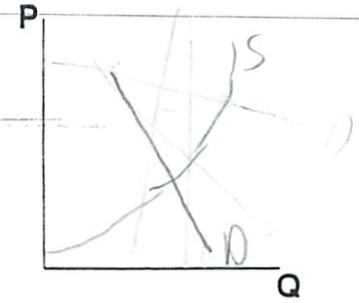
Teams

Michael Plasmeier

Choose a spokesperson for your team. Brainstorm the answers to the following questions together. Make sure your spokesperson is ready to defend your answers.

1. Economists estimate that the price elasticity of demand for heroin is 0.4. What does that mean? Show the demand for heroin graphically.

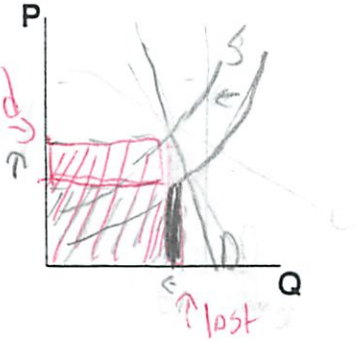
People will buy it at almost any price.



2. Efforts to limit the supply of heroin has had little impact on the quantity demanded for heroin. Why? Show graphically.

revenue gained

So revenue goes ↑



3. Doubling federal law enforcement efforts to block heroin imports is estimated to raise its price by 13%. By how much would sales fall? (Use the formula for elasticity in your textbook.)

$$.4 = \frac{\%\Delta Q}{\%\Delta P} \quad .4 = \frac{\quad}{13} \leftarrow 5.2\%$$

4. If the price of heroin rises, given its inelastic demand, what happens to the incomes of heroin dealers?

It rises - have more $ to circumvent restrictions

5. The price elasticity of demand for marijuana is estimated to be 1.5. What does that mean? Why is demand for marijuana more price elastic than heroin?

It is elastic - perhaps because there are substuties, ealser to break addiction, + could be cheaper relative to income

↑ more

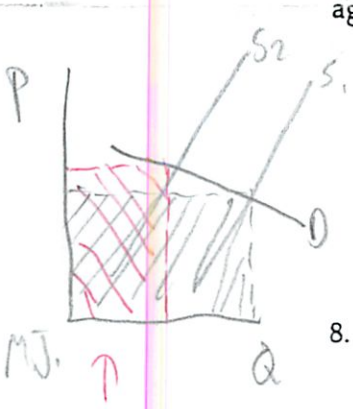
substuties
Proportion income
Luxuries vs. Nessecities
Time

continued

6. If the price of marijuana rises by 10%, by how much would sales fall?

$1.5 = \frac{}{10}$ ← 15%

7. Efforts to raise the price of drugs to discourage use would be most effective against heroin or marijuana?



income went down

8. Brainstorm a list of all possible methods to reduce drug use in the U.S.

Methods to Reduce Demand	Methods to Restrict Supply
Crack down on buyers	Step up border controls
Edu programs	Crack down on dealers
Get old sellers to rat out buyers w/ incentives	
Wiped off all the heroin addicts	

In your team's opinion, which approach would be most effective? Why?

Reducing demand - but this is hard to do - it is what they are trying to do - also trying to reduce supply

6 21 Consumer Behavior + Utility Maximizer

Law of Demand 2 Explanaitions
p424-428

2/21

Americans spend 93% of income in 1987
but each buys something different

Income Effect
as prices go ↓, its like income goes ↑, allowing them to buy more of that good or other good

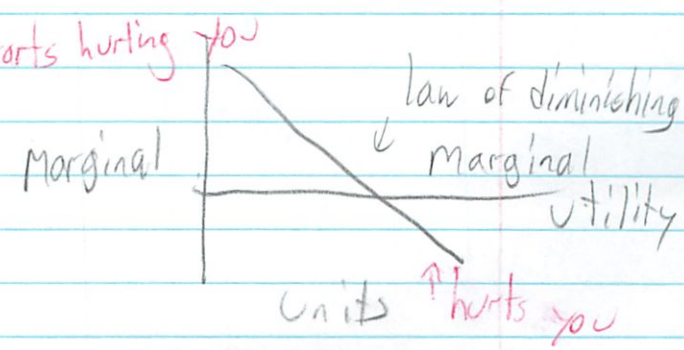
Substitution Effects - as prices for 1 thing go ↓, consumers will switch from other things to that
- increases relative attractiveness

Diminising Marginal Utility - only want so many of one good

utility = want satisfying power
- not the same as usefulness
- is different for different people (subjective)
- diffacult to quantify - utils - book's imaginary units

Total utility - total satifaction from consuming certain amount of the good

marginal utility - extra utility that comes from each additional good



marginal utility - consumers only willing to buy a certain amt at each price

- graphed at half units (in between eating it)
- may increase at times (lemonade on hot day)
  - but goes down in long run
    - possibility an addiction

↑ but very rare / technicality

7 21 Consumer Behavior + Utility Maximizer

Theory of Consumer Behavior
p428-431 2/21

Consumer must choose what to buy w/ limited budget

1. Rational behavior - want to get the most for their money → greatest satisfaction

2. Preferences - knows what they want + how much marginal utility they can get from it

3. Budget Restraints - fixed $ to spend from limited income

4. Prices - goods + services are judged in relation to one another - opportunity cost
↑ consumers can not affect prices usually

Utility Maximizing Rule - to maximize satisfaction, consumers should allocate $ so that last dollar spent yields some amt of marginal utility
- "balancing your margins"
- no incentive to change spending patterns

$$\text{marginal} = \frac{\text{utility}}{\text{price}}$$ ← when equal among multiple goods

→ $\frac{MU(A)}{P(A)} = \frac{MU(B)}{P(B)}$ and consumer must exaust income

← example $\frac{8 \text{ utils}}{\$1} = \frac{16 \text{ utils}}{\$2}$ for $10

If equation not filled - some realocation will ↑ total utility
- will readjust marginal utility

8 21/ Consumer Behavior + Utility Maximization

Utility Maximization + Demand Curve p 431-432

2/24

Utility Maximization also shows why demand is downsloping

substitution + income effect still true

Conclusion

consumers make rational choices based on personal preference

maximizes utility by allocation so each $ has same utility

downsloping demand shown b/c lower price is like a higher income and more demanded

21 Consumer Behavior + Utility Maximization Applications + Extensions p432-435

2/24

Compact Disc

lots of people bought CDs instead of LPs
greater preference b/c sound better + scratch less
lower prices for CD players (compliments)

Diamond - Water Paradox

why are unimportant goods less than high priced goods
water is in great supply
diamond's supply is very low
marginal cost for water is low - low price = use more of it

* higer total utility

$$\frac{\text{MU Water} = \text{low}}{\text{Price water} = \text{low}} = \frac{\text{MU Diamonds} = \text{high}}{\text{price Diamonds} = \text{high}}$$

But total utility is high for water + low for diamonds
because so much of it is consumed

* Relative prices related to marginal - not total - utility

Value of Time

everything takes time
opportunity cost of your time
businessmen take the airplance - b/c uses less time
retirees can spend more time shopping for bargains
makes it look like Americans are wasteful
+ Americans think other countries waste time + prize material possesions too much
* reflection of high productivity of labor where time is given a higer market value

→

Medical Care Purchases

the way we pay affects prices
in USA - insurance pays most of healthcare
so insurance makes us overuse healthcare

Transfer + Gifts

gov provides noncash transfer payments like food stamp
ineffient b/c recipient might want to use them
last word → same with Christmas gifts
1/10 to 1/3 of value since don't match recipent's taste elsewhere
you might not pay that much for the gift
greater when person is socially farther than you
cash gifts don't have this problem

utility larger with people socially
close to you.

AP Microeconomics

Last Names of Partners: _____
Date: _____

Economics Consultants—Research and Analysis Problems

DIRECTIONS: Choose a partner and together complete the two problems below.

Problem 1:

Pharmaceuticals, Inc. has developed Aspirenow, a new type of pain reliever. Aspirenow relieves pain longer than regular aspirin, and the drug does not cause stomach upset. Pharmaceutical has been given permission to sell the drug without a prescription.

Before Pharmaceuticals introduces Aspirenow to the market, the creators have approached our firm of economists to consider the economic implications of offering a new drug. Prepare a report for Pharmaceuticals that addresses the following issues:

1. How elastic is the demand for over-the-counter pain relievers?

2. What are the competitors for Aspirenow? In relation to these competitors, what pricing strategy should Pharmaceuticals implement?

3. What issues regarding cross elasticities does Pharmaceuticals need to consider?

You may find the following resources helpful as you prepare this report for Pharmaceuticals:

www.tylenol.com -- This site provides product information on Tylenol and advertising.

www.phrma.org – PhRMA represents about 100 U.S. companies committed to pharmaceutical research. Information includes drugs in development and industry statistics.

bit of an addiction as well

www.fda.gov – The FDA is the federal government's consumer protection agency for food and drugs.

1. As a category - relitivly inelastic - people buy it at what ever the price - ten again people could use one via prescriptions + natural remides. Inside the category it is retivly elastic since there are many similar products

On paper

Problem 2:

Recently, a group of scientists have developed a method for producing nearly flawless diamonds from coal at a very low cost. These artificial diamonds are indistinguishable form real diamonds to the naked eye. A few of the scientists have formed the Diamond Institute to explore strategies to profit form this process.

The Diamond Institute has approached our firm of economists for advice about how to best profit from this new procedure. Prepare a report for the Diamond Institute that addresses the following issues:

1. What issues regarding the law of demand and the marginal-utility-to price ratio does the Diamond Institute need to consider?
2. What issues regarding consumer surplus doe the Diamond Institute need to consider? happy to pay more

You may find the following resources helpful as you prepare this report for the Diamond Institute:

www.debeers.com – De Beers, which controlled about 80% of the world diamond market for about a century, offers tips and guidelines for purchasing diamonds.

www.rostar.com/ -- Rostar manufactures and sells simulated diamonds.

www.israelidiamond.co.il/ -- The official Israel diamond industry portal introduces rough and polished diamond dealers and suppliers.

1. Demand for diamonds currently high relative to supply. The marginal utility is also very high.

$\frac{MU\,(high)}{Price\,(high)}$ & few are purchased

They should make sure to keep the price up to maintain its aura of luxory and to keep the MU high.

2. If there is a surplus - demand will go down, they will no longer be seen as luxory instead they will sure be store trash.

Aspirenow Cont.

2/26

2. Competitors

Tylenol - 225 @ 16.22
Generic Acetaminophen - 1000 @ 11.70
Advil - 180 @ 16.64

So it would have to work very well to command a higer price - though they should know the higest prices are via prescription - but at a lower volume

- others suggsested setting the price very low to attract consumers + build brand trust then raise prices

But I disagree if the medicne works better than everything else on the market.

3. If the product is not very distinct - then there will be more substitutes (cross elasticity will be positive)
↑ prescription + natural remedies

positive

If the cross elasticity is negitive - than they are complements - a better situation to be in.

$$\frac{\% Q x}{\% P y}$$

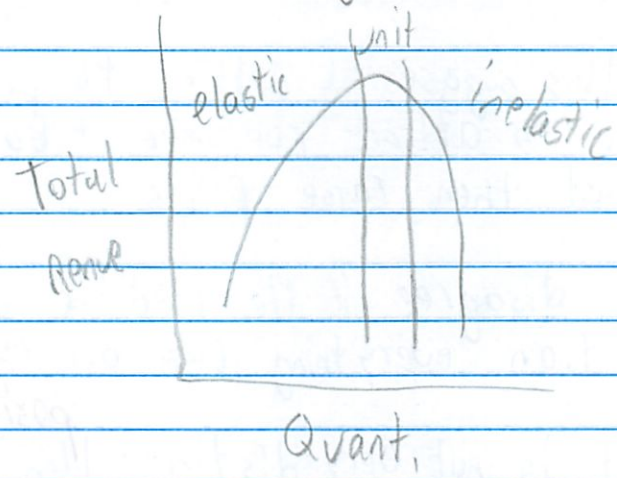
↑ the more it is - the more of subs they are

If it is 1 - they are not effecting the rest of the market

Diamonds
cont.

They should should be aware of the utility maximation rule - people will buy goods so that the MU /price is maximized. People will buy more diamonds - but that may mean ↓ total revenue.

He should also note that he should be in the unit elastic range - so that total Revenue is maximized



Activity 15

Michael Plasmeier

Diminishing Marginal Utility

2/26

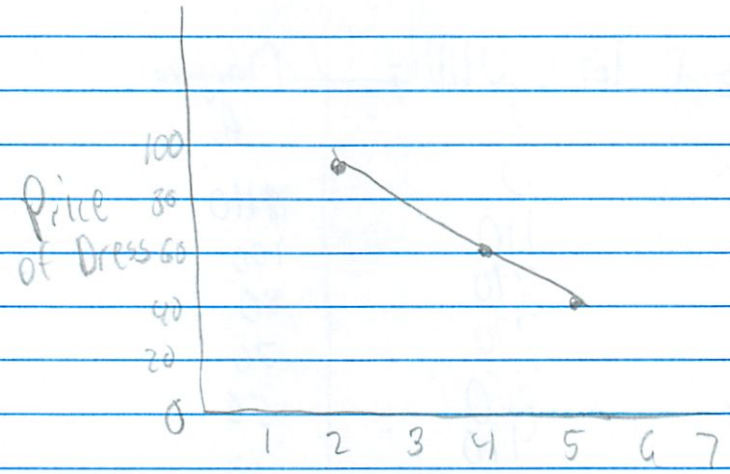
1.

Dresses	Total Utility $	Marginal $
0	0	
1	110	$110
2	210	100
3	290	80
4	360	70
5	410	50
6	440	30
7	460	20

At $90 - she should buy 2
$60 - 4
$40 5

		$90		$60		$40	
Total Utility	Dresses	Total Expend.	Diff Utilt Diff	Total	Diff	Total	Diff
110	1	$90	20	$60	50	40	70
210	2	$180	30	120	90	80	130
290	3	$270	20	180	110	120	170
360	4	$360	0	240	120	160	200
410	5	$450	-40	300	110	200	210
440	6	$540	-100	360	80	240	200
460	7	$630	-170	420	40	280	180
		↑ 2 dresses		↑ 4 dresses		↑ 5 dresses	

4. Both methods produce the same results



1. Marginal utility 3rd cd

63 - 45 = $18 (A)

2. At $11 -> $33 utility - so $30 surplus (A)

3. $78 - $44 = $34 (D)
$4 increase

? 4. ?? as many as he wants

Michael Plasmeier

Activity 15

Diminishing Marginal Utility

100

2/27

1.

Dresses	Total Utility $	Marginal Utility $
0	0	110
1	110	100
2	210	80
3	290	70
4	360	50
5	410	30
6	440	20
7	460	

2. Optimal purchasing rule (buy as long as MU above price)

Price $90 → 2
Price $60 → 4
Price $40 → 5

total utility
total expend.

3.

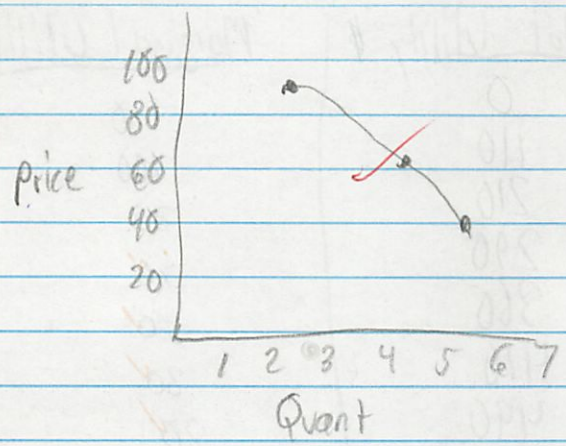
Total Utility	Dresses	$90 Total Expend.	$90 Diff.	$60 Total Expend.	$60 Diff.	$40 Total Expend	$40 Diff
110	1	90	20	60	50	40	70
210	2	180	30	120	90	80	130
290	3	270	20	180	110	120	170
360	4	360	0	240	120	160	200
410	5	450	-40	300	110	200	210
440	6	540	-100	360	80	240	200
460	7	630	-170	420	40	280	180

Where diff maximized

4. Price $90 → 2
Price $60 → 4
Price $40 → 5

Same quantites - the difference calculated is her consumer surplus - money she would pay - but doesn't have to

5.



Part B

CDs:

#	Total Utility	$11	Surplus	$8	Surplus
1	$25	11	14	8	17
2	45	22	23	16	29
3	63	33	30	24	39
4	78	44	34	32	46
5	90	55	$\boxed{35}$	40	50
6	100	66	34	48	52
7	106	77	29	56	50
8	110	88	22	64	46

4,5,6

1. MU of 3rd CD?
   63 - 45 = $18 (a)

2. Consumer Surplus: 3 CDs at $11
   63 - (3·11)
   63 - 33 = 30 (a)

3. Another CD at $11?
   78 - (4·11)
   78 - 44 ↗ increases
   34 $4 (d)

4. How many CDs to buy?
   5 (c)

5. What is consumer surplus at optimal
   $35 (a) c

6. If price drops to $8 - a?
   6 cds (b)

21 Appendix

Indifference Curve Analysis p438-443

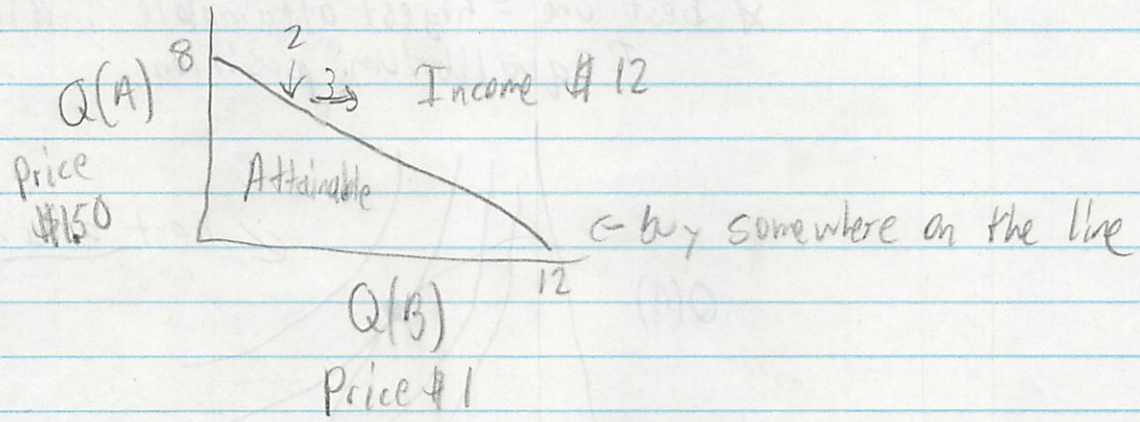
2/26

explains Consumer behavior + equallibrium

Budget Line

- What is attainable
- shows various combos of 2 products a consumer can purchase with a specific money income

→ objective market data

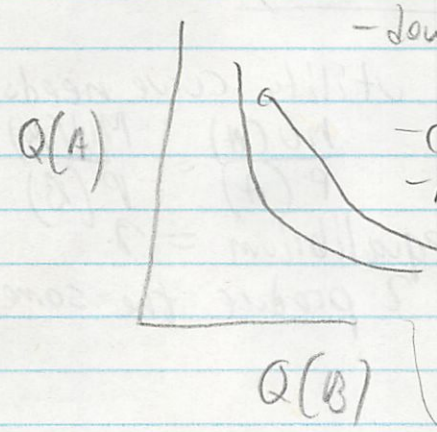


- location of line varries with income
- change in prices changes line
  - it is like a change in income

Indifference Curve

subjective → info

- What is prefered
- shows all combos which yield same total utility
- consumer indifferent to where on curve



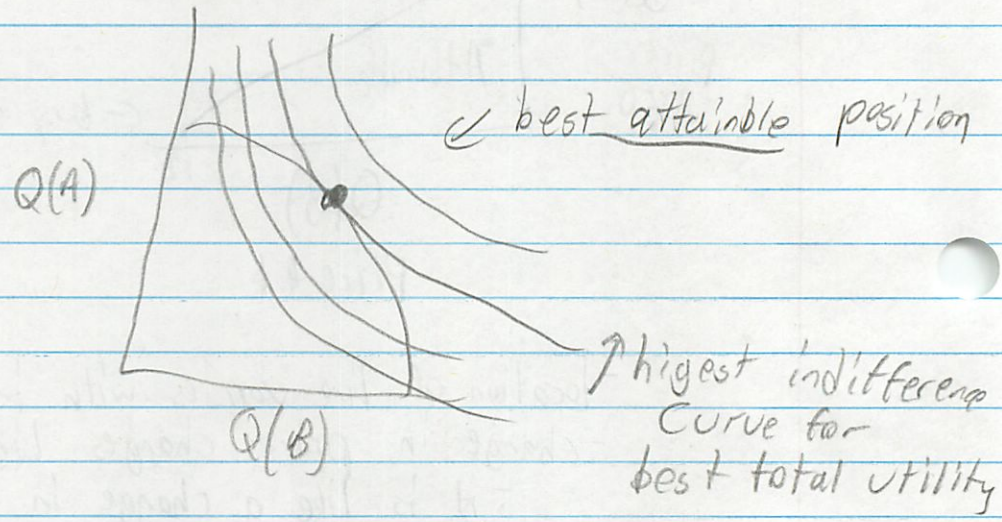
- downsloping
  - more of 1 product = less of another
- convex (from origin)
- measures marginal rate of substitution
  - willing to give up a lot of A for some B ← high MU
- As amt ↑, MU ↓

Indifference Map

- an entire set of indifference curves
  - the farther from the origin → the higher level of total utility

Equalibrium at tangency

can combine budget line + indifference map
* best one = higest attainable indifference curve
  ↑ equalibrium position



- slope of curve = slope of budget curve at the best point

$$MRS = \frac{P_B}{P_A}$$

Measurement of Utility

- marginal utility curve needs to measure utility $\frac{MU(A)}{P(A)} = \frac{MU(B)}{P(B)}$
- MU at equalibrium = λ
- so the 2 produce the same results

Derivation of Demand Curve

- when prices ↑, budget line moves ←
- yields new equallibrium indifference curve
  - higer price + lower quantity

22 Costs of Production

Economic Costs p 444-446

2/27

production is based off of cost and selling price
↑ everything is scarse

economic cost = opportunity cost = value in an alternative use

explict cost - money payments to non-owners of firm for resourses which are supplied

implicit cost - cost of using self-owned, self-employed resourses (entprenural skill) which could be put to other use
- buildings you own
- your own salery
- your own (normal) entprenural income

seperate

normal profit - $ you would make using your entprenural skill elsewhere

economic profit - total revenue - all costs
↑ goes to entrenure ↑ implicit + explicit
- also called pure profit
- not a cost

Short Run and Long Run

- profitability may depend on how fast a company can change course
- may take many years to change plant
- short run - too short to Δ plant - put can put more labor + resourses in plant
- long run - can change plants + companies
- varries from industry to industry and business to business

can varry then all except 1 (usually building)

investment period = Short run turns to long run

varible costs not fixed costs

22 Cost of Production

2/28

Opportunity cost → Cost
$ amount

cost - explicit
- labor (wage + salary)
- resourses + rent
- capital (intrest)

- implicit
- entprenurship (profit) ← accountants don't count this
  - opportunity cost to this
- explicit cost + implict cost = total cost

---

total product - total pizzas made

$\frac{\Delta TC}{\Delta Q}$ → marginal product - extra output for an extra pizza maker (or any resourse)

average product = $\frac{\text{total product}}{\text{units of labor}}$

22 Cost of Production

Short Run Production Relationships p 447-458

2/28

firm's cost not only relies on price of resourses but quant.

<u>total product</u> - total quantity produced

<u>marginal product</u> - extra output for adding another resourses (ex: hiring another worker)

$$\frac{\Delta \text{ total product}}{\Delta \text{ resourses}}$$

<u>average product</u> - aka productivity

$$\frac{\text{total product}}{\text{Units of labor}}$$

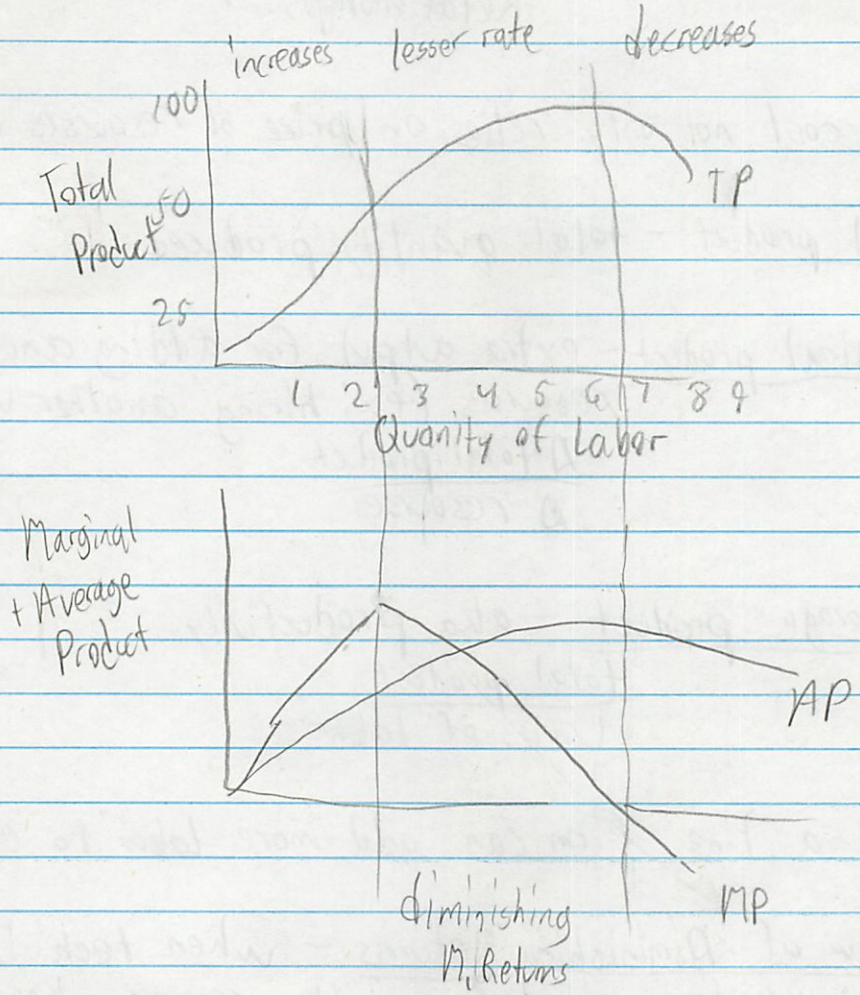
For a time firm can add more labor to a factory

<u>Law of Diminishing Returns</u> - when tech is fixed extra units of variable resourse - beyond some point the extra (marginal) output per added unit of resourse will decline

- each time field is cultivated will ↑ output

$$40 \xrightarrow{10} 50 \xrightarrow{7} 57 \xrightarrow{4} 61 \xrightarrow{2} 63$$

- workers could be added to factory to increase specialization - but at some point <u>overcrowded</u> - workers would be underused since workers would have to wait in line to use machine
  Would get to point where total production = 0 since no one could move
- assumes all workers are the same



* extra worker must add more than the average to increase average

22 Cost of Production

Short Run Production Costs p450-455

2/28

resoorse quantity must be compared with cost

Production Function - combines land, labor capital + entrepreneurial

Fixed cost - costs which in total don't vary with output
- must be paid even if output = 0
- can not be avoided in short-run

Variable costs - change with output
- transport, fuel, power, material, most labor
- Δ in cost per 1 unit Δ is not =
- at 1st marginal cost ↑, decreases
- then it will start ↑

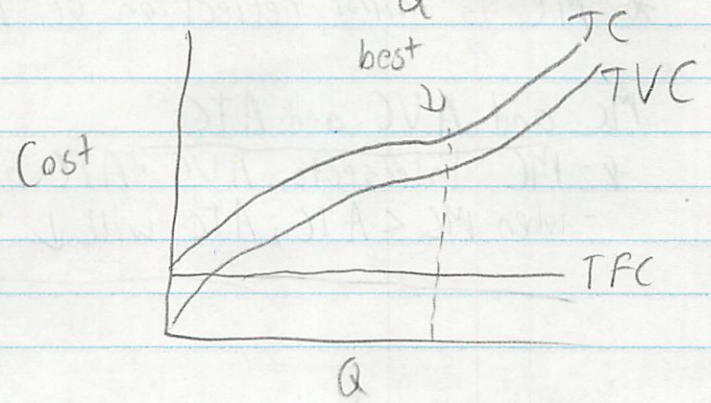
total cost - fixed + variable cost at each level of output

Average (per unit) Costs

A F(ixed) C → $\frac{TFC}{Q}$ must decline as Q ↑ "spreading overhead"

A V(ariable) C → $\frac{TVC}{Q}$ declines initally, reaches minimum, starts increasing
↑ shown by low point in V

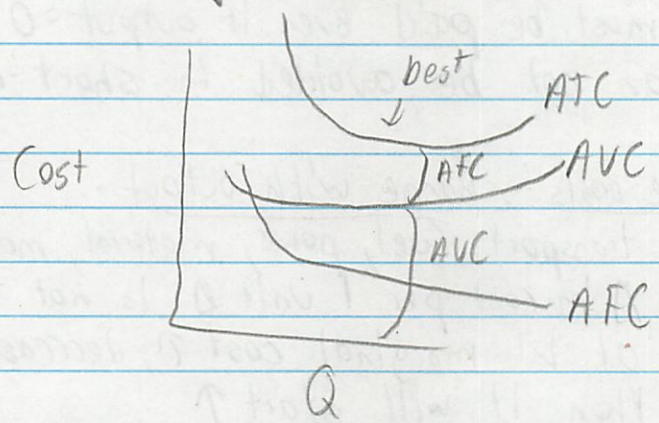
A (total) C → $\frac{TC}{Q}$ = AFC + AVC



Marginal Cost

- extra cost of producing 1 more unit of output

$$\frac{\Delta TC}{\Delta Q}$$



Δ in TVC = ΔTC = TFC

Marginal Costs can be directly + immediately controlled

MC = all cost to produce last unit of output

people make decisions on the margin → - what usually drives firm's decision

- along with marginal revenue

- shape due to law of diminishing returns

* - if price of variable resource remains constant - increasing marginal returns will be reflected with

taking the next step → ↓ MC and ↓ M Returns = ↑ MC

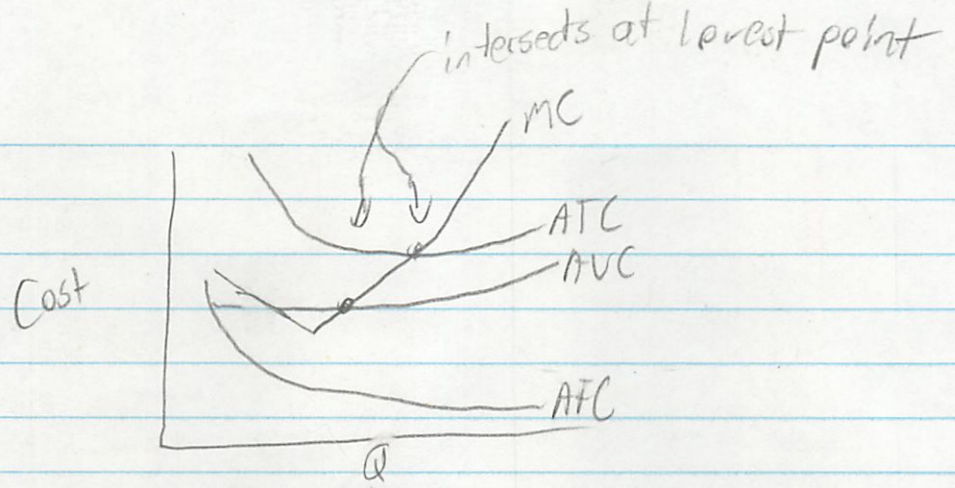
- so if marginal workers are more productive MC will ↓ - but not if each one is less productive

* MC is mirror reflection of Marginal Products

MC and AVC and ATC

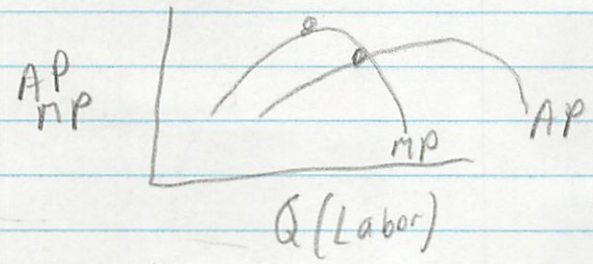
* - MC intersects AVC, ATC at lowest point

- when MC < ATC, ATC will ↓

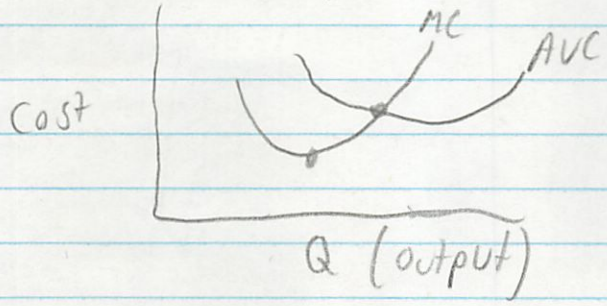


Shifting the Cost Curve

- changes in resource prices or tech would shift
  - if FC ↑, AFC + ATC ↑, but MC + AVC wouldn't change because they are realitive
  - if VC ↑, AVC + ATC + MC ↑, AFC unchanged
  - if tech ↑, AVC ↓



Study



Treo Business

2/29

Labor	Total Output	Marginal Output	MC Cost / Laborer	Total Cost	MR Income / Tree	Total Revenue	MR Marginal Revenue	Profit
1	8	8	15	15	10	80	80	65
2	20	12	15	30	10	200	120	90
3	29	9	15	45	10	290	90	245
4	36	7	15	60	10	360	70	300
5	42	8	15	75	10	420	80	345
6	46	4	15	90	10	460	40	370
7	48	2	15	105	10	480	20	375 ←
8	49	1	15	120	10	490	10	370
9	47	-2	15	135	10	470	-20	335

← right here

* Best when Marginal Cost = Marginal Revenue

↑ Marginal Decision Rule

Marginal Resourse Prices = Marginal Revenue Cost (Chap 27)

22/ Costs of Production

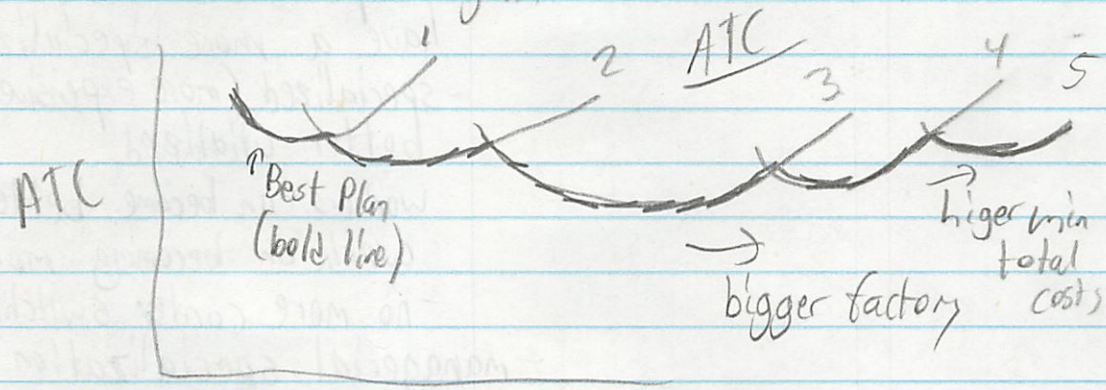
Long Run Production Costs 455-463

3/2

in the long run - everything (including fixed costs) are variable in the long run

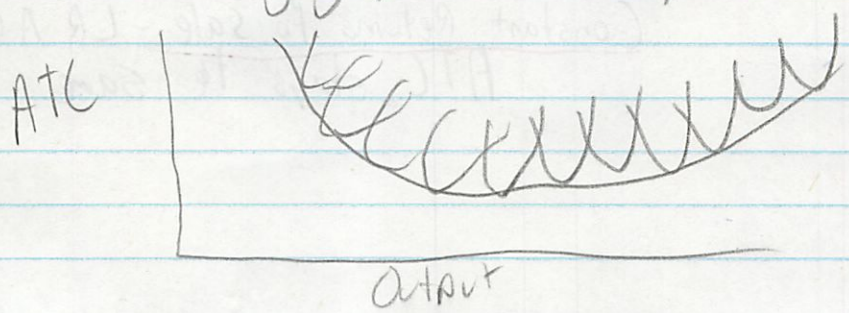
<u>Building New Plants - Long Run Cost Curves</u>

will lower ATC for some time, then it will rise again

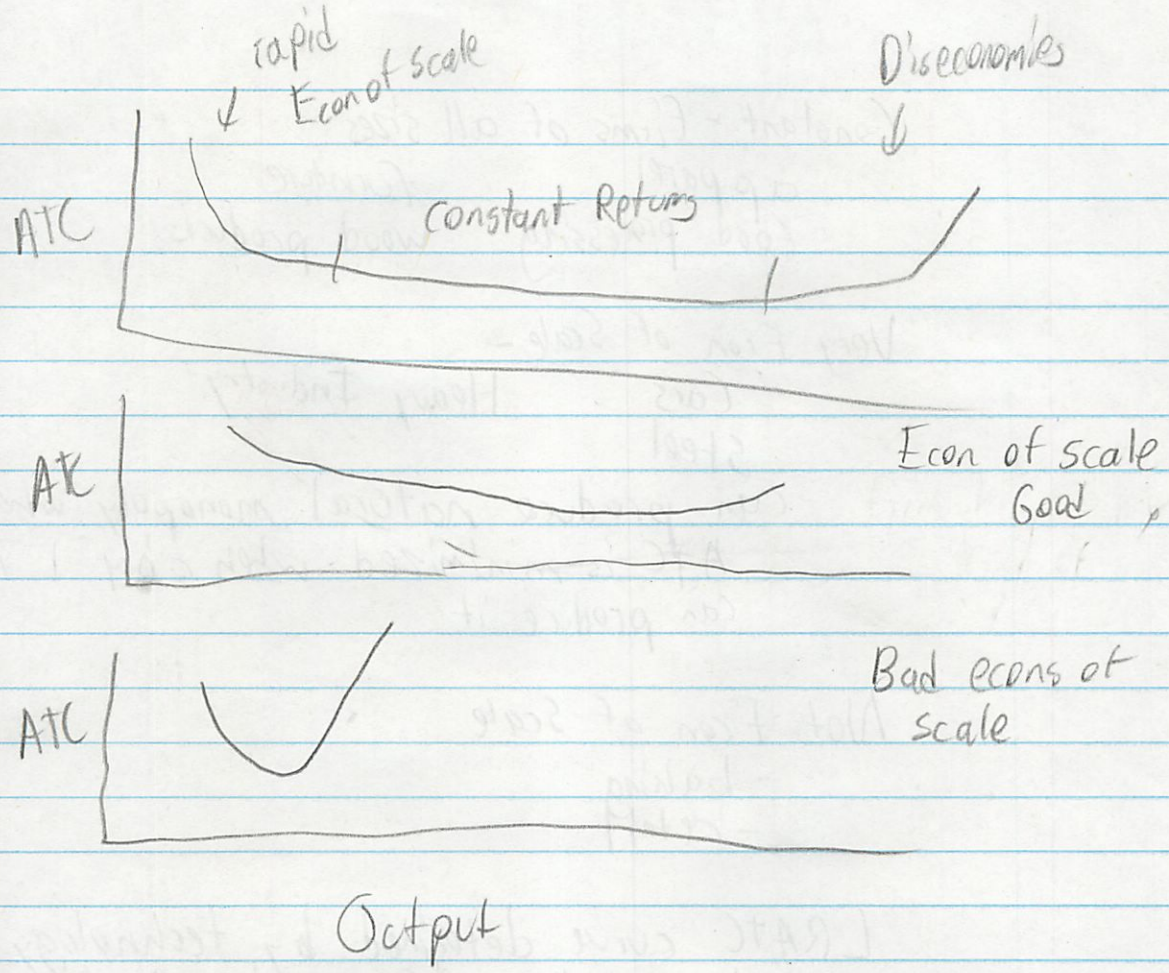


bold line is the best plan
at some points best to jam more in 1 plant - then it becomes better to use a new plant

* Long Run Cost Curve = made up of several short run cost curves combined
- essencentally Long Run curve is made up of tangent points of an unlimited # of short run curves
  because # of plants is unlimited + changing plants is easy



at some point a new plant costs more (upsloping ATC)
↑ U shaped
- not because law of diminishing returns
  - since each resourse is variable
- Economies of Scale - shows downsloping ATC part
  - labor specialization - each worker can have a more specialized job
    - specialized (more expensive) workers are better utidlized
    - workers can become better at what they work on - becoming more specialized
    - no more contex switching time
  - managerial specialization
    - the manager can watch more people for free
    - 1 person can concentrate on marketing
  - equipment - can use more efficent equipment
    - robots, assembly line, etc
  - other - R+D, design, retooling, advertising, etc are charged regardless of sold
have really helped American firms
- Diseconomies of Scale - hurt as firm scales
  - many levels of managment makes decision take a while, bad communication moves slowly
  - workers may feel alinated + disenfranchised
Constant Returns to Sale - LRAC dosn't change
ATC stays the same



Applications + Illustrations

Textbooks - books on more basic topics
cost less because design costs can
be spread out
Stealth Bomber - Cost of designing them
is the same - just spread out
General Motors - it's too large to control
moves very slowly
has tried to reorg itself

Minimum Efficent Scale (MES) - lowest level
firm can minimize LR AC
different for each industry

Constant - firms of all sizes
apparel furniture
food processing wood products

Very Econ of Scale -
Cars Heavy Industry
steel
- can produce natural monopoly when ATC is minimized when only 1 firm can produce it

Not Econ of Scale
- baking
- retail

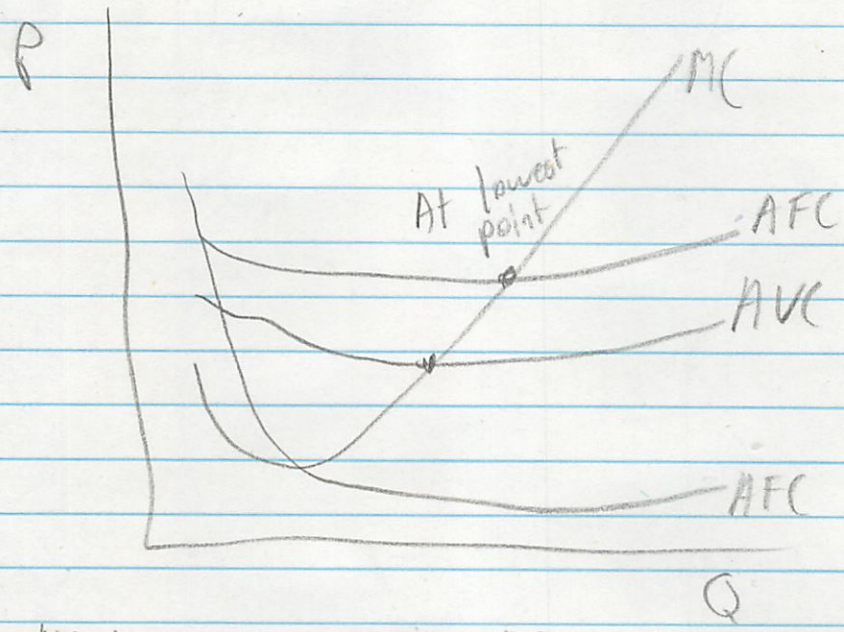
LRATC curve determined by technology
- shape shows if can be dominated by 1 or 2 firms or many little firms
- though also affected by other things

Irrelevancy of Sunk Costs
- don't cry over spilt milk
- once incured - can not be recovered
- if you already bought a ticket to a game and get sick + can't sell it - decision if to go should not involve ticket price only MC vs MB
- for firm with lease - decision to move only based on if can make a profit
- merger may still be a good idea

22

Min Point

3/5



MC is the next price, If this goes up, the average has to go up.

Scale

Activity #15

Typing and Economies of Scale

Teams

Michael Plasmeier

Organize into groups of three. Number off "1," "2" and "3." Imagine that you are just starting college and you must decide what kind of typewriter to buy (your choice: manual or electronic typewriter or a computer).

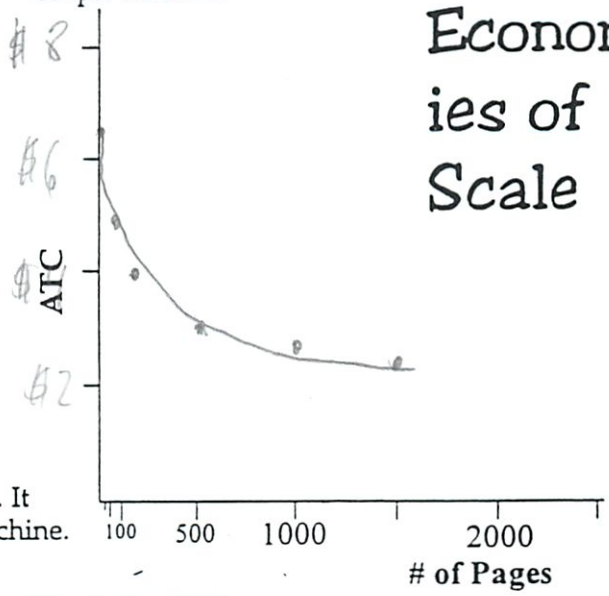
Person 1

You have purchased a manual typewriter for $100. It costs you $3 per page to hire a typist to use this machine.

Calculate your costs:

# of Pages	FC (machine)	VC (labor)	TC ($)	ATC ($ per page)
30	100	90	190	6.33
50	100	150	250	5
100	100	300	400	4
500	100	1500	1600	3.2
1000	100	3,000	3,100	3.1
2000	100	6,000	6,100	3.05

Graph the ATC:

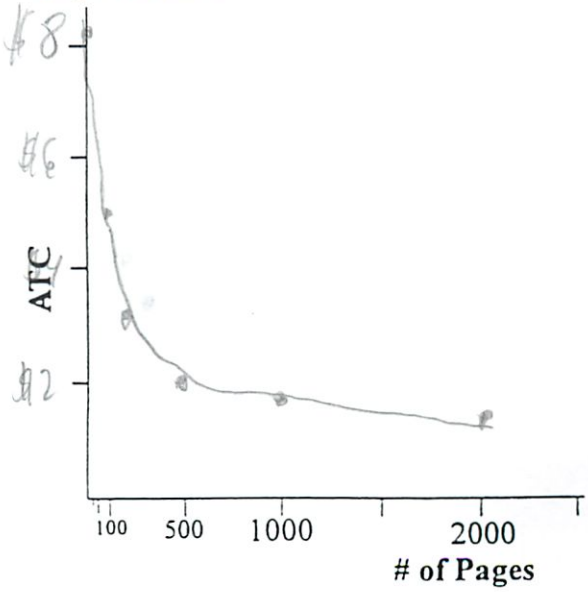


Person 2

You have purchased the electronic typewriter for $200. It costs you $1.50 per page to hire a typist to use this machine.

# of Pages	FC (machine)	VC (labor)	TC ($)	ATC ($ per page)
30	200	45	245	8.17
50	200	75	275	5.5
100	200	150	350	3.5
500	200	750	950	1.9
1000	200	1500	1700	1.7
2000	200	3000	3200	1.6

Graph the ATC:



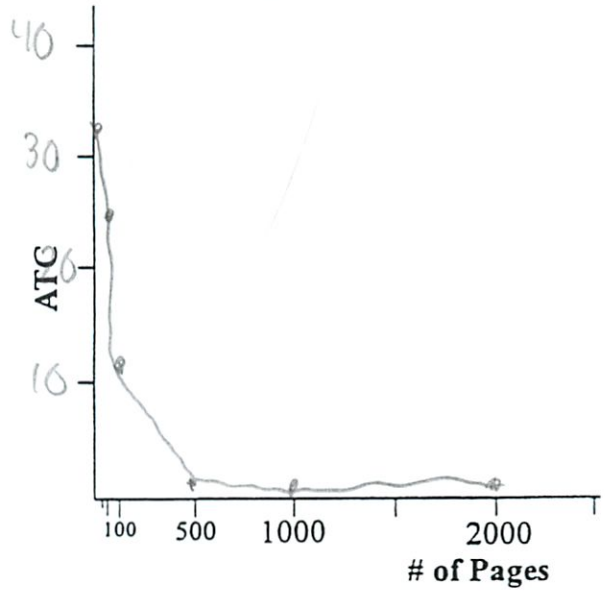
continued

Person 3

You have purchased a computer for $1000. It costs you $.50 per page to hire a typist to use this machine.

# of Pages	FC (machine)	VC (labor)	TC ($)	ATC ($ per page)
30	$1000	15	1015	33.83
50	1000	25	1025	25
100	1000	50	1050	10.5
500	1000	250	1250	2.5
1000	1000	500	1500	1.5
2000	1000	1000	2000	1

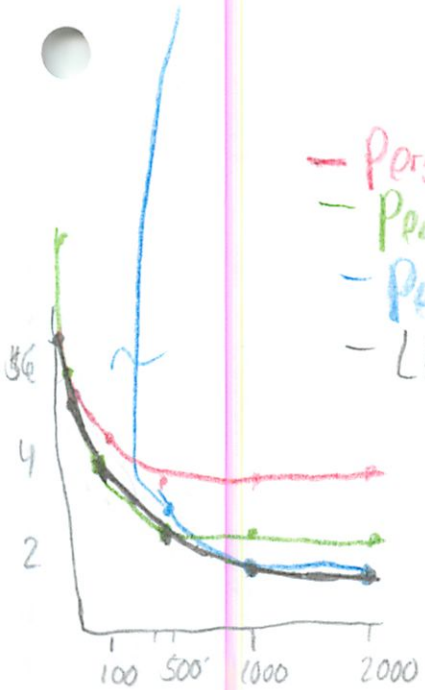
Graph the ATC:



When you complete your table and graph, rejoin the group. As a group answer the following:

1. Complete this table:

Pages	Which Machine is Least Expensive	Average Total Cost (ATC)
30	1	6.33
50	1	5
100	2	3.5
500	2	1.9
1000	3	1.5
2000	3	1



2. Now add the two other ATC curves to your own. In a different color, identify the *long-run* ATC curve, assuming that inputs (machines) can be changed.

3. How is the LRATC curve different from your individual ATC curve?

It is lowest curve that uses the output from all 3 people depending on quantity needed

4. In this case, were there economies of scale or diseconomies of scale? Explain.

Economies of scale - since ATC ↓ as Q ↑

Michael Plusmeier

19/21 = 4.5

Costs

3/2

Activity #13

The Cost of Owning a Car

Hertz Corporation Study

Los Angeles Times, January 23, 1984

For only the second time in history, the per-mile cost of owning and operating a typical new compact car dropped in 1983 by 1.4 cents to 43.28 cents, an annual Hertz Corp. study showed Sunday.

The 43.28 cents per mile driving cost was calculated based on a compact domestic sedan, such as the Ford Fairmont, driven 10,000 miles a year for five years.

The figure included fixed costs comprised of depreciation, 13.71 cents; insurance and license fees, 9.98 cents and interest, 7.66 cents. Variable costs included maintenance and repairs, 3.55 cents and gasoline, 8.38 cents.

Teams

As a team calculate the following:

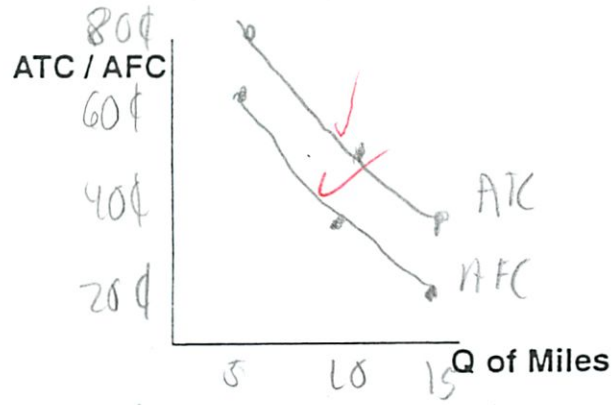
1. What are AFC for 10,000 miles? 31.35 Now calculate total fixed costs (AFC x 10,000) = 31.35

13.71 + 9.98 + 7.66 = 31.35

2. Compute and fill in the missing values:

Q of Miles	AFC	AVC	ATC	TC	MC
5,000	62.7	11.93¢	74.63¢	$ 373.5	~~596.5~~
10,000	31.35	11.93¢	43.28¢	$ 432.8 >	~~596.5~~
15,000	20.9	11.93¢	32.83¢	$ 492.4.5 >	

Assume that the average variable costs of running the car (gas, oil etc.) stay constant from 5,000 to 15,000 miles.



3. Show ATC and AFC graphically.

4. Let's say you drive this car 10,000 miles. If your boss offers you a job driving at a reimbursement of 20 cents per mile, would you do it? Why or why not?

Sure - according to these rules the per mile cost is 11.9¢ The fixed costs are already paid for - though in real life depreciation is per mile

5. Would ATC eventually rise? Why or why not?

Yes - depreciation is not fixed. Maintence will also cost more.

6. At what point do you think Hertz will sell this Ford Fairmont? Why?

When maintences costs go ↑ and when it starts looking used - to not alinate its customers

Michael Plasmeier

3/3

ECONOMIC RESEARCH AND ANALYSIS BY STUDENTS FOR PROFESSIONALS

Burgermania, a fast-food restaurant corporation, has grown tremendously over the past few years and has restaurants in 50 cities in the United States and Canada. Burgermania, however, recently has been experiencing growing pains.

The owners of Burgermania have hired Economic Consultants to suggest how the firm can improve its productivity and decrease its costs. In particular, Burgermania would like to know how its primary competitor—McDonald's Corporation—has maintained cost efficiency while sustaining rapid growth.

Prepare a report for Burgermania that addresses the following questions:

1. Approximately how many restaurants does McDonald's have, and how quickly are new restaurants being added? Has McDonald's taken any steps to reduce fixed costs associated with these restaurants?
2. The fast-food industry requires a large and diverse workforce. How many people does McDonald's employ? Has McDonald's taken any steps to reduce the cost of labor through initiatives to (1) increase efficiency, (2) improve quality, and/or (3) decrease price?
3. Review any information you can find addressing other variable costs, such as equipment, raw materials, and energy. Has McDonald's taken any steps to reduce these variable costs?
4. Large restaurant corporations enjoy economies of scale and face diseconomies of scale in their operations. Has McDonald's taken any steps to take advantage of economies of scale or minimize diseconomies of scale?

SEE THESE FRIES? WE COOK UP BILLIONS EACH YEAR. NOW, THE KEY TO SUCCESS IS TO THINK THAT THIS ONE ORDER—AND EVERY ORDER—IS THE ONE AND ONLY.

You may find the following resources helpful as you prepare this report for Burgermania:

- **McDonald's Corporation** (http://www.mcdonalds.com/)—McDonald's provides information about its operations and financials. In particular, McDonald's maintains its annual report.
- **Hoover's Online Company Capsules** (http://www.hoovers.com/cd_home.html)—Hoover's Online provides for over eleven thousand companies a description, address, the names of officers, sales and employment figures, and hyperlinks to more information, such as financial reports, stock quotes, Securities and Exchange Commission filings, and news searches.
- **CNNfn** (http://www.cnnfn.com/)—CNNfn, the financial news component of CNN, provides current news stories on corporations.

1. 31,000 worldwide in 119 countries
   744 restaurants in 2006
   Same designs of stores, products, advertising and procedures which have been carefully designed - once not at each location
   efficent machines
2. > 1.5 million people world wide Hamburger U.
   Yes they spend > $1 billion on training
   Researching methods to make more efficent restaurants - reduce costs → anti union
3. issues no guidence

→

fixed

4. Yes - ~~they have combined R+D, advertising and archetecture costs~~ - they can create special relationships with suppliers to get what they want while preasuring suppliers on price

- Ardently againts unions - sane w/ equipment

↑ customized equip which less takes less time to use

energy - eco friendly lighting

Plaz 100 3/6/08

Teams

Divide your team into 3 groups. Group 1 does Exercise #1, group 2 does #2 and group 3 does #3.

Exercise 1

The Organize It! notebook company has the following revenues and costs:

Q	TR	TC	Total Profit
0	$0	$10	-10
1	15	20	-5
2	30	28	2
3	45	38	7
4	60	50	10
5	75	65	10
6	90	85	5

Calculate total profits at each level of output. At what level of output are profits maximized? 4+5

1. What do the abbreviations Q, TR and TC stand for?

Quantity
Total Revenue
Total Cost

2. Define TR and TC:

TR - income from selling product
TC - spending on production

3. How much are the company's fixed costs?

$10

0x

Exercise 2

The Organize It! notebook company has the following information:

Q		MR	MC	
0				
	>	$15	$10	5
1				
	>	15	8	7
2				
	>	15	10	5
3				
	>	15	12	3
4				
	>	15	15	0
5				
	>	15	20	-5
6				

1. What do the abbreviations Q, MR and MC stand for?

Quantity
Marginal Revenue
Marginal Cost

2. Define MR and MC:

MR - income from selling 1 more product
MC - cost to make 1 more

3. Based on the profit-maximizing rule, at what level of output are profits maximized?

MC = MR - Making 5

0x

continued

Profit

Activity #16

Profits at Organize It!

Exercise 3

The **Organize It!** notebook company has the following revenues and costs.

Q	TR		MR	TC		MC
0	$0			$10		
		>	15		>	10
1	15			20		
		>	15		>	8
2	30			28		
		>	15		>	10
3	45			38		
		>	15		>	12
4	60			50		
		>	15		>	15
5	75			65		
		>	15		>	20
6	90			85		

1. What do the abbreviations TR, MR, TC and MC stand for?

2. Define MR and MC: See before

3. Calculate MR and MC from the information given and fill in the blanks. 6x

Teams

Come together after your 3 groups have completed their exercises.

1. Share your results. Does everyone agree with your calculation of MR, MC, TC, TR and profit maximization?

Yes

2. What are the two ways for finding the profit-maximizing level of output?

Maximizing total cost vs TR
Finding where MR = MC ← best way in all 4 market systems

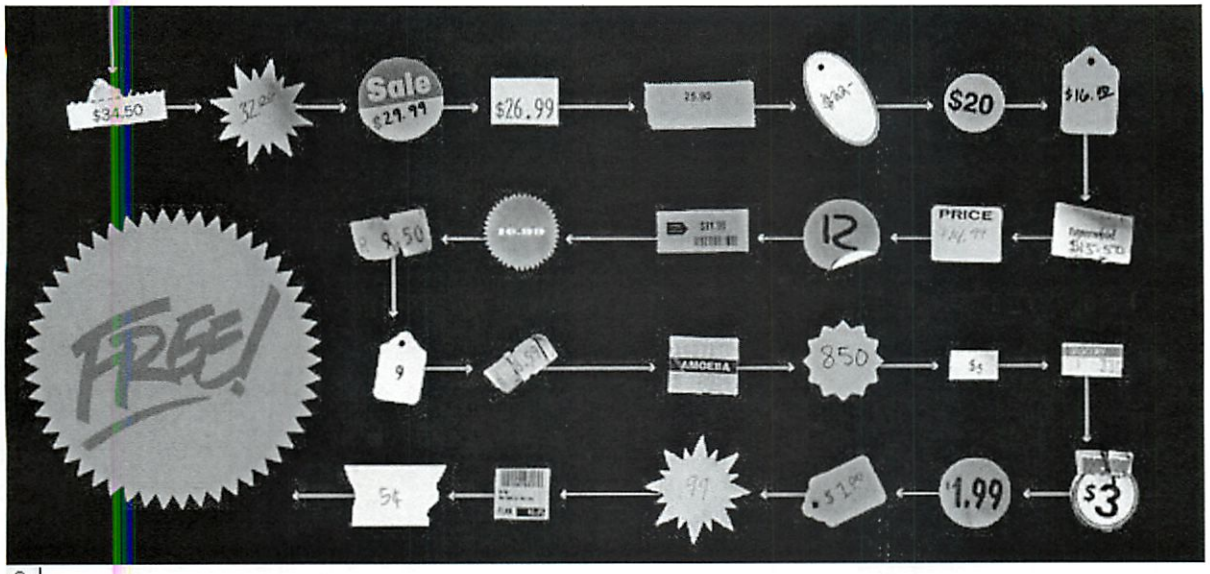
WIRED

<< Back to Article

WIRED MAGAZINE: 16.03

Free! Why $0.00 Is the Future of Business

By Chris Anderson 02.25.08 | 12:00 AM



FEATURE

Webmail Windfall

How Can Air Travel Be Free?

How Can a CD Be Free?

How Can a DVR Be Free?

How Can Directory Assitance Be Free?

HOW-TO WIKI

How To Make Money Around Free Content

The March 2008 "issue for free" offer is now closed.

At the age of 40, King Gillette was a frustrated inventor, a bitter anticapitalist, and a salesman of cork-lined bottle caps. It was 1895, and despite ideas, energy, and wealthy parents, he had little to show for his work. He blamed the evils of market competition. Indeed, the previous year he had published a book, *The Human Drift*, which argued that all industry should be taken over by a single corporation owned by the public and that millions of Americans should live in a giant city called Metropolis powered by Niagara Falls. His boss at the bottle cap company, meanwhile, had just one piece of advice: Invent something people use and throw away.

One day, while he was shaving with a straight razor that was so worn it could no longer be sharpened, the idea came to him. What if the blade could be made of a thin metal strip? Rather than spending time maintaining the blades, men could simply discard them when they became dull. A few years of metallurgy experimentation later, the disposable-blade safety razor was born. But it didn't take off immediately. In its first year, 1903, Gillette sold a total of 51 razors and 168 blades. Over the next two decades, he tried every marketing gimmick he could think of. He put his own face on the package, making him both legendary and, some people believed, fictional. He sold millions of razors to the Army at a steep discount, hoping the habits soldiers developed at war would carry over to peacetime. He sold razors in bulk to banks so they could give them away with new deposits ("shave and save" campaigns). Razors were bundled with everything from Wrigley's gum to packets of coffee, tea, spices, and marshmallows. The freebies helped to sell those products, but the tactic helped Gillette even more. By

giving away the razors, which were useless by themselves, he was creating demand for disposable blades. A few billion blades later, this business model is now the foundation of entire industries: Give away the cell phone, sell the monthly plan; make the videogame console cheap and sell expensive games; install fancy coffeemakers in offices at no charge so you can sell managers expensive coffee sachets.

Chris Anderson discusses "Free."

Video produced by Annaliza Savage and edited by Michael Lennon.
Thanks to Gillette, the idea that you can make money by giving something away is no longer radical. But until recently, practically everything "free" was really just the result of what economists would call a cross-subsidy: You'd get one thing free if you bought another, or you'd get a product free only if you paid for a service.

Over the past decade, however, a different sort of free has emerged. The new model is based not on cross-subsidies — the shifting of costs from one product to another — but on the fact that the cost of products *themselves* is falling fast. It's as if the price of steel had dropped so close to zero that King Gillette could give away both razor and blade, and make his money on something else entirely. (Shaving cream?)

You know this freaky land of free as the Web. A decade and a half into the great online experiment, the last debates over free versus pay online are ending. In 2007 *The New York Times* went free; this year, so will much of *The Wall Street Journal*. (The remaining fee-based parts, new owner Rupert Murdoch announced, will be "really special ... and, sorry to tell you, probably more expensive." This calls to mind one version of Stewart Brand's original aphorism from 1984: "Information wants to be free. Information also wants to be expensive ... That tension will not go away.")

Scenario 1: Low-cost digital distribution will make the summer blockbuster free. Theaters will make their money from concessions — and by selling the premium moviegoing experience at a high price.

Once a marketing gimmick, free has emerged as a full-fledged economy. Offering free music proved successful for Radiohead, Trent Reznor of Nine Inch Nails, and a swarm of other bands on MySpace that grasped the audience-building merits of zero. The fastest-growing parts of the gaming industry are ad-supported casual games online and free-to-try massively multiplayer online games. Virtually everything Google does is free to consumers, from Gmail to Picasa to GOOG-411.

The rise of "freeconomics" is being driven by the underlying technologies that power the Web. Just as Moore's law dictates that a unit of processing power halves in price every 18 months, the price of bandwidth and storage is dropping even faster. Which is to say, the trend lines that determine the cost of doing business online all point the

same way: to zero.

But tell that to the poor CIO who just shelled out six figures to buy another rack of servers. Technology sure doesn't feel free when you're buying it by the gross. Yet if you look at it from the other side of the fat pipe, the economics change. That expensive bank of hard drives (fixed costs) can serve tens of thousands of users (marginal costs). The Web is all about scale, finding ways to attract the most users for centralized resources, spreading those costs over larger and larger audiences as the technology gets more and more capable. It's not about the cost of the equipment in the racks at the data center; it's about what that equipment can do. And every year, like some sort of magic clockwork, it does more and more for less and less, bringing the marginal costs of technology in the units that we individuals consume closer to zero.

Photo Illustration: Jeff Mermelstein

As much as we complain about how expensive things are getting, we're surrounded by forces that are making them cheaper. Forty years ago, the principal nutritional problem in America was hunger; now it's obesity, for which we have the Green Revolution to thank. Forty years ago, charity was dominated by clothing drives for the poor. Now you can get a T-shirt for less than the price of a cup of coffee, thanks to China and global sourcing. So too for toys, gadgets, and commodities of every sort. Even cocaine has pretty much never been cheaper (globalization works in mysterious ways).

Digital technology benefits from these dynamics and from something else even more powerful: the 20th-century shift from Newtonian to quantum machines. We're still just beginning to exploit atomic-scale effects in revolutionary new materials — semiconductors (processing power), ferromagnetic compounds (storage), and fiber optics (bandwidth). In the arc of history, all three substances are still new, and we have a lot to learn about them.

We are just a few decades into the discovery of a new world.

What does this mean for the notion of free? Well, just take one example. Last year, Yahoo announced that Yahoo Mail, its free webmail service, would provide unlimited storage. Just in case that wasn't totally clear, that's "unlimited" as in "infinite." So the market price of online storage, at least for email, has now fallen to zero (see "Webmail Windfall"). And the stunning thing is that nobody was surprised; many had assumed infinite free storage was already the case.

For good reason: It's now clear that practically everything Web technology touches starts down the path to gratis, at least as far as we consumers are concerned. Storage now joins bandwidth (YouTube: free) and processing power (Google: free) in the race to the bottom. Basic economics tells us that in a competitive market, price falls to the marginal cost. There's never been a more competitive market than the Internet, and every day the marginal cost of digital information comes closer to nothing.

One of the old jokes from the late-'90s bubble was that there are only two numbers on the Internet: infinity and zero. The first, at least as it applied to stock market valuations, proved false. But the second is alive and well. The Web has become the land of the free.

The result is that we now have not one but two trends driving the spread of free business models across the economy. The first is the extension of King Gillette's cross-subsidy to more and more industries. Technology is giving companies greater flexibility in how broadly they can define their markets, allowing them more freedom to give away products or services to one set of customers while selling to another set. Ryanair, for instance, has disrupted its industry by defining itself more as a full-service travel agency than a seller of airline seats (see "How Can Air Travel Be Free?").

The second trend is simply that anything that touches digital networks quickly feels the effect of falling costs. There's nothing new about technology's deflationary force, but what is new is the speed at which industries of all sorts are becoming digital businesses and thus able to exploit those economics. When Google turned advertising into a software application, a classic services business formerly based on human economics (things get more expensive each year) switched to software economics (things get cheaper). So, too, for everything from banking to gambling. The moment a company's primary expenses become things based in silicon, free becomes not just an option but the inevitable destination.

WASTE AND WASTE AGAIN

Forty years ago, Caltech professor Carver Mead identified the corollary to Moore's law of ever-increasing computing power. Every 18 months, Mead observed, the price of a transistor would halve. And so it did, going from tens of dollars in the 1960s to approximately 0.000001 cent today for each of the transistors in Intel's latest quad-core. This, Mead realized, meant that we should start to "waste" transistors.

Scenario 2: Ads on the subway? That's so 20th century. By sponsoring the whole line and making trips free, the local merchants association brings grateful commuters to neighborhood shops.

Waste is a dirty word, and that was especially true in the IT world of the 1970s. An entire generation of computer professionals had been taught that their job was to dole out expensive computer resources sparingly. In the glass-walled facilities of the mainframe era, these systems operators exercised their power by choosing whose programs should be allowed to run on the costly computing machines. Their role was to conserve transistors, and they not only decided what was worthy but also encouraged programmers to make the most economical use of their computer time. As a result, early developers devoted as much code as possible to running their core algorithms efficiently and gave little thought to user interface. This was the era of the command line, and the only conceivable reason someone might have wanted to use a computer at home was to organize recipe files. In fact, the world's first personal computer, a stylish kitchen appliance offered by Honeywell in 1969, came with integrated counter space.

Photo Illustration: Jeff Mermelstein

And here was Mead, telling programmers to embrace waste. They scratched their heads — how do you waste computer power? It took Alan Kay, an engineer working at Xerox's Palo Alto Research Center, to show them. Rather than conserve transistors for core processing functions, he developed a computer concept — the Dynabook — that would frivolously deploy silicon to do silly things: draw icons, windows, pointers, and even animations on the screen. The purpose of this profligate eye candy? Ease of use for regular folks, including children. Kay's work on the graphical user interface became the inspiration for the Xerox Alto, and then the Apple Macintosh, which changed the world by opening computing to the rest of us. (We, in turn, found no shortage of things to do with it; tellingly, organizing recipes was not high on the list.)

Of course, computers were not free then, and they are not free today. But what Mead and Kay understood was that the transistors in them — the atomic units of computation — would become so numerous that on an individual basis, they'd be close enough to costless that they might as well be free. That meant software writers, liberated from worrying about scarce computational resources like memory and CPU cycles, could become more and more ambitious, focusing on higher-order functions such as user interfaces and new markets such as entertainment. And that meant software of broader appeal, which brought in more users, who in turn found even more uses for computers. Thanks to that wasteful throwing of transistors against the wall, the world was changed.

What's interesting is that transistors (or storage, or bandwidth) don't have to be completely free to invoke this effect. At a certain point, they're cheap enough to be safely disregarded. The Greek philosopher Zeno wrestled with this concept in a slightly different context. In Zeno's dichotomy paradox, you run toward a wall. As you run, you halve the distance to the wall, then halve it again, and so on. But if you continue to subdivide space forever, how can you ever actually reach the wall? (The answer is that you can't: Once you're within a few nanometers, atomic repulsion

forces become too strong for you to get any closer.)

In economics, the parallel is this: If the unitary cost of technology ("per megabyte" or "per megabit per second" or "per thousand floating-point operations per second") is halving every 18 months, when does it come close enough to zero to say that you've arrived and can safely round down to nothing? The answer: almost always sooner than you think.

What Mead understood is that a psychological switch should flip as things head toward zero. Even though they may never become entirely free, as the price drops there is great advantage to be had in treating them as if they *were* free. Not too cheap to *meter*, as Atomic Energy Commission chief Lewis Strauss said in a different context, but too cheap to *matter*. Indeed, the history of technological innovation has been marked by people spotting such price and performance trends and getting ahead of them.

From the consumer's perspective, though, there is a huge difference between cheap and free. Give a product away and it can go viral. Charge a single cent for it and you're in an entirely different business, one of clawing and scratching for every customer. The psychology of "free" is powerful indeed, as any marketer will tell you.

This difference between cheap and free is what venture capitalist Josh Kopelman calls the "penny gap." People think demand is elastic and that volume falls in a straight line as price rises, but the truth is that zero is one market and any other price is another. In many cases, that's the difference between a great market and none at all.

The huge psychological gap between "almost zero" and "zero" is why micropayments failed. It's why Google doesn't show up on your credit card. It's why modern Web companies don't charge their users anything. And it's why Yahoo gives away disk drive space. The question of infinite storage was not *if* but *when*. The winners made their stuff free first.

Traditionalists wring their hands about the "vaporization of value" and "demonetization" of entire industries. The success of craigslist's free listings, for instance, has hurt the newspaper classified ad business. But that lost newspaper revenue is certainly not ending up in the craigslist coffers. In 2006, the site earned an estimated $40 million from the few things it charges for. That's about 12 percent of the $326 million by which classified ad revenue declined that year.

But free is not quite as simple — or as stupid — as it sounds. Just because products are free doesn't mean that someone, somewhere, isn't making huge gobs of money. Google is the prime example of this. The monetary benefits of craigslist are enormous as well, but they're distributed among its tens of thousands of users rather than funneled straight to Craig Newmark Inc. To follow the money, you have to shift from a basic view of a market as a matching of two parties — buyers and sellers — to a broader sense of an ecosystem with many parties, only some of which exchange cash.

The most common of the economies built around free is the three-party system. Here a third party pays to participate in a market created by a free exchange between the first two parties. Sound complicated? You're probably experiencing it right now. It's the basis of virtually all media.

In the traditional media model, a publisher provides a product free (or nearly free) to consumers, and advertisers pay to ride along. Radio is "free to air," and so is much of television. Likewise, newspaper and magazine publishers don't charge readers anything close to the actual cost of creating, printing, and distributing their products. They're not selling papers and magazines to readers, they're selling readers to advertisers. It's a three-way market.

In a sense, what the Web represents is the extension of the media business model to industries of all sorts. This is not simply the notion that advertising will pay for everything. There are dozens of ways that media companies make money around free content, from selling information about consumers to brand licensing, "value-added" subscriptions, and direct ecommerce (see How-To Wiki for a complete list). Now an entire ecosystem of Web companies is growing up around the same set of models.

A TAXONOMY OF FREE

Between new ways companies have found to subsidize products and the falling cost of doing business in a digital age, the opportunities to adopt a free business model of some sort have never been greater. But which one? And how many are there? Probably hundreds, but the priceless economy can be broken down into six broad categories:

· **"Freemium"**
What's free: Web software and services, some content. Free to whom: users of the basic version.

This term, coined by venture capitalist Fred Wilson, is the basis of the subscription model of media and is one of the most common Web business models. It can take a range of forms: varying tiers of content, from free to expensive, or a premium "pro" version of some site or software with more features than the free version (think Flickr and the $25-a-year Flickr Pro).

Again, this sounds familiar. Isn't it just the free sample model found everywhere from perfume counters to street corners? Yes, but with a pretty significant twist. The traditional free sample is the promotional candy bar handout or the diapers mailed to a new mother. Since these samples have real costs, the manufacturer gives away only a tiny quantity — hoping to hook consumers and stimulate demand for many more.

Photo Illustration: Jeff Mermelstein

But for digital products, this ratio of free to paid is reversed. A typical online site follows the 1 Percent Rule — 1 percent of users support all the rest. In the freemium model, that means for every user who pays for the premium version of the site, 99 others get the basic free version. The reason this works is that the cost of serving the 99 percent is close enough to zero to call it nothing.

· **Advertising**
What's free: content, services, software, and more. Free to whom: everyone.

Broadcast commercials and print display ads have given way to a blizzard of new Web-based ad formats: Yahoo's pay-per-pageview banners, Google's pay-per-click text ads, Amazon's pay-per-transaction "affiliate ads," and site sponsorships were just the start. Then came the next wave: paid inclusion in search results, paid listing in information services, and lead generation, where a third party pays for the names of people interested in a certain subject. Now companies are trying everything from product placement (PayPerPost) to pay-per-connection on social networks like Facebook. All of these approaches are based on the principle that free offerings build audiences with distinct interests and expressed needs that advertisers will pay to reach.

· **Cross-subsidies**
What's free: any product that entices you to pay for something else. Free to whom: everyone willing to pay eventually, one way or another.

Scenario 3: It's a free second-gen Wiii! But only if you buy the deluxe version of Rock Band.

When Wal-Mart charges $15 for a new hit DVD, it's a loss leader. The company is offering the DVD below cost to lure you into the store, where it hopes to sell you a washing machine at a profit. Expensive wine subsidizes food in a restaurant, and the original "free lunch" was a gratis meal for anyone who ordered at least one beer in San Francisco saloons in the late 1800s. In any package of products and services, from banking to mobile calling plans, the price of each individual component is often determined by psychology, not cost. Your cell phone company may not make money on your monthly minutes — it keeps that fee low because it knows that's the first thing you look at when picking a carrier — but your monthly voicemail fee is pure profit.

On a busy corner in São Paulo, Brazil, street vendors pitch the latest "tecnobrega" CDs, including one by a hot band called Banda Calypso. Like CDs from most street vendors, these did not come from a record label. But neither are they illicit. They came directly from the band. Calypso distributes masters of its CDs and CD liner art to street vendor networks in towns it plans to tour, with full agreement that the vendors will copy the CDs, sell them, and keep all the money. That's OK, because selling discs isn't Calypso's main source of income. The band is really in the performance business — and business is good. Traveling from town to town this way, preceded by a wave of supercheap CDs, Calypso has filled its shows and paid for a private jet.

The vendors generate literal street cred in each town Calypso visits, and its omnipresence in the urban soundscape means that it gets huge crowds to its rave/dj/concert events. Free music is just publicity for a far more lucrative tour business. Nobody thinks of this as piracy.

· Zero marginal cost
What's free: things that can be distributed without an appreciable cost to anyone. Free to whom: everyone.

This describes nothing so well as online music. Between digital reproduction and peer-to-peer distribution, the real cost of distributing music has truly hit bottom. This is a case where the product has become free because of sheer economic gravity, with or without a business model. That force is so powerful that laws, guilt trips, DRM, and every other barrier to piracy the labels can think of have failed. Some artists give away their music online as a way of marketing concerts, merchandise, licensing, and other paid fare. But others have simply accepted that, for them, music is not a moneymaking business. It's something they do for other reasons, from fun to creative expression. Which, of course, has always been true for most musicians anyway.

· Labor exchange
What's free: Web sites and services. Free to whom: all users, since the act of using these sites and services actually creates something of value.

You can get free porn if you solve a few captchas, those scrambled text boxes used to block bots. What you're actually doing is giving answers to a bot used by spammers to gain access to other sites — which is worth more to them than the bandwidth you'll consume browsing images. Likewise for rating stories on Digg, voting on Yahoo Answers, or using Google's 411 service (see "How Can Directory Assistance Be Free?"). In each case, the act of using the service creates something of value, either improving the service itself or creating information that can be useful somewhere else.

· Gift economy
What's free: the whole enchilada, be it open source software or user-generated content. Free to whom: everyone.

From Freecycle (free secondhand goods for anyone who will take them away) to Wikipedia, we are discovering that money isn't the only motivator. Altruism has always existed, but the Web gives it a platform where the actions of individuals can have global impact. In a sense, zero-cost distribution has turned sharing into an industry. In the monetary economy it all looks free — indeed, in the monetary economy it looks like unfair competition — but that says more about our shortsighted ways of measuring value than it does about the worth of what's created.

THE ECONOMICS OF ABUNDANCE

Enabled by the miracle of abundance, digital economics has turned traditional economics upside down. Read your college textbook and it's likely to define economics as "the social science of choice under scarcity." The entire field is built on studying trade-offs and how they're made. Milton Friedman himself reminded us time and time again that "there's no such thing as a free lunch.

"But Friedman was wrong in two ways. First, a free lunch doesn't necessarily mean the food is being given away or that you'll pay for it later — it could just mean someone else is picking up the tab. Second, in the digital realm, as we've seen, the main feedstocks of the information economy — storage, processing power, and bandwidth — are getting cheaper by the day. Two of the main scarcity functions of traditional economics — the marginal costs of manufacturing and distribution — are rushing headlong to zip. It's as if the restaurant suddenly didn't have to pay any food or labor costs for that lunch.

Surely economics has something to say about that?

It does. The word is *externalities*, a concept that holds that money is not the only scarcity in the world. Chief among the others are your time and respect, two factors that we've always known about but have only recently been able to measure properly. The "attention economy" and "reputation economy" are too fuzzy to merit an academic department, but there's something real at the heart of both. Thanks to Google, we now have a handy way to convert from reputation (PageRank) to attention (traffic) to money (ads). Anything you can consistently convert to cash is a form of currency itself, and Google plays the role of central banker for these new economies.

There is, presumably, a limited supply of reputation and attention in the world at any point in time. These are the new scarcities — and the world of free exists mostly to acquire these valuable assets for the sake of a business model to be identified later. Free shifts the economy from a focus on only that which can be quantified in dollars and cents to a more realistic accounting of *all* the things we truly value today.

-people become most expensive thing - which has been tried

FREE CHANGES EVERYTHING

Between digital economics and the wholesale embrace of King's Gillette's experiment in price shifting, we are entering an era when free will be seen as the norm, not an anomaly. How big a deal is that? Well, consider this analogy: In 1954, at the dawn of nuclear power, Lewis Strauss, head of the Atomic Energy Commission, promised that we were entering an age when electricity would be "too cheap to meter." Needless to say, that didn't happen, mostly because the risks of nuclear energy hugely increased its costs. But what if he'd been right? What if electricity had in fact become virtually free?The answer is that everything electricity touched — which is to say just about everything — would have been transformed. Rather than balance electricity against other energy sources, we'd use electricity for as many things as we could — we'd waste it, in fact, because it would be too cheap to worry about.

- material thing in abundance

All buildings would be electrically heated, never mind the thermal conversion rate. We'd all be driving electric cars (free electricity would be incentive enough to develop the efficient battery technology to store it). Massive desalination plants would turn seawater into all the freshwater anyone could want, irrigating vast inland swaths and turning deserts into fertile acres, many of them making biofuels as a cheaper store of energy than batteries. Relative to free electrons, fossil fuels would be seen as ludicrously expensive and dirty, and so carbon emissions would plummet. The phrase "global warming" would have never entered the language.

Today it's digital technologies, not electricity, that have become too cheap to meter. It took decades to shake off the assumption that computing was supposed to be rationed for the few, and we're only now starting to liberate bandwidth and storage from the same poverty of imagination. But a generation raised on the free Web is coming of age, and they will find entirely new ways to embrace waste, transforming the world in the process. Because free is what you want — and free, increasingly, is what you're going to get.

Chris Anderson (canderson@wired.com) *is the editor in chief of* Wired *and author of* The Long Tail. *His next book,* FREE, *will be published in 2009 by Hyperion.*

23 Pure Competition

Four Market Models p 467-488

3/4

firm's decision on Price + quantity depend on the industry
4 basic models or structures
- # of firms
- if produce standardized or different products
- ease of entering industry
- price takers or setters — advertise?

memorize chart p 468

1. Pure competition
   - large # of firms
   - standardized product (corn, etc)
   - easy entry

2. Pure monopoly
   - 1 firm supplies all of product
   - entry blocked
   - electricity only comes from PECO

imperfect competition

3. Monopolistic competition
   - large # of sellers
   - many product variants
   - try for non-price compition w/ product differentiation

4. Oligopoly
   - few sellers
   - affected by decisions of other producers

Pure Competition ⟷ Monopoly

23 Pure Competition

Characteristics + Occurrences p 468-469

3/4

very large # of independently acting sellers
often large, international markets
farm commodies + stock market are examples
finance market

Standardized product
- perfect substitues identical
- no attempt to differentiate - no advertising
- no non-price compition (advertising)

"price takers"
no firm has significant control over price

free entry + exit
no obstacles - legal, tech, financial, or other

Examples
agricultural
foreign exchange for $
seafood

Simplest to talk about w/ revenue + cost concepts from Chap 22

Gives a standard real world can be compared w/

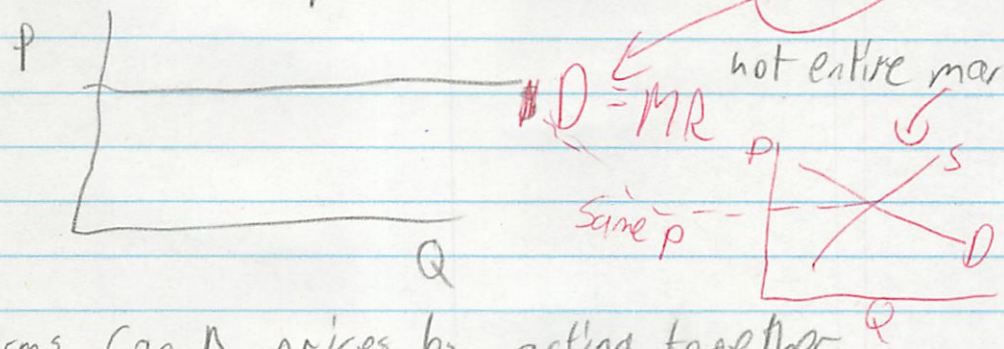
23/ Pure Competition

Demand

3/4

purely competive suppliers have no pricing strategy
- must take what they get

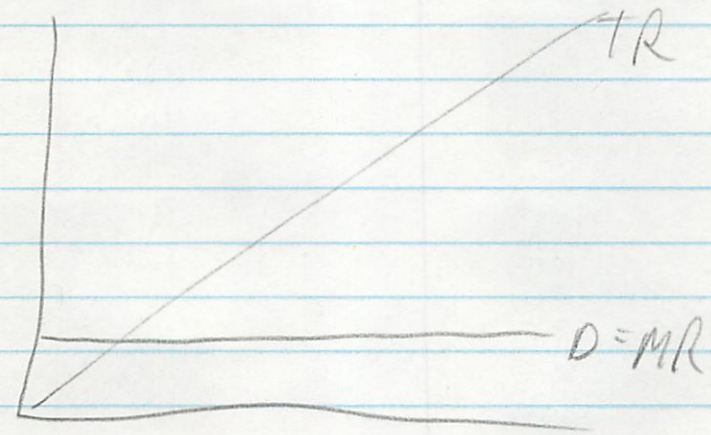
demand curve is perfectly elastic for 1 firm



firms can Δ prices by acting together

Marginal revenue is always the same
- and always equals price

Demand + MR curve also equal



23 Pure Competition

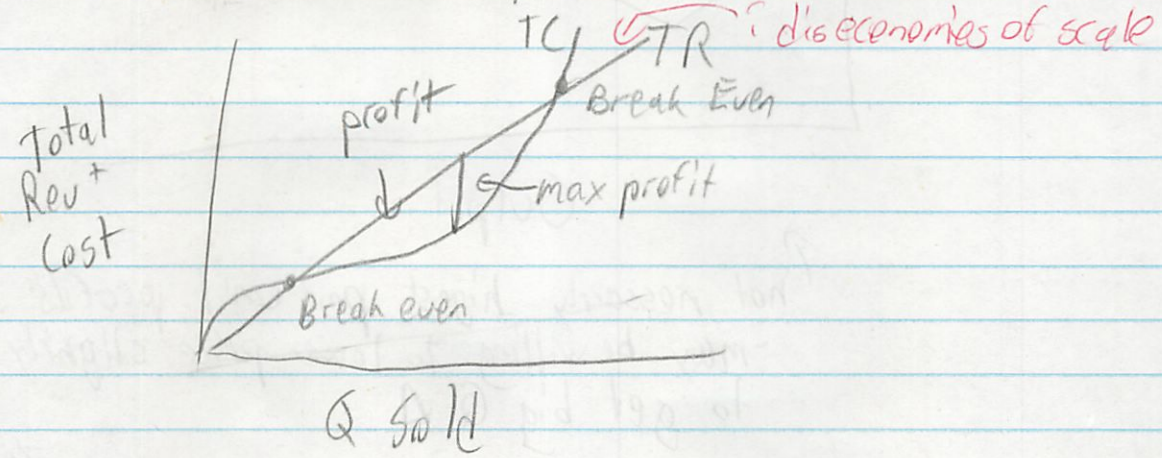
Short-Run Profit Maximization 471-477 3/4

Purly competitive firms can only Δ economic profit by changing output
- and in short run has fixed plant - so can only adjust variable resources
  - diff b/w total revenue + total cost

Total-Revenue-Total Cost Approach - Profit Maximization

1. Should we produce
2. If so, what amt
3. What profit or loss do we realize?

So look at total cost of producing
- can we make a profit?
- then look at optimal Q ← profit-maximizing case
  - largest diff b/w revenue + cost



Marginal Revenue - Marginal Cost Approach

MR > MC so the firm would make $
in inital phase MR > MC so will be produced until MR = MC ← profit maximization rule

3 rules

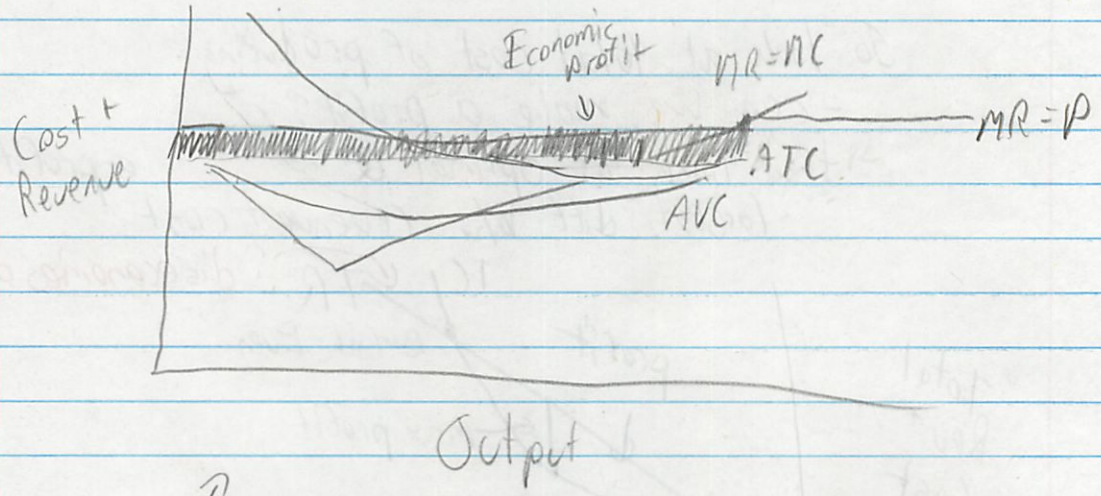
3 characteristics

1. Firm chooses to produce instead of shut-down, MR ≥ MC or firm will shut down
2. True for all types of firms
3. Under Pure Competion Price = MR
   - so shoud produce where P = MC

Find ATC and then MC - this should = MR (price) for the greatest profit

↑ Economic profit = TR − TC

↑ or profit per unit • Q ← may round differently



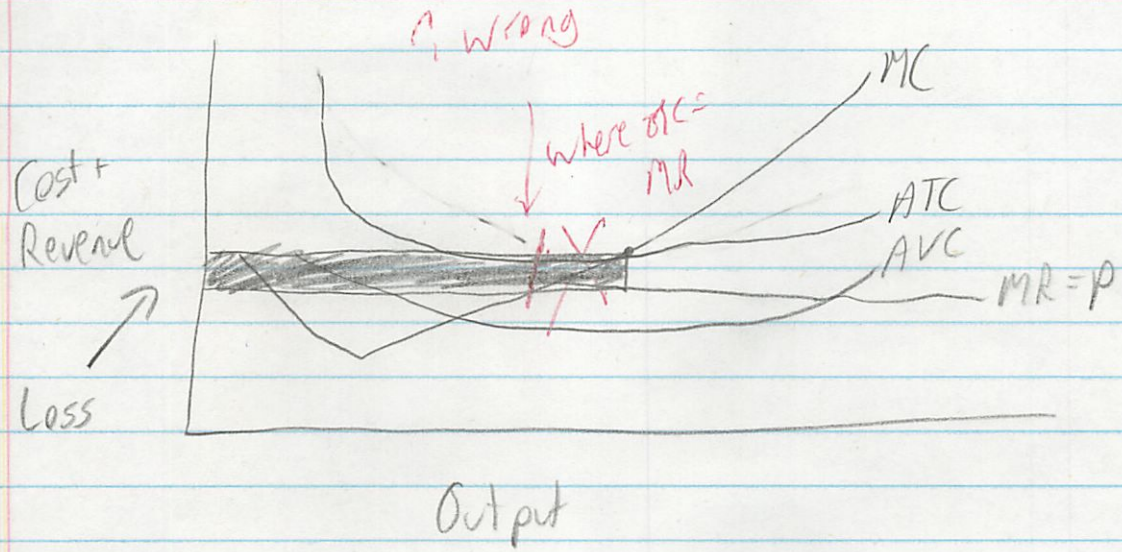
↑ not nessarily higest per unit profits
- may be willing to lower price slightly to get big Q Δ

see shutdown case

Loss Minimizing

- if price ↓, firm wants to produce (if at all) at point where loss will be the lowest

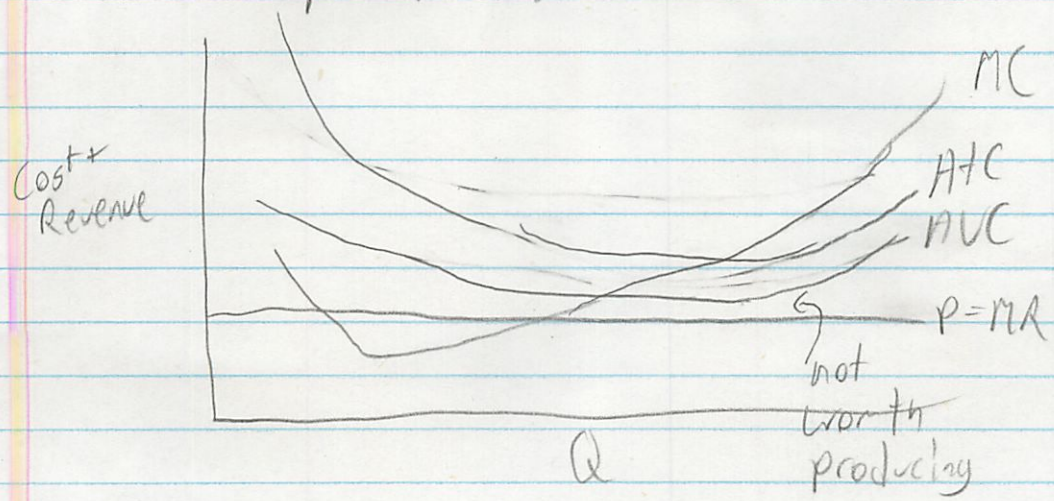
(producers should compare MR with the rising portion of MC curve)



In this example the loss < fixed cost meaning firm should stay in business (unless can rid itself of fixed cost)
↑ which it can't b/c it is fixed!

Shut Down Case

If the price is even lower - might not be worth producing at all
* Variable cost > price means always shut down
* will shut down if price < minimum variable cost
"cheaper" to lose $100



 Michael Plasmeier ✓ 5 3/2

ACTIVITY 31

Costs of the Individual Firm

Part A.

Fill in the blanks and answer the questions.

1. M.I. Fortunate was employed as plant manager for a corporation at a salary of $50,000 a year, and she had savings of $100,000 invested in securities that yielded an eight percent annual income. She went into business for herself, investing all her savings in the enterprise. At the end of the first year, her accounts showed a net income of $55,000 after all expenses of operation. One accountant said this accounting profit represented a 55 percent return on her $100,000 investment. Another accountant, who had taken introductory microeconomics, said, "No, you should pay yourself the $50,000 salary you would have earned anyway, and your accounting profit of $5,000 represents a return of five percent on your investment of $100,000." A serious student of introductory microeconomics, however, should say, "No, your true economic profit from going into business for yourself is $ _____, and this is a return of _____ percent." Was M.I. Fortunate, fortunate? Yes or No and why?

   See paper

2. The table *Aggregate and Unit Cost Structure* on the following page shows a comprehensive set of cost data for a firm, with a given plant, at various levels of output. Study this table to understand how it is set up.

   Marginal cost is the *additional* cost of producing an *additional* unit of output ($\Delta C/\Delta Q$). If producing an additional 100 units of output adds $700 to total cost, the marginal cost per unit is $700/100 = $7.00, etc. Note that in the table the "marginal" changes are located between output levels.

   After you have filled in the blanks in the table, finish plotting the aggregate cost data for fixed cost, variable cost, and total cost (*not* change in total cost) on the *Graph of Aggregate Cost Data* provided on page 113. Also, finish plotting the unit cost data for FC/Q, VC/Q, TC/Q and $\Delta TC/\Delta Q$ on the *Graph of Unit Cost Data* provided on page 114. Note that marginal cost ($\Delta TC/\Delta Q$) is plotted midway between the levels of output given in first column of the table *Aggregate and Unit Cost Structure.*

3. After you have finished plotting, answer the eight questions that follow in Part B.

ACTIVITY 31 continued

Aggregate and Unit Cost Structure

Aggregate Cost Data					Unit Cost Data				
Quantity of Output	Fixed Cost (FC)	Variable Cost (VC)	Total Cost (TC)	Change in Total Cost (ΔTC)	Average Fixed Cost FC/Q	Average Variable Cost VC/Q	Average Total Cost TC/Q	Marginal Cost ΔTC/ΔQ	Plot MC at Output
0	$500	$0	$500		XXX	XXX	XXX	XXX	
				$700				$7.00	50
100	500	700	1200		$5.00	$7.00	$12.00		
				600				6.00	150
200	500	1300	1800		2.50	6.50	9.00		
				500				5.00	250
300	500	1800	2300		1.67	6.00	7.67		
				700				7.00	350
400	500	2500	3000		1.25	6.25	7.50		
				800				8.00	450
500	500	3300	3800		1	6.60	7.60		
				1000				10.00	550
600	500	4300	4800		.83	7.17	8.00		
				1200				12.00	650
700	500	5500	6000		.71	7.86	8.57		

1000/100

Part B.

Plot the appropriate data from the table on the graphs *Aggregate Cost Data* and *Unit Cost Data* on pages 113 and 114 before answering the eight questions that follow.

1. How is marginal cost (ΔTC/ΔQ) represented in your graph *Aggregate Cost Data*?

   Variable costs first increase at decreasing amounts - then increase by increasing amounts

2. On your graph *Unit Cost Data,* total cost per unit (TC/Q or average total cost) is at a minimum at an output level of 400 units.

3. On your graph *Unit Cost Data,* variable cost per unit (VC/Q or average variable cost) is at a minimum at an output level of 300 units.

4. On your graph *Unit Cost Data,* what is the relation between marginal cost (ΔTC/ΔQ) and average total cost (TC/Q) when average total cost is at its minimum?

   They are at the same point

5. On your graph what is the relation between marginal cost (ΔTC/ΔQ) and average variable cost (VC/Q) when average variable cost is at its minimum?

   They are at the same point

6. Explain why marginal cost on a unit cost graph always intersects average total cost and average variable cost at their minimum points.

   When MC added to TC is less than ATC - MC will fall

   When MC > ATC, ATC ↑

   intersection where MC = ATC - that's why ATC is minimum

ACTIVITY 31 continued

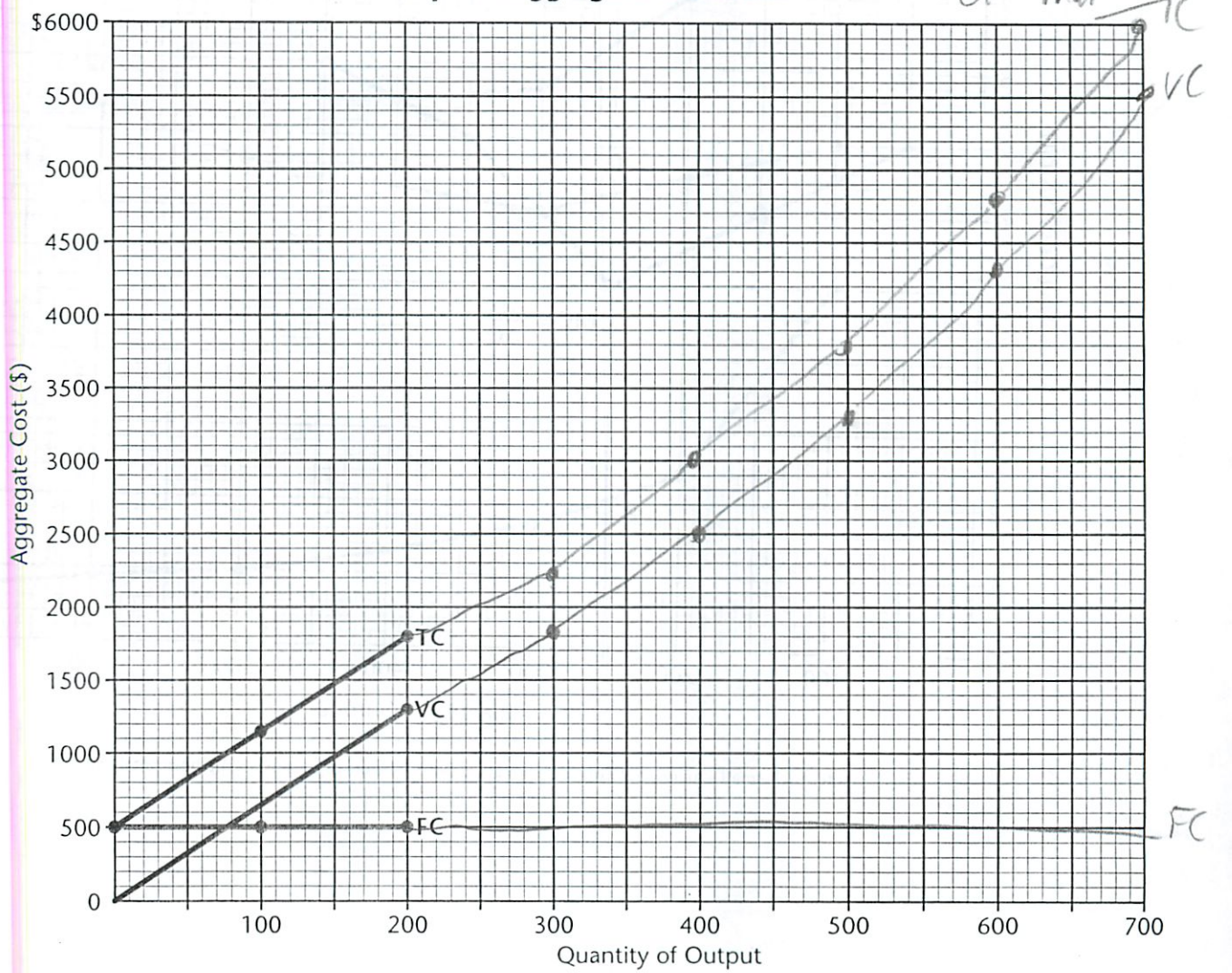
7. On your graph *Unit Cost Data,* what does the vertical distance between the TC/Q curve and VC/Q curve represent?

The Fixed Cost

8. Explain why fixed cost has no influence on marginal cost.

Since MC is only the cost of the extra unit - ones that change w/ output. Fixed is independent of that

Graph of Aggregate Cost Data

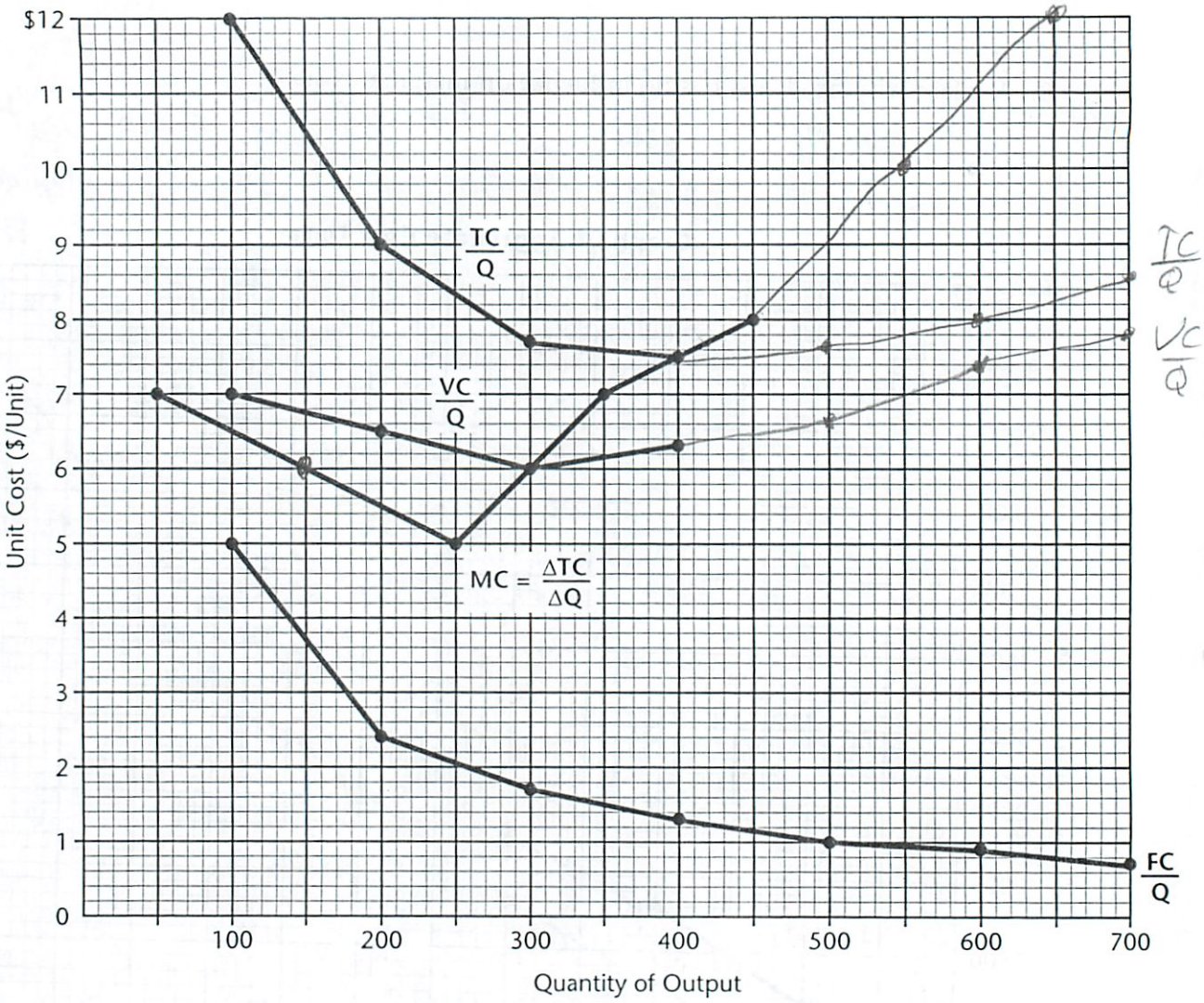


Note: Each small square = $100 on the vertical axis and 10 units of output on the horizontal axis.

ACTIVITY 31 continued

Graph of Unit Cost Data

Marginal cost (ΔTC/ΔQ) is plotted between the output levels shown in the table *Aggregate and Unit Cost Structure* on page 112.



Note: Each small square = $.20 on the vertical axis and 10 units of output on the horizontal axis.

Act 31 Michael Plasmeier

Cost of Individual Firms

2/28

1. M. I. Fortunate
   Invested $100,000
   ↑ was before earning 8%/year
   Net income = $55,000 ~ year

   -so $55,000 return (55%)? ↓implicit cost
   or $5,000 return (5%) to cover normal salery

   * but $100,000 @ 8% would have made $8,000
   -so she lost $3,000 (-3%)

   $100,000 not a cost - could sell business to get that back

Something Else → Hypotetical Company

20% ← accounting profit / total profit
8% ← profit all businesses can make "normal profit"
12% ← economic profit

Costs

Activity #14

Producing the "Midi"

Pure Competition

Teams

Michael Plasmeier 3/5

Pick a partner. Person "A" does the odd numbers, while person "B" coaches. Then "B" does the even numbers while "A" coaches.

You are in charge of an automobile plant making a sports car called the "Midi." Your engineering department estimates your costs of production at:

Quantity (# of cars)	Marginal Costs
5,000	$8,000
5,500	8,500
6,000	9,000
6,500	10,000
7,000	12,000

You are told that you can sell up to 10,000 cars a month at a price of $10,000 each. 100,000,000

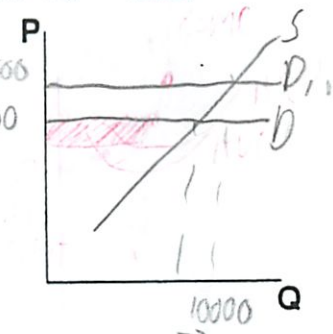
1. What is your marginal revenue per car? $ 10,000

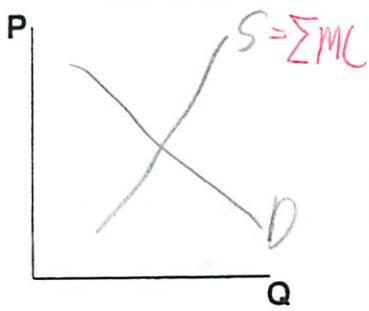
2. By increasing your production from 5,000 cars per month to 5,001 cars, would you increase your profits? Yes to 6,000 cars? Yes to 6,500 cars? Yes to 7,000 cars? No

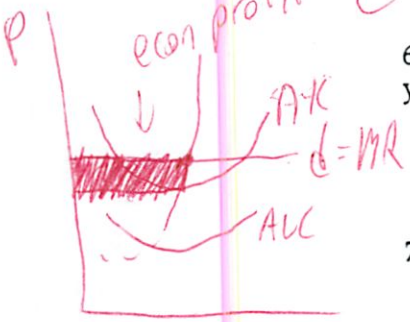
3. The rule for profit maximization is to produce the quantity of cars where marginal revenue equals marginal costs. or minimize loss

4. Why do marginal costs increase?
Law of diminishing returns - MC increases as resources grow scarce

5. What would you do if the demand for these cars increased so that could sell them for $10,500? (Show graphically for the Midi market and for car market as a whole.)



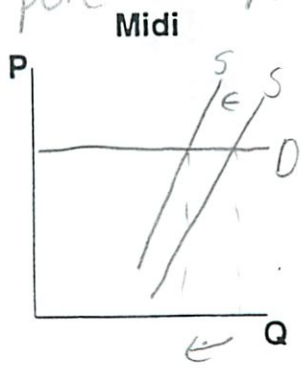


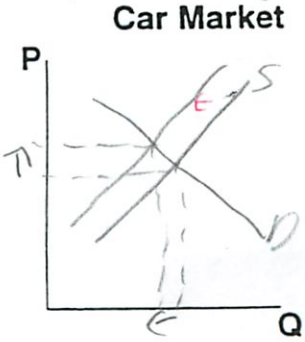


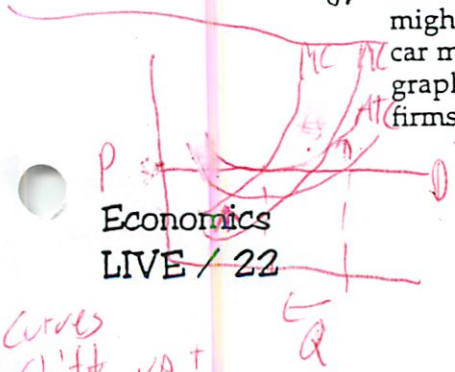
6. What if your workers gain an increase in their wages? What would happen to your average costs? What would happen to your level of production?
Costs would increase b/c paying workers more
Production would ↓

7. Given your higher wage bill, why might you not be able to increase price?
Since it is a pure competition market we are price takers

8. On the other hand, why might the price in the entire car market rise? Show graphically, assuming all firms face increased wages.







Curves shift up + down

Michael Plasmeier

Costs & Profit 3/10

Activity #17

The Sagetax Company

The Sagetax Company is a small corporation that has an office with a computer and other office equipment. A secretary handles correspondence, answers the phone, schedules appointments and does general office work. The company's fixed costs are items such as office space, office equipment and the secretary's services. The fixed costs are $288 per week. The variable cost is the number of hours worked by the owners. Each owner's time is valued at $8 per hour.

Tax returns per week (Q)	Owners Time	TFC	TVC	TC	MC	AFC	AVC	ATC	TR	Profit
0	0	288	0	288		—	0	—	0	
					48					
10	6	288	48	336		28.8	4.8	33.6	100	-236
					32					
20	10	288	80	368		14.4	4	18.4	200	-168
					24					
30	13	288	104	392		9.6	3.5	13.07	300	-92
					32					
40	17	288	136	424		7.2	3.4	10.6	400	-24
					56					
50	24	288	192	480		5.8	3.84	9.6	500	20
					96					
60	36	288	288	576		4.8	4.8	9.6	600	24
					152					
70	55	288	440	728		4.1	6.29	10.4	700	-28
					224					
80	83	288	664	952		3.6	8.3	11.9	800	-152

Teams

Step 1

Individually solve the problem above, filling in the blank spaces. Remember that $MC = \Delta TC / \Delta Q$

Step 2

Meet as a team to share your results. Correct any errors.

Step 3

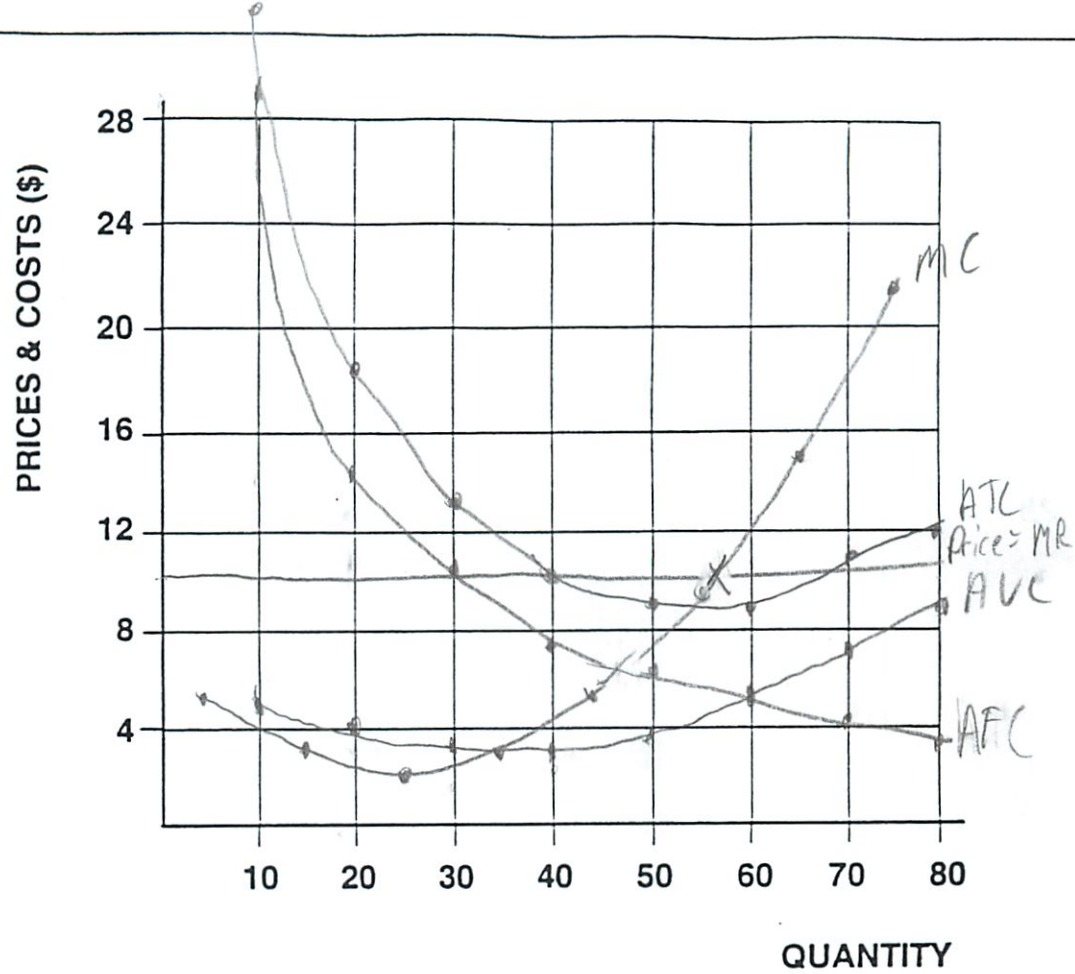
In the space on the following page, graph MC, AFC and ATC.

Explain why AFC falls and MC turns upwards.

Cost is distributed more

MC turns up b/c law of diminishing returns

continued



Step 4
Assume that Sagetax is a price taker and can sell all it wants at a price of $10. Add a column for total revenue to the table, and fill in the total revenue for each Q.

Step 5
Add P=MR line to your graph above, and find the profit-maximizing level of output.

56 tax returns
Where MC = MR

Step 6
Add a column for **Profit** for each Q on the table (TR - TC = Total Profit). What are the profits for the level of output you chose in Step 5. Is it the same as your answer to step 4?

(If the Q is in between two numbers, you can find TC from the formula TC = Q x ATC that output.)

My #: TC = 96.56 = 537.6) TR = 22.4
TR = 10 · 56 = 566

Step 7
Is Sagetax earning a normal profit, an economic profit or an economic loss? How can you tell?

He is of course earning a normal profit - which is included in cost.
He is also earning a small (22.4) econ profit

Step 8
Will there be entry or exit of firms in this industry?

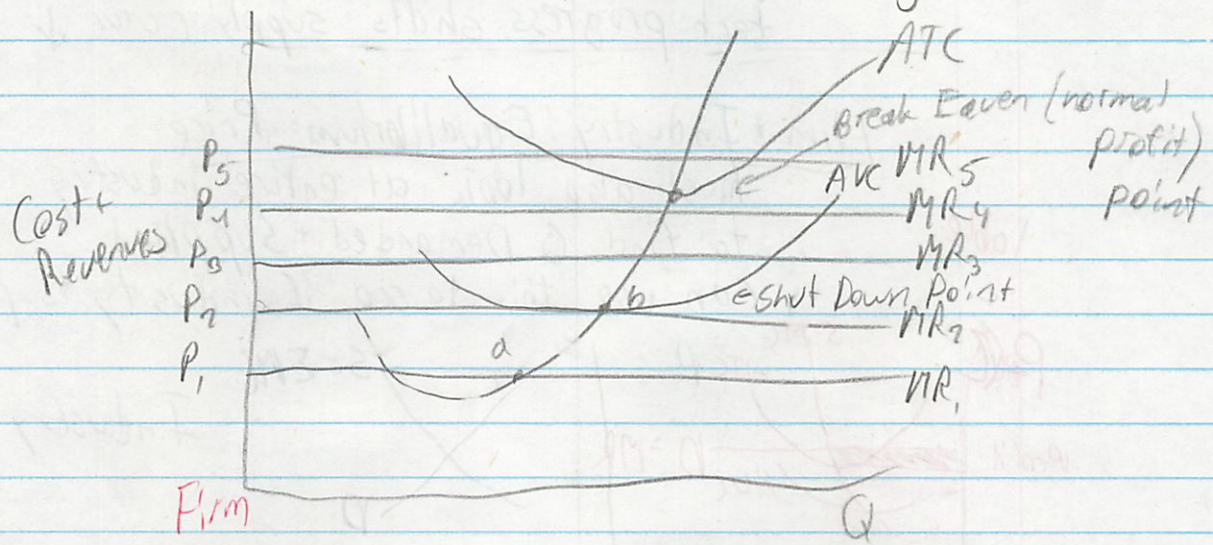
Firms may enter the industry b/c they can make a small econ profit.

23/ Pure Competition

Marginal Cost + Short Run Supply

3/6

cost schedule can be put in a chart + graphed



normal profit = just enough to remain a farmer

TC = ATC · Q

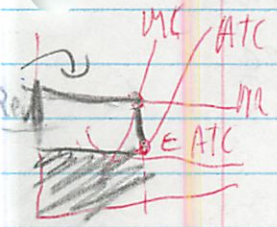
P_1 = Below AVC - won't operate

P_2 = Equals AVC - would lose fixed costs
Indifferent about producing or shutting down

P_3 = Can minimize short run losses w/ MR = P = MC

P_4 = Will just break even (w/ normal profits only)
Total Revenue just = Total Cost

P_5 = Will also realize an economic profit



↖ white space = economic profit

* Portion of firms' marginal cost curve lying above AVC is the short run supply curve

Because of the law of diminishing supply - firm would have to get higer prices to get it to produce more

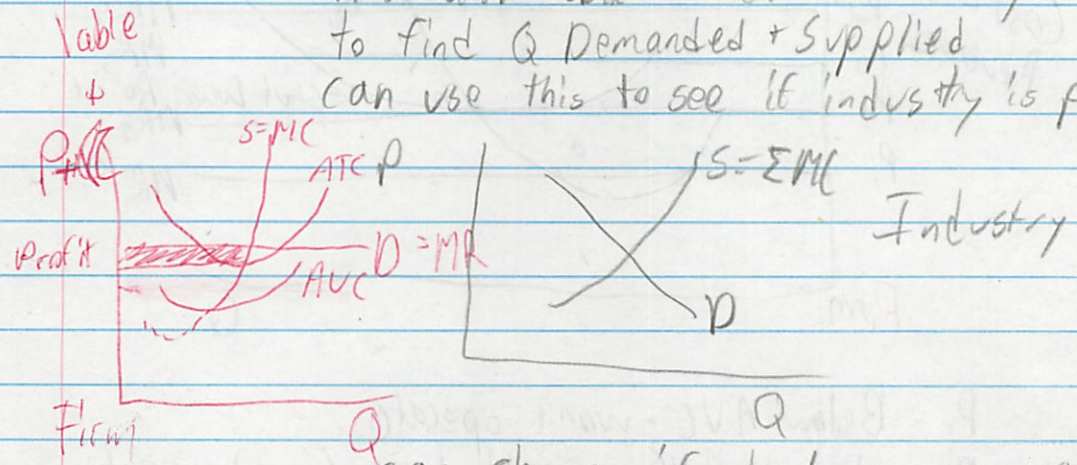
Higer prices (MR) encourage competitive firms to ↑ output

Supply Curve Shifts

wage increase would shift supply curve ↑
tech progress shifts supply curve ↓

Firm + Industry: Equallibrium Price

must also look at entire industry
to find Q Demanded + Supplied
can use this to see if industry is profitable



can change if shortage or surplus,
change in cost or consumer demand

Firm vs Industry

product price is a fact for 1 firm -
but supply plans of a group determins price

23 Pure Competition

Profit Maximization in Long Run 481-485 3/6

In the long run firms can change their factories

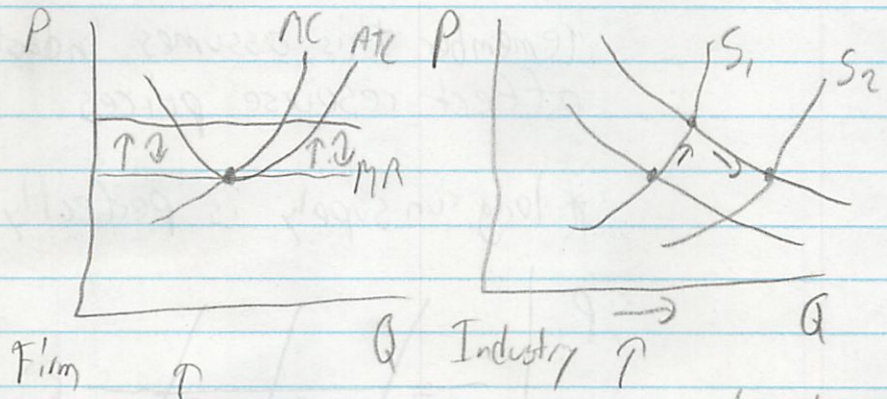
Assumptions
1. Firms can only enter + exit market
2. All firms have same cost curves
3. Constant Cost - entry or exit from industry does not Δ prices

* After all long-run adjustments are made - product price will be equal to and production will occur at minimum ATC *

1. Firms seek profits + shun losses
2. Under pressure - Firms can enter + leave industries

- If prices initally exceed ATC - more people will enter industry. This expansion will increase supply until price is brought back down to = ATC.
- If prices below ATC - losses drive suppliers out of industry - raising prices up to = ATC

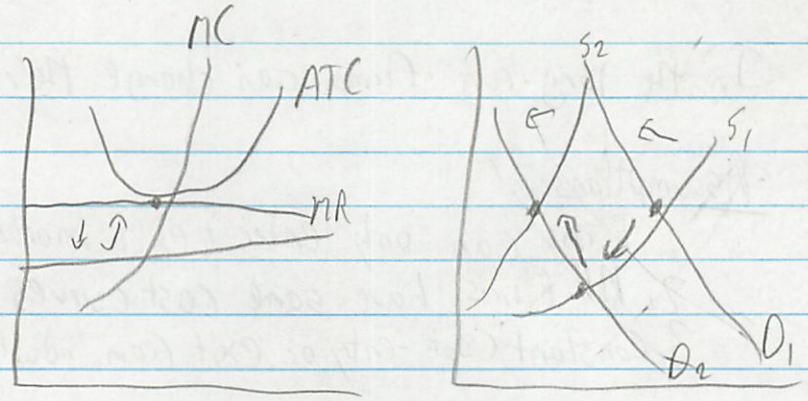
Entry Removes Economic Profit



Profits there for short time - then gone

Price restored, but ↑ in supply

Exit
Cuts
Losses



Firm Industry

↑ goes back to long run equilibrium

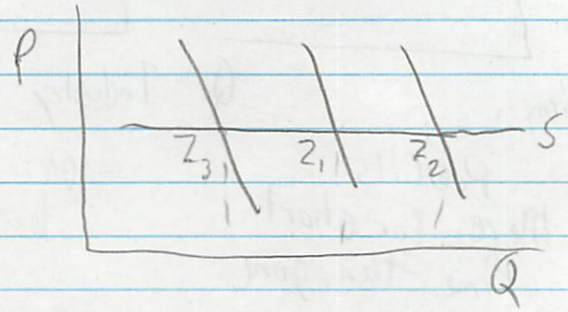
in real world - not all firms have same costs
those with bad entprenures have higer costs

Long Run Supply for Cost Constant Industry

any changes in # of firms affects
Cost of individual firm in the industry

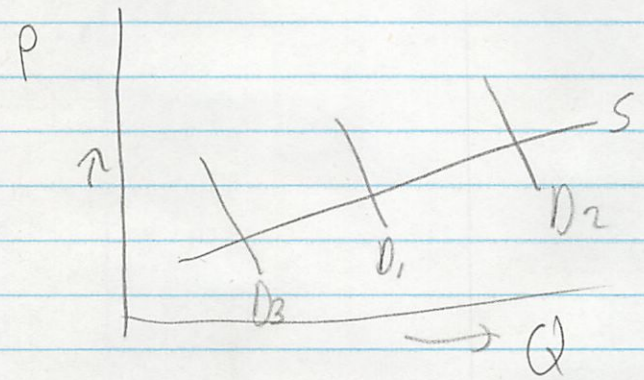
remember this assumes industry can not
affect resourse prices

* long run supply is perfectly elastic



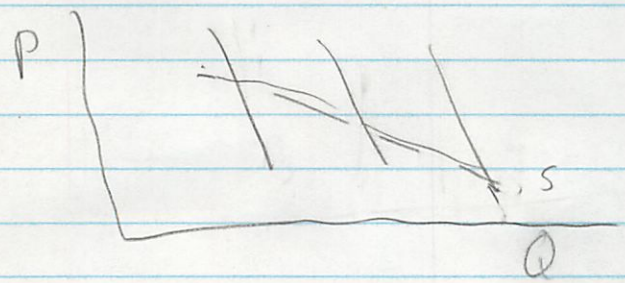
Long Run Supply for Increasing Cost Industry

most industries
Costs increase w/ more firms
more competitors = higer ATC for each firm
2 way squize on industries with profit
Industry produces larger output at higer prices



Long-Run Supply for Decreasing-Cost Industry

lower costs as industry expands
-for example more mines in an area lower pumping costs for all of them

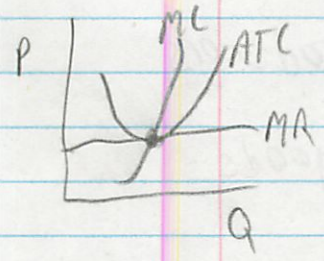


23/ Pure Competition

Pure Competition + Efficiency 3/8
485-490

With both constant cost + increasing cost all have same efficency charastics

price (and MR) will settle to minimum ATC and also MC = minimum ATC



* P = MR = MC = minimum ATC

↑ firm can only earn normal profit in long run
* so most efficently uses scarse resources

Productive Efficency
P = min ATC no waste
goods are produced in least costly way
firms must minimize costs to stay competitive
good for consumer
consumers also pay lowest price possible

Allocative Efficency
P = MC
making what society wants "right goods"
price of a product is society's measure of the realitive worth of an addiortal unit of that good (marginal benifit)
marginal cost is society's sacritice of producing something else to produce that good

Underallocation P > MC
if a firm does not make enough
society values this good more then what was given up to make it
retailer could make more by selling more

Overallocation (P<MC)

there would be a loss b/c cost would be higer than the price

producers would scale back

Efficient Allocation

- in pure competition rational producers will produce just enagh

would be the right sacrifice of goods

Dynamic Adjustments

- market can automattically correct itself if there is a change in consumer preference
- if people want more → price goes up - more producers will increse production - causing prices to fall back
- if resourse prices ↑, businesses will reallocate reserves to maximize profits

Invisible Hand

this shows the invisable hand of self-interest not only maximizes private profits but is most efficent allocation for society

Qualifications

Market failure → Spillover + Public Goods

producers pay only costs have to pay

will polute environment to save cost

some benifits (like schooling) are long-term

MR and MC must include all costs + benifits

→

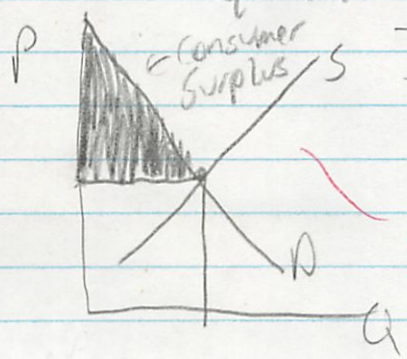
also market won't pay for pubic goods which people can not be excluded from
- national parks
- roads
- defense

Economies of Scale
we assume all producers working at optimal size
but in certain markets need tech
so drives out small scale producers

Tech Advance
might not foster tech advance
not much drive for R+D
Small scale firms don't see long-term
- will be revisited later

Range of Consumer Choice
standardation might not produce range of products to help consumers fulfil their preferences

LAST WORD: Pure Competition: Consumer Surplus
- consumers obtain more total satifaction than total expenditures most of the time
- since some consumers willing to pay more than equlibrium



- equal to sum of each person's surplus
- largest amt of surplus of the market types since the price = lowest cost

Consumers get to keep

24/ Pure Monopoly

Introduction
483-485

3/8

pure monopoly = Single producer is the sole producer
no close subsitutes

Single seller - one firm industry
no close subsitutes - product = unique
- no alternative but to do without it
"Price maker" - controls price by Δ supply
Blocked entry - economic, techlogical, legal or other
totally blocked
Nonprice compition - no need to advertise since
they are the only ones selling
- however may advertise to increase demand
- like a luxery seller
- utilities no need to advertise
- I think, still advertise
- is it to avoid regulation

Other people want a piece of a monopoly

Examples
- gas + electric
- water
- cable TV
- telephone

} public utilities

- are some substitutes - like candles for electricity - but unappealing
- De Beers diamonds controls 70% of market
- US manufacturing monopolies short lived
- sport teams in a city
- in small towns often 1 book store

5 or 6% of output conducted by monopolies

Peco advertises

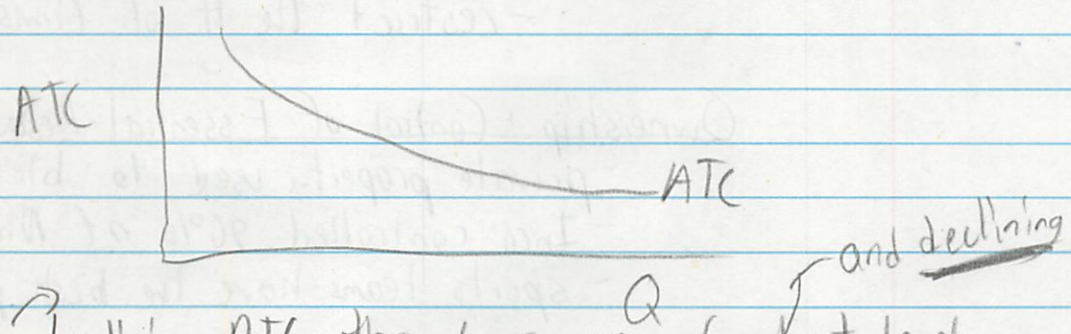
- ? to build PR
- to stop regulation
- Point out good in
- spend extra $ community

24/ Pure Monopoly

Barriers to Entry 495-498 3/8

strong barriers block all competition
barries a bit weaker = oligopoly
less barriers = monopoliot competion
no barriers = pure competition

Economies of Scale
- tech in some industries means production only effective if large both absolutly + relative to market
- low prices can only be acheived if only 1 firm produces



and declining

declining ATC through range of output levels
- if demand within output range - demand can be satisified if 1 producer (at lowest cost)
- economies of scale is an entry barrier
- firms could try to start very big, but that would be very expensive + risky
↑ this is a natural monopoly
- but monopolies don't charge the lowest prices or cost - but as much as they can get away with
  - so gov. regulates them
- duplicating resources to create a second firm would waste society's scarse resources
- often regulated by gov which grants franchises

→

Legal Barriers to Entry

Patents

- exclusive right to use an invention
  - protection againts rivals who didn't pay R+D costs
  - last 20 years
  - figured in the rise of many recent businesses
  - can be abused - like United Shoe did

Licenses

- FCC requires stations to have a license
  - restrict the # of firms which can participate

Ownership + Control of Essential Resources

- private property used to block rivals
- Inco controlled 90% of Nickle reserves
- sports teams have the best players signed up

Pricing + Strategic Barriers

- monopoly may slash prices to keep competitors out
- can build surpluses to warn other firms from entering industries

Implications

Rarity - new technology may reduce power of monopolies
- email challenges postal service
- competition from foreign companies

* monopolies stay in power b/c gov. help

Desirability - can be desirable or not from efficiency POV
- allow it to reach lowest price competition
- but need to limit the prices it may charge
- but when patents + entry limiting methods used may be inefficent

24 Pure Monopoly

Monopoly Demand

498-500

3/11

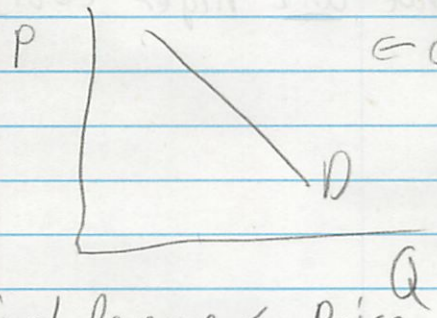
3 Assumptions

1. Status secured by patents, econs of scale or resource ownership.
2. Not regulated by gov
3. Single price - for all units of output

won't charge higer price to anger seller who paid higer price → ↑ makes a consumer surplus

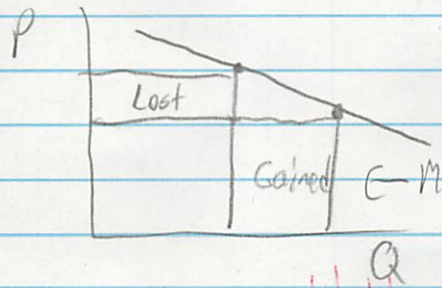
Remember that purly competitive seller faces perfectly elastic demand

Monopolists (and other non competitive industry) is different
Its demand curve is industry's demand curve

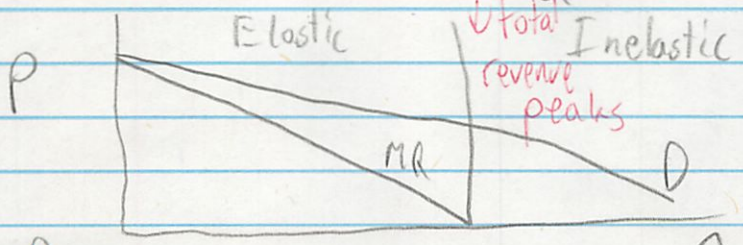


← only 1 curve
firm = industry

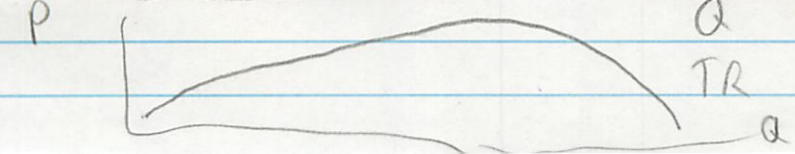
* Marginal Revenue < Price
- can ↑ sales by ↓ price
- so MR ↓ for each level of output



← Marginal revenue ← less than price



↓ total revenue peaks



Price Maker

- in all imperfect competition situations - firms can influence prices (somewhat) through output decisions
- monopoly sets price by setting output
- especially a pure monopoly

Elastic Region of Demand

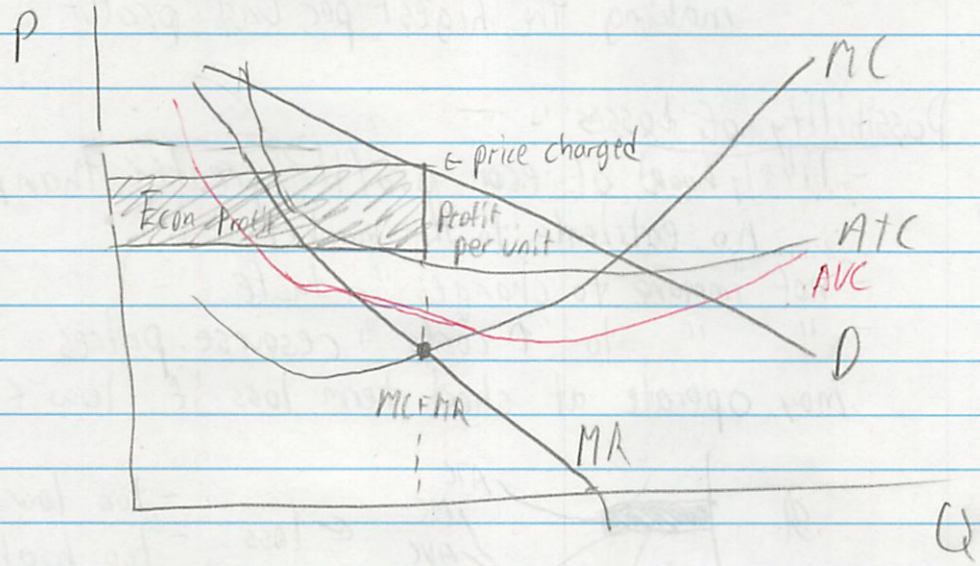
elastic → ↓ in price = ↑ TR
MR is positive
always ignores inelastic region
- less revenue and higer costs

24/ Pure Monopoly

Output + Price Determination 501-504 3/11

Cost data is the same as a pure competition firm
- same resourses + technology

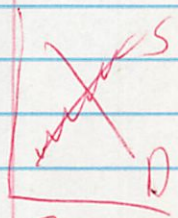
MC = MR
as long as it gets more revenue than cost



wants higest TR

price charged → find MC = MR
find that Q
find where that Q meets Demand curve
- usually exceeds cost → that is econ profit
- could also compare TC + TR → total profit

No supply curve
- no unique relation b/w price + q supplied
- MR ≠ price
- differend demand conditions could bring different prices for same level of output
- no fixed price for an Output level



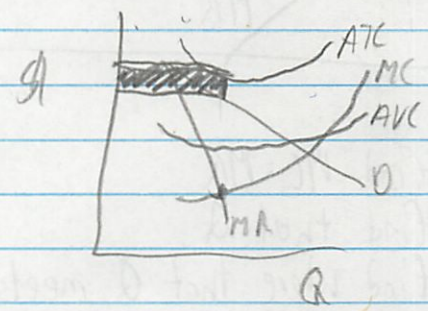
↑ can pick where on demand curve

Misconceptions

Not higest price - looks for higest revenue
would have to give up too much Q
which it can't get back with ↑ prices + ↓ costs
Max total not unit profit - not interested in
making the higest per unit profit

Possibility of Losses

- likelyhood of econ profit greater than pure compition
  - no entrients to the market
- not immune to changes in taste
- " " to ↑ costs + resourse prices
- may operate at short term loss if loss < fixed costs



← loss
- too low demand
- too high costs

- will not stand long term losses
  - will shut down

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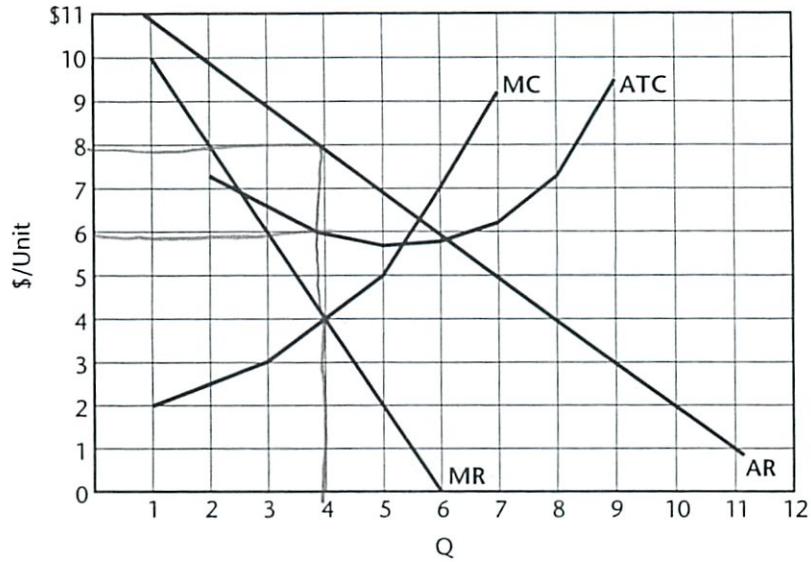
ACTIVITY 39

Monopoly Pricing

Monopoly Pricing



Use the graph *Monopoly Pricing* to answer these questions.

1. What is the maximum profit output? 4
2. What is the price at that output? $8
3. What is revenue per unit at that output? $8
4. What is cost per unit at that output? $6
5. What is total revenue at that output? $32
6. What is total cost at that output? $24
7. What is profit or loss per unit at that output? profit of $2
8. What is total profit or loss at that output? profit of $8
9. At what output and price combination would this firm break even? 6 units at $5.75
10. If this were a perfectly competitive industry (other than the fact that demand would be perfectly elastic), excess profits would exist and new firms would enter the industry. Since this is a monopoly situation and new firms cannot enter the industry, what will happen to these excess profits?

    They make the business man rich + his investors economic profits

11. Based on your answer to question 10, if this monopoly were a government-regulated monopoly and *you* were the government, what restrictions, regulations, or requirements would you place on this company?

    Price caps
    ↑ taxes

Activity #19

The Only Gas Station in Panamint Valley

Teams

Agree not to cheat on the assignment. So, don't look at the graph on the backside of this page until you have finished question 1.

In Panamint Valley, California there is only one gas station for fifty miles. Your group owns the station.

1. What price would you charge? (It costs you $1.50 per gallon to get the gas, which is trucked in a long distance.)

A. lowest price you would suggest: $1.60

B. highest price you would suggest: $3

C. a middle price: $2

2. Now look at the graph on the reverse side. What was the quantity demanded at each of your suggested prices?

Price	Qd
$1.60	2000
$2	600
$3	100

3. Complete the following table for your suggested price:

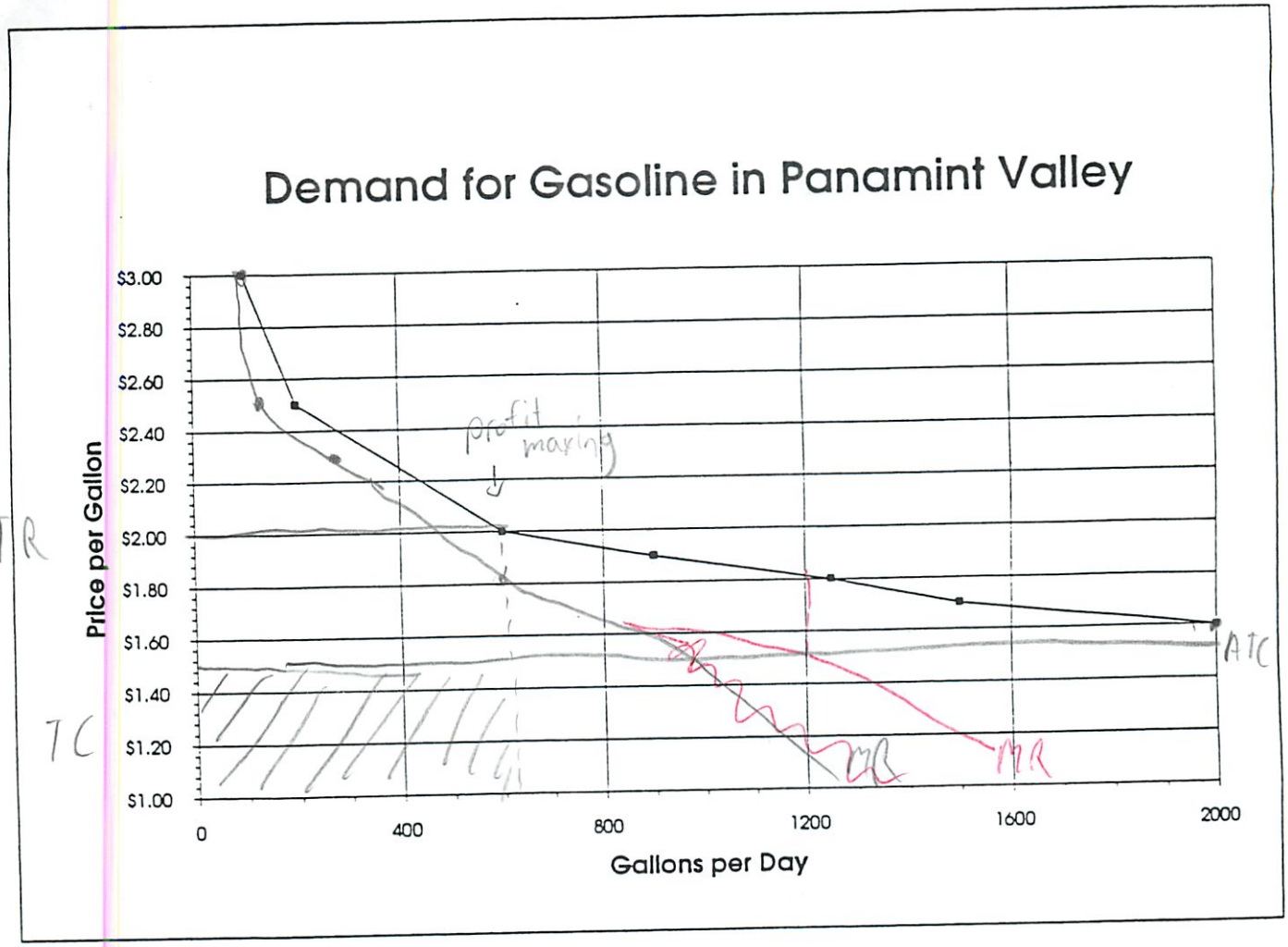
Price	Qd	Total Revenue	Total Cost	Total Profit
$1.60	2000	3200	3000	200
$2	600	1200	900	300
$3	100	300	150	150

4. Given the graph on the next page, can you do better? Pick a price that will maximize profits. ~~$2~~ ~$1.80 - See MR next page

5. Explain why the Panamint Valley gas station will not gain more profit by charging a higher price. Because Q will go ↓ into inelastic range

6. Label the profit-maximizing Q. Graph ATC. (Hint: It will be a straight line.) Shade in TC, TR and profits.

continued



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ACTIVITY 38
Pure Monopoly

Like other producers in a market economy, a pure monopolist tries to maximize profit by producing at an output where marginal cost (MC) equals marginal revenue (MR). For a firm in a competitive market, price and marginal revenue are the same, but for a monopolist, who "sees" the entire market demand curve and who must charge all buyers the same price, marginal revenue is below price. This activity considers the choice of output level by a monopolist.

Part A.

1. The table *Pure Monopoly: Cost and Revenue Data* presents a summary of the relevant cost and revenue data facing a pure monopoly firm. Fill in the blanks in the table.

2. Complete the job of plotting the data for MC, MR, ATC (average total cost), and AR (average revenue) in the graph *Profit-Maximizing Equilibrium for a Monopoly*. Since in this problem output cannot increase by a fraction of a unit, the plotted data should connect the points at the output intervals shown in the table.

Pure Monopoly: Cost and Revenue Data

Quantity of Output	Total Cost	Marginal Cost	Average Total Cost	Total Revenue	Marginal Revenue	Average Revenue (Price) (Demand)	Total Profit
0	$0		$0	$0		$0	0
		$900			$1,200		
1	900		900	1,200		1,200	300
		700			900		
2	1,600		800	2,100		1,050	500
		500			600		
3	2,100		700	2,700		900	600
		300			300		
4	2,400		600	3,000		750	600
		600			0		
5	3,000		600	3,000		600	0
		1,200			-300		
6	4,200		700	2,700		450	-1500

Part B.

After you have completed the table and the graph, answer the questions in Part B by filling in the blanks and shading in the area indicated in question 5. In order to make the mathematics easier, plot marginal revenue and marginal cost at the whole numbers, not between the numbers.

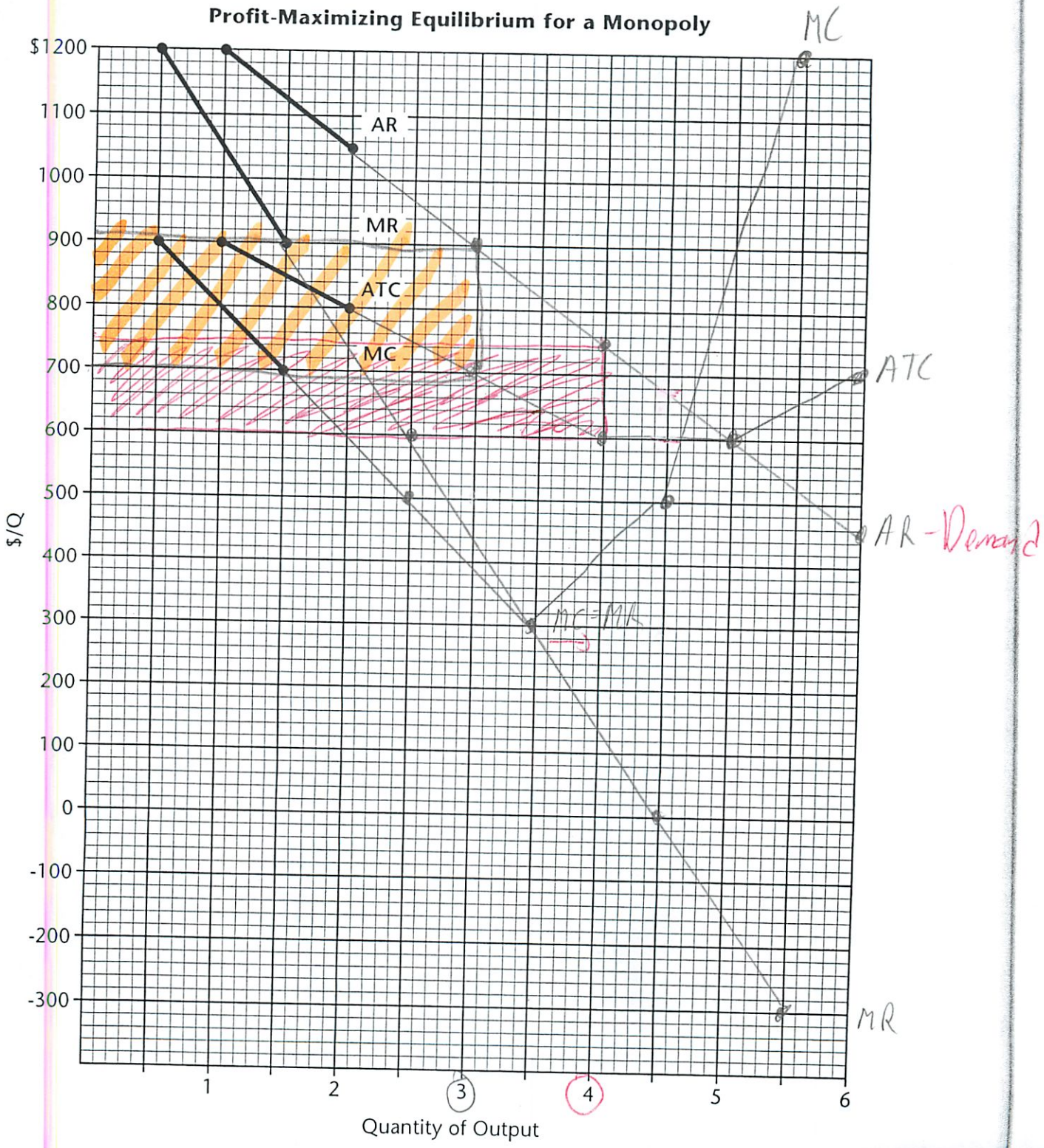
1. A profit-maximizing monopolist would produce an output of ___~~3~~ 4___ units. ← the one it is going to
2. At this level of output, MC is $ ___300___ per unit and MR is $ ___300___ per unit. =
3. At this level of output, the ~~A~~C is $ ___~~800~~ 600___ per unit and the AR (price) is $ ___~~900~~ 750___ per unit.
4. This gives the monopolist an economic profit of $ ___~~200~~ 150___ per unit for a total economic profit of $ ___~~600~~ 600___

could choose either one

-3 or 4

ACTIVITY 38 continued

5. Shade in the area on the graph that represents the total economic profit figure indicated in your answer to question 4.



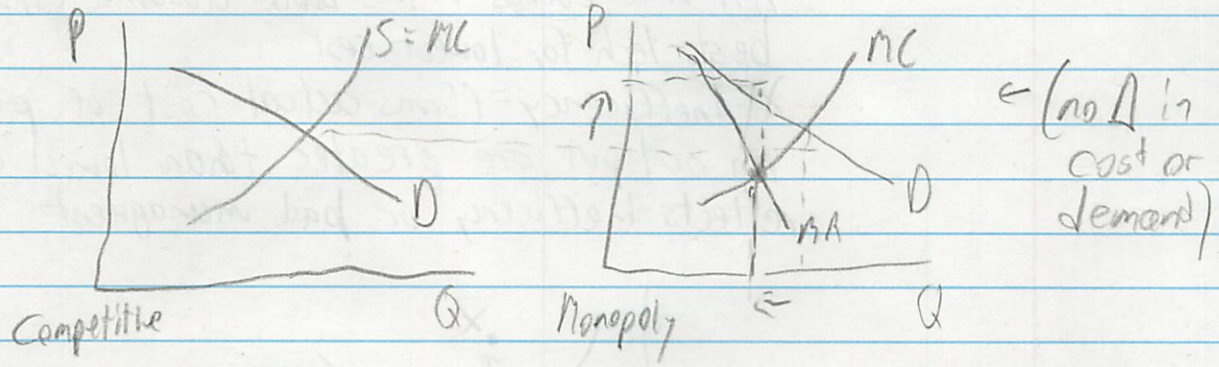
Note: Each small square = $20 on the vertical axis and 1/10 unit of output on the horizontal axis.

2/4 Pure Monopoly

Economic Effects of Monopoly
504-507

3/12

How good are monopolies for society as a whole?



↑ minimum productive + allocative efficency

↑ lower Q and ↑ P
so no longer min ATC (productive)
and price is higer
- so people value marginal units of the product higer
- so under allocation of resourses
* P > MC and P > min ATC *
allocative productive

Gives society less + charges more

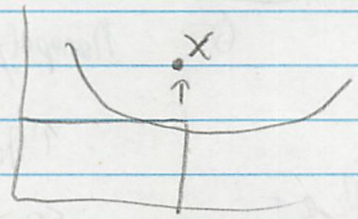
Income Distribution
contributes to inequality of income
charge a higer price b/c "market power"
can levy a "private tax" on consumers
profits only divided among shareholders
except: if buyers wealther than owners
skews averages

Cost Complications
costs may not be same for monopoly and all of the firms in perfect competition

Economies of Scale
1 firm may be able to have lower prices
extreme: natural monopoly
efficencies don't cancle out ↑ prices + ↓ Q
overall: monopolies still inefficent

X-Inefficency

- All ATC curves in this book assume firm uses best tech for lowest cost
- X-Inefficency = firms actual cost of producing an output are greater than lowest cost to produce it
- reflects inefficency or bad managment



- managment may have other goals than cost minimization
- employees → unmotivated + lazy
- bad cost calculations
- monopolies have less pressure to ↓ prices

Rent-Seeking Expenditures

- activites to tranfer wealth to 1 group at someone else + societies' expense
- may pay to maintain monopoly
- seeks special legislation

Tech Advance

- monopolies under less price pressure - so less R+D
- less incentive to increase efficencies
- "can afford to be inefficent + lazy"
- but some firms use R+D to keep others out
  - that's competition!

Policy Options - monopolies are inefficent. What do we do?

1) Breakup w/ Anti Trust laws - some countries don't have
2) Regulate natural monopolies
3) Ignore it + wait for new tech to make it collapse

24 Pure Monopoly

Price Discrimination

507-510

3/12

Pratice of selling a specific product at more than 1 price when differences are not justified by cost differences

Conditions

must meet conditions to get away with this

1) Monopoly power - some ability to control output + price
2) Market Segregation - must be able to split buyers up into classes willing to pay diff. rates
3) No resale - resale would lower prices

Examples

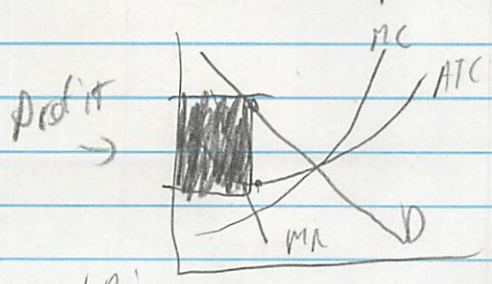
1. Long Distance is more $ during day, College students w/ elastic demands wait till cheaper
2. Electric more expensive then heating gas
3. Movie theaters : time and age
4. Railroads ship on value of product shipped
5. Airlines offer 14-day advanced purchase discounts for families + weekend stays
6. Coupons are for those people w/ elastic demand
7. International price "dumping" charging less in new market than others

take the consumer surplus

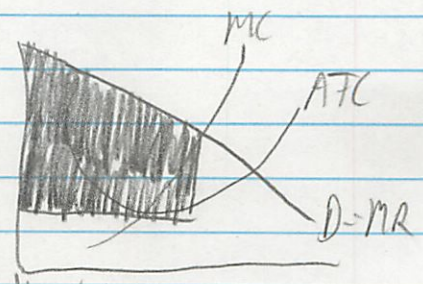
Consequences

More Profit

remember some people willing to pay above current price



1 Price



Perfectly discriminating

Perfect discrimination - each buyer payes higest willing to pay *

More Production

- before when price ↓, everyone paid lower price so MR < Price
  - disencentive to ↑ production
- but when perfectly discriminating monopoly ↓ prices it is only for additional units
- less allocative inefficency
  - perfectly discrimination → allocative efficency (P = MC) reached

Impact

- shifted D curve means able to make more w/o losing $
- mixed
- people paying higer prices are ripped off
- people paying lowest cost only able to b/c of the people paying more

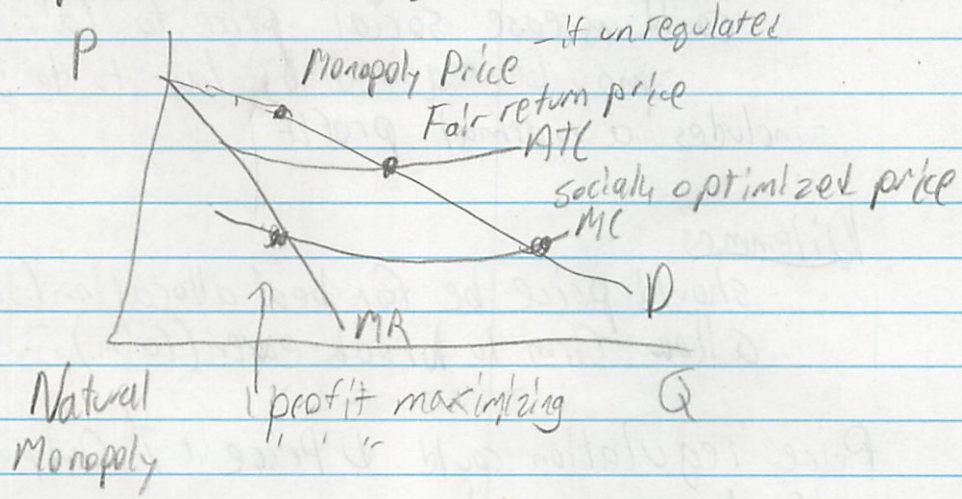
- greater profit
- greater output
- higer + lower prices

24/ Pure Monopolies

Regulated Monopolies
510 - 513

3/12

Natural monopolies are usually subject to regulation prices set by regulatory commissions

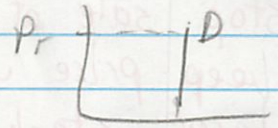


inefficent to have several firms in an industry

Socially Optimized Price

P = MC

if trying to establish allocative efficency demand curve horizontal (elastic)



- removed incentive to lower Q for ↑ TR
- efficent allocation of resources
- may pose problem of losses (ATC not covered)

Fair Return Price

- with social price, ATC may not be covered
- utilities have to be able to reach peak demand
  - so ATC > MC at many outputs
- P = ATC
- allows it to cover costs (no econ profit)

Choices
- could subsidize utility
- could allow it to go bankrupt
- could increase social price to fair price
  - may be required by law to do so
- includes a normal profit

Dilemmas
- should price be for best allocation (social) or allow firm to break even (fair.)?

Price regulation could ↓ Price + ↑ Output if done properly

De Beers (Last Word)
- controls Diamond market
- 70% of world market
- bought up the rest of supply
- advertising - diamonds are forever
  - to stop sale of old ore
  - to keep price up
- has a large stockpile of diamonds

Boing is a monopoly so it can work for defense + beat Airbus

24/ Pure Monopoly ✓ Michael Plasmeier

Study Questions.

3/14

1. All firms compete for consumer dollars?
True, there must be demand for a monopolies' product for them to be able to sell it. However, monopolies are sometimes the only one making a particular good that is needed (water). Otherwise monopolies operate in the elastic part of the demand curve in order to maximize profits

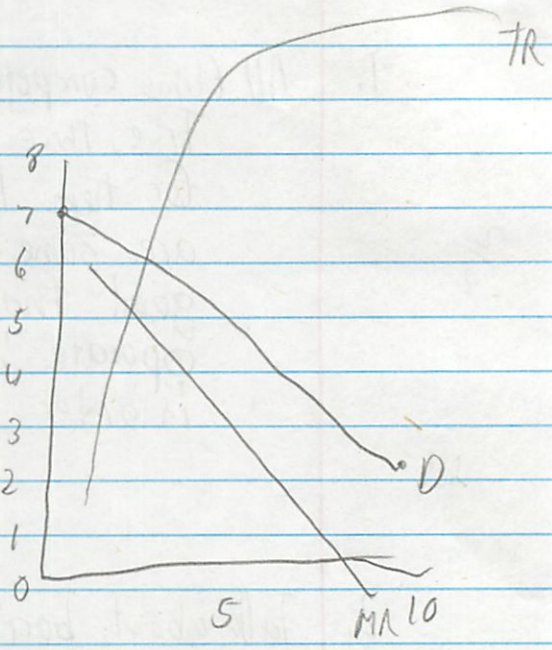
2/2

2. Talk about barriers to entry. Are any socially justifible?
There are legal barriers to entry. Patents restrict firms from copying a product or process. This rewards the firm who paid for the Q+D. Licenses restrict firms inorder to try and keep up profits for established firms. Licenses also allow the firm to be more efficently regulated. Also economies of scale keep out new produces in higly capitalized industries. In the case of natural monopolies it is most efficent to society in general if there is only 1 producer.

3. How does a pure monopolies demand curve differ?
A pure monopolies demand curve is the industries' demand curve. This is because the monopoly is the industry. The curve is also down sloping because D is downsloping - as P↓, Q↑. This is because the non price discriminating monopoly must charge everyone the same price.

4. Calculate

	Q	P	P	Q	TR	MR
			7	0	0	
						6.5
8.33	$\frac{1}{3/2}$	$\frac{.5}{12.5/2}$	6.5	1	6.5	
						5.5
			6	2	12	
						4.5
3	$\frac{1}{7/2}$	$\frac{.5}{10.5/2}$	5.5	3	16.5	
						3.5
			5	4	20	
						2.5
1.5	$\frac{1}{11/2}$	$\frac{.5}{8.5/2}$	4.5	5	22.5	
						1.5
unit →			4	6	24	
						.5
.86	$\frac{1}{15/2}$	$\frac{.5}{6.5/2}$	3.5	7	24.5	
						-.5
			3	8	24	
						-1.5
			2.5	9	22.5	



That is the added revenue. Remember everyone has to pay this lower price which cuts down MR

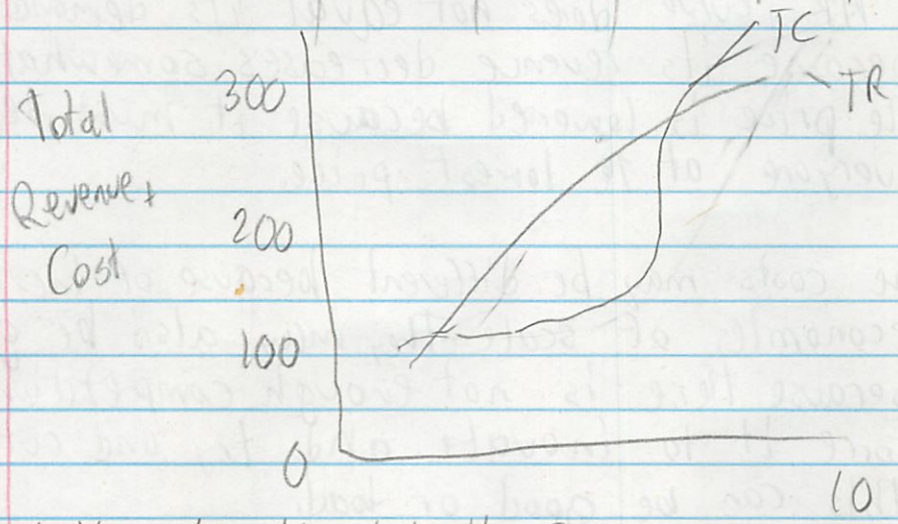
Elasticty b/w 6 and 7 units
↑ when MR ↑, demand is elastic

What if MC = 0? The monopolist would produce up to MC = MR, so when MR = 0.

Monopolies don't produce in the elastic region of demand b/c the price cut would not ↑ Q by enough to keep a profit. They would lose $, and losing $ is bad.

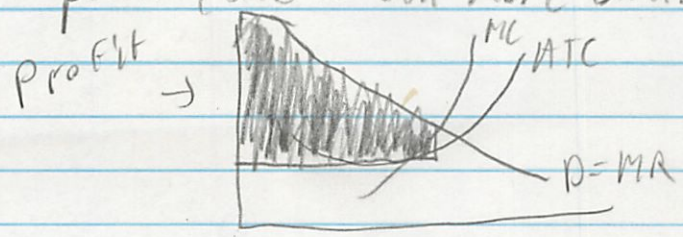
5. Calculate

Price	Q	TR	MR	ATC	MC
115	0	0	100	—	48
100	1	100	66	105	40
83	2	166	47	72.5	35
71	3	213	39	60	30 ← 3 units = profit max.
63	4	252	23	52.5	35
55	5	275	13	49	40
48	6	288	6	47.5	45
42	7	294	2	47.14	55
37	8	296	1	48.13	65
33	9	297	-7	50	75
29	10	290		52.5	



6. With price discrimination?

With price discrimination, the monopoly could eliminate the consumer surplus to make more profit (and to sell more units)



Demand now = MR
So firm sells more
Output ↑
TR ↑
Profits ↑

Prices (missed)

It can be good because more is made and some avalible at a lower price. The people who paid more will be angry. It can achieve allocative efficency

7. Compare monopolies and purly competitive firms
   - Price ↑
   - Output ↓
   - Profits ↑ (and created in the 1st place)
   - Allocation of Resources ↓
   - Distribution of Income - spread out

The different results are because of the monopolies MR curve does not equal its demand curve because its revenue decreases somewhat when the price is lowered because it must sell to everyone at the lowest price.

The costs may be different because of increased economies of scale. They may also be greater because there is not enough competition to force it to inovate and try and cut costs. This can be good or bad.

8. Evaluate

a) always makes a profit - No a monopoly could lose $ because of low demand and/or high supply costs (higer than anyone willing to pay)

b) seeks per unit profit - False - seeks greatest total profit

c) Price over MC means market wants more - True - people over value the good + want more

? → d) Profit = monopoly - False a firm can make a profit (? In the short term ???)

e) Monopoly has pricing policy where purly competive firm does not - True a monopoly is a price setter. It can influence prices by controlling output.

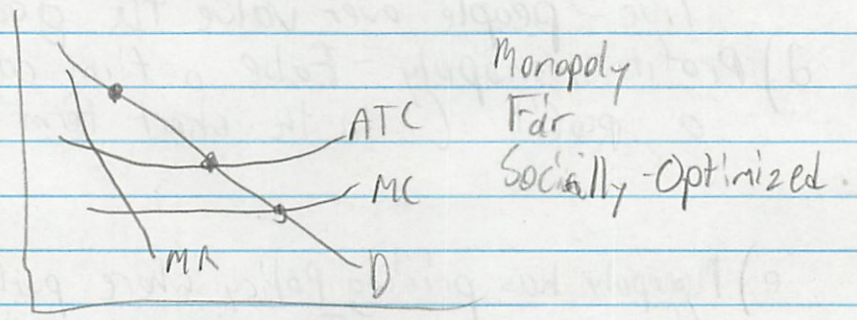
f) Resourse allocation not good to society - True unless firm can price discriminate resourses are overallocated to a product P > MC

? → g) Monopolies can make a profit for not producing - produces more profit then goods - somewhat true. It can limit production to ↑ profit - but it has to produce somewhat. Also there has to be consumer demand

9. 15% of TR?

No - the author wants to set a price maximizing TR - while the publisher wants to have MC = MR

10. How do regulations affect monopolies?



Regulation limits the price a monopoly may charge, expanding its output and making the product more affordable.

The Social price will cause the monopoly to lose money by having it charge the price = marginal cost

The Fair price is the break even price. The firm will sell only enough to make a normal profit.

The problem with the Social price is that it is a loss - which needs to be subsidized or the monopoly will fold. Plus it might be illegal. That is why they may let the firm make a normal profit at the fair price

11, Should natural monopolies have their profits taxed away and redistributed fairly?

?? No, output would not increase to where it would be at the fair or social point

12. De Beers Diamonds (last word)
It controls 70% of the market but only 50% of production because it buys up output from smaller mines to resell. This is risky because it has a large inventory. Also some people can make a profit by selling around it. Also new tech could change the demand for diamonds. New supply could also bypass its hold.

Name_____

Date_____

Monopolies

You are about to play a game, after which there will be a discussion period centering on the questions at the end of this handout. Please do not answer the questions until the game is over.

The board game *Monopoly* can clearly illustrate what has been called a noncoercive monopoly, that is, one that can be created and expanded upon by an individual with sufficient skill and good fortune. All players start in an equal position and all play by the same rules. They may buy, sell, or trade (or do nothing) at the appropriate times, again under identical rules equally applicable to all participants. Upon occasion the monopolist can lose his or her monopoly and even go bankrupt. In reality, however, not everyone has to go by identical rules. Some organizations have a coercive monopoly—some have government backing.

The Game
The rules of this game are the same as those of *Monopoly*, with these exceptions:—

The Monopolist
the "government" (your teacher) will select one person at each table to be the Monopolist. Like your teacher, the government has the authority and power to make decisions.

If you are the Monopolist, you are given Boardwalk and Park Place at the start of the game. You may erect houses and hotels at any time and assess the other players for one half the cost. After hotels are erected you may charge any amount for rent up to the amount stated on the card or one-half the renter's cash, whichever is greater. You may also, of course, charge less if you wish, and you do not have to charge each player the same amount.

Since you already have a monopoly you may not purchase additional properties. You must also pay rent when applicable. You may not, however, go broke. Whenever you need cash for expenses, you may assess the other players for the differences between the cost and your own cash supply. Be aware, too, that the government has the authority to change *any* of the rules which you operate, so be sure to keep the government satisfied with your performance.

The Oligopolists
In the event that the three properties of any one color are obtained by three males or three females, they may form an oligopoly. The oligopoly must act in concert when erecting houses and hotels. That is, a house or hotel must be placed on each of the properties at the same time, not one at a time. Each oligopolist must bear his or her own cost.

When hotels are finally erected, the oligopolist may charge any amount for rent up to the amount stated on the cards or one-third the renter's cash, whichever is greater. The renter, however, is free to try to negotiate a lower rent with either of the other two oligopolists. If the renter succeeds he or she merely moves to that property and pays the rent. An oligopolist may of course go bankrupt or be forced to sell. If this happens and the property is transferred to someone of the same sex, the oligopoly continues. If it is transferred to a member of the opposite sex, the oligopoly is broken, all houses and hotels are removed and the game continues.

25 Monopolistic Competition + Oligopoly

↑ Characteristics + Occurances
515-517

5/26

Pure competition + Pure monopolies are unusual in USA

monopolistic competition → - Sometime many firms selling slightly different products
- restaurants

oligopoly → - Sometimes a few large firms in industry
- car industry

Scientific revolution during Renaissance created new era & continues to today

Monopolistic Competion
- relatively large # of sellers
- differentiated products ← monopolistic
  - usually w/ advertising
- easy entry + exit from industry

Large # of Sellers
- around 25 - 76 firms
- small market share
- no collusion (setting prices)
- independent action
  - 1 firm can not really affect industry

Differentiated Products
- many variations of a product
- slightly different
- attributes, service to customers, location, other (real or imagine
- mens or women's clothes
- credit cards w/ diff rewards
- one store may have good customer service
- location matters for gas stores
- brands + celebrities may get some to buy

* have <u>some</u> control over price (depending on how close a substitute)

Easy Entry + Exit

may be slightly more restricted than pure competition

- need to develop own product
- similar products may be patented

Advertising

- makes price less of a factor
- shifts D → and makes demand less elastic

Examples

- grocery stores
- gas stations
- barbershops
- dry cleaning
- clothes stores
- restaurants

25 Monopolistic Competition + Oligopoly

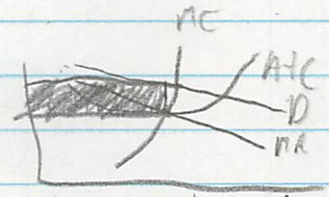
↑ Price + Output Determination
517-520

3/26

Demand Curve

- highly, but not perfectly elastic
- more elastic than monopoly since close substitutes
- not as perfectly elastic as purly competitive seller
  - fewer rivals
    - differentiated, so not perfect substitutes
- the more rivals + less differentiated product is the closer to perfect competition

Short Run: Profit or Loss



MC = MR
up to demand curve
- may incur a loss in short run loss if ATC > price

Long Run: Normal Profit

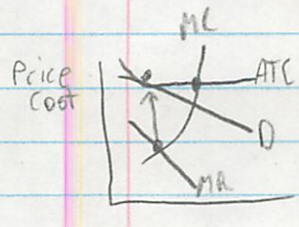
firms will enter + leave industry
will only earn a normal profit (0 economic profit)

Profits: Firms Enter
- attracts rivals
- this reduces other firm's economic profits to profit maximing ATC (price = Min ATC)

Losses: Firms Leaves
some firms will exit in long run
surviving firms profits will ↑
- losses give way to normal profits

Complications

0 economic long run profits not always in long-run



1. Some firms may have small monopoly - a good location
2. Entry is not free, some barriers

25 Monopolistic Competition + Oligopoly

↑ Economic Efficiency
520

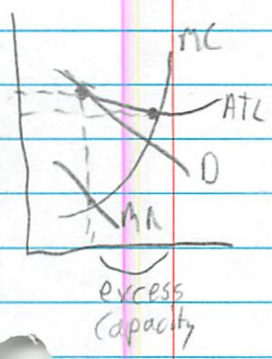
3/26

Economic efficiency is where P = MC = min ATC
Productive Efficiency: P = min ATC
Allocative Efficency: P = MC

Neither Productive nor Allocative Efficiency

neither occur in long-run equallibrium
the price slightly > lowest ATC
- productive efficency not acheived

price > MC
- small under allocation



- Consumers pay a higher than competitive price for a less than optimal output
- Must charge a higer than competive price for normal profit

Excess Capacity

- plant + equipment are undersed b/c firms are producing less than min-ATC
- are many firms with less than optimal competition
- for example many motels at less than capacity

25 Monopolistic Competition + Oligopoly
↑ Non-Price Competition 521-522

3/26

- monopolistic competetitors don't want just a normal profit
- nonprice competition: product differentation + advertising

- improve products to stay ahead of competition
- increases costs, but hopefully ↑ Demand

- firms have little prospects of ↑ profits by cutting costs

- Some see variety and improvement as a good thing
  - off sets inefficency
  - the stronger the difference, the stronger the inefficency
  - also the stronger the variety + greater chance consumer wants are satisfied

Product Differentiation
wide range of types, styles, brands, quality &
range of choices greater
variations in consumer tastes are more met by producers

Product Development
process over time to change products
need to keep up with competitors
also profits from improvements finance further improvements

25 Monopolistic Competition + Oligopoly

Characteristics + Occurence 522-525 3/26

a market dominated by a few large producers of homogenous or different products

A Few Large Producers

vague

covers from pure monopoly to monopoliotic competion

"Big 3, 4, 5, 6"

Homogeneous or Different Products

- products can be the same
  - steel, zinc, copper, aluminum, lead, cement
- or different
  - auto, tires, cigarettes, breakfast cereal, appliences
  - may engage in advertising + non price competition

Control over Price, with Mutual Interdependense

can set prices

but must take into account what rivals charge

* mutal interdependence - each firm's profits depend not on own price + sales strategy but that of its rival

Entry Barriers

economies of scale exist + are critical to maintain oligopoly

may be large amts. of capital req.

ownership + control of large materials

patents

* oligopolists have been know to use pre-emptive + retalitory → price discounts to thwart competitors

→

Mergers

some grow w/ internal growth

some external (mergers)

- to ↑ economies of scale
- and get more monopoly powers
  - better treatment from suppliers
  - may be able to better control supply

Measures of Industry Concentration

Concentration Ratio

- gives % of industry's total sales made by X largest firms (usually x=4)
- oligopoly = top 4 firms > 40% of market
  - about half of US manufacturing

Localized Markets - some firms may hold oligopoly in local market only

Interindustry Competion - may be competition between industries (copper vs. aluminum)

World Trade - does not include foreign competitors

Herfindahl Index -

combats difference b/w 4 largest firms size

* sum of squared percentages of firms

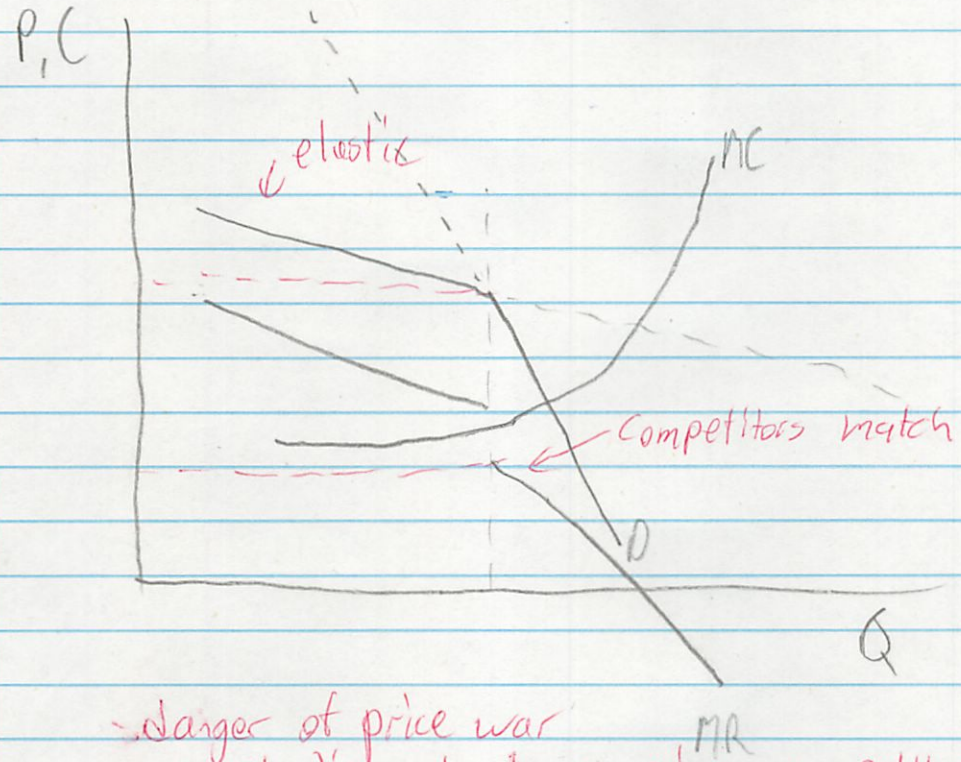
larger # = more of a monopoly

25

Oligopoly

Graph

3/27



- danger of price war
- see elastic part, lower price, competitors match and has a far lower price
  - * same Q, similar Price, far lower revenue

- So in stressed position of what to do next
  - what will competitors do??

- can't talk (collusion) - illegal

Game Theory

3/24

USA \ USSR	Attack	Don't Attack
Attack	Distruction USA Distruction USSR	Coexistance USA Distruction USSR
Not Attack	Distruction USA Coexist USSR	Coexistance USA Coexist USSR

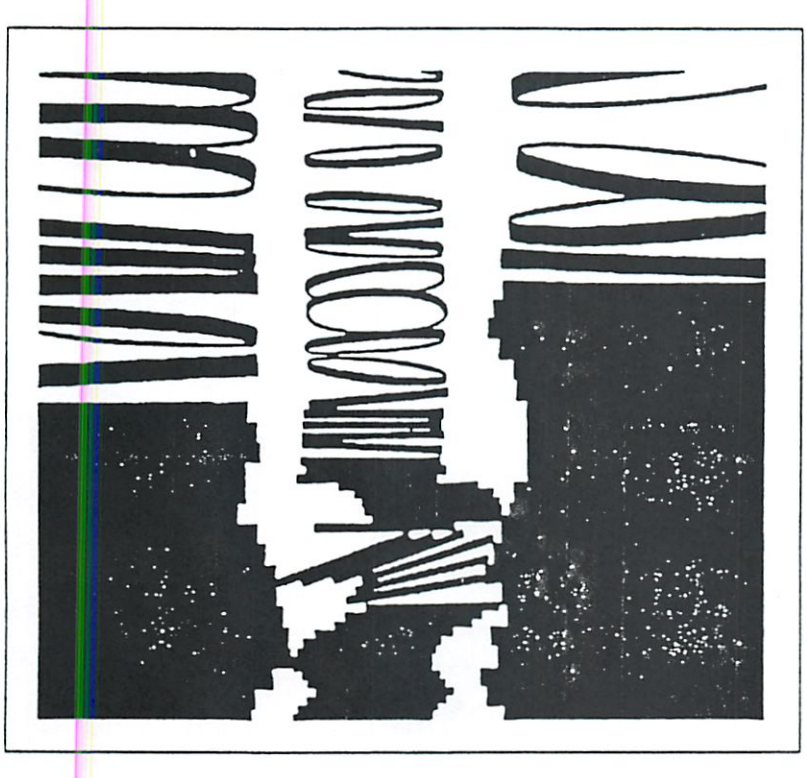
Activity #20

High Stakes -- a Game of Oligopoly

In this game, you will play one member of a firm in an oligopoly. An oligopoly is an industry dominated by a few firms. OPEC, the Organization of Petroleum Exporting Countries, for example, is made up of 14 nations. The U.S. domestic auto industry is dominated by three firms--GM, Ford and Chrysler.

Your goal in this game is to make as much money as you can for your firm. In each round of play, you will decide to price your product at a high price of $4.00, or a low price of $3.00. The other members of the oligopoly can decide to follow each other's decision, or to act independently. When one business in an oligopoly sets the price, and the rest of the firms follow, it is called "price leadership."

Your **revenues** are your money from the sale of your product. If you sell 30 at $4.00, your revenues are $120.00. You have **fixed and variable costs** in producing your product. Your fixed costs do not vary with the amount you produce, and are $55.00 each round. Rent, taxes, etc., represent your fixed costs. Your variable costs are $1.00 per unit sold each round. Labor and raw materials are variable costs. If you sell $30 units, your total cost is $85.00 ($55 fixed and $30 variable).



You make a profit when your revenues from sales are greater than costs. If you made $120 in revenues, for example, and your total costs were $85.00, your profit would be $35.00.

The members of your oligopoly may decide to compete with one another, or to agree on prices. A **warning however!** There can be no verbal agreements on prices.

To start, one member of your oligopoly will go first and indicate by hand signal if he/she is going to price high or low. The other two members privately record their price decisions. Then you'll figure out how you did.

Good luck.

continued

Pricing-Profit Situations (Oligopoly)

Industry			Individual Firm			
Prices (Firm Sales)	Total Sales	Price	Sales Quantity	Total Revenue P x Q	Total Cost $55 Fixed $1/Variable	Profit
H,H,H 30,30,30	90	H = $4	30	120	85	35
H,H,L 10,10,80	100	H = $4	10	40	65	-25
		L = $3	80	240	135	105
H,L,L 5,50,50	105	H = $4	5	20	60	-40
		L = $3	50	150	105	45
L,L,L 36,36,36	108	L = $3	36	108	91	17

Profit or Loss Statement

(Read the results from the prepared chart as you play)

No.	Industry Situation	Your Firm's Price (H or L)	Profit	Loss
1	HHL	H		-25
2	HHL	H		-25
3	HLL	H		-40
4	LLL	L	17	
5	HLL	L	45	
6	HLL	H		-40
7	HLL	H		-40
8	HLL	L	45	
9	HLL	H		-40
10	HHL	H		-25
11	LLL	L	17	
12	LLL	L	17	
13	LLL	L	17	
14	HLL	L	45	
15	LLL	L	17	
		Column Totals >	[220]	[195]
			Net Profit or Loss >	[25]

Megan $715
Reian $-15

Pricing-Profit Situations (Oligopoly)

Industry			Individual Firm			
Prices (Firm Sales)	Total Sales	Price	Sales Quantity	Total Revenue P x Q	Total Cost $55 Fixed $1/Variable	Profit
H,H,H 30,30,30	90	H = $4	30	120	85	35
H,H,L 10,10,80	100	H = $4	10	40	65	-25
		L = $3	80	240	135	105
H,L,L 5,50,50	105	H = $4	5	20	60	-40
		L = $3	50	150	105	45
L,L,L 36,36,36	108	L = $3	36	108	91	17

Round 2

Profit or Loss Statement

(Read the results from the prepared chart as you play)

No.	Industry Situation	Your Firm's Price (H or L)	Profit	Loss
1	HLL	H		40
2	LLL	L	17	
3	HLL	L	45	
4	HHL	H		25
5	HHL	H		25
6	LLL	L	17	
7	HLL	L	45	
8	HLL	H		40
9	LLL	L	17	
10	HLL	L	45	
11	HLL	L	45	
12	HLL	H		40
13	HLL	H		40
14	LLL	L	17	
15	HLL	L	45	
		Column Totals >	[293]	[210]
			Net Profit or Loss >	[83]

Michael Plasmeier

45 Suppy, Demand + Video tape (77)

3/26

Part 1

1. The rental business is in perfect competition. Bairiers to entry are relitivly low, and the products are the same and interchangeable.

2. Competition has caused the economic profits to diminish. New firms have entered the business because of the large profits

Part 2

1. Will produce 350 video rentels

2. Will charge $4/tape

3. Yes, a $1.60 - .70 profit

4. Price will ↓ and output ↑ - since new firms have entered the industry and price will shift to where Price = ATC

5. 0 economic profit

6. Where MR = MC
P? Q?

(2x)

7. It does not differ for Monopolistic competition and perfect competitor
what about
- Or in pure competition price = lowest ATC

(1x)

Michael Plasmeier

46

Kinked Demand Curve of Oligopolist

16

Plaz, What happened? Please see me. Dr. R.

R

3/26

1. Operates where MR = MC → Q = Y
2. MC = "X" dollars
3. ?? Price = "A" dollars
4. ?? Rectangle X ?? = total revenue
5. ATC = "Z" dollars
6. Rectange X = Total cost
7. ? Rectangle ? (X-k)
8. How low would MC (Y) have to ↓ for firm to lower prices ??

Michael Plasmeier

47/ Monopolistic Competition to Oligopoly (88)

n

3/26

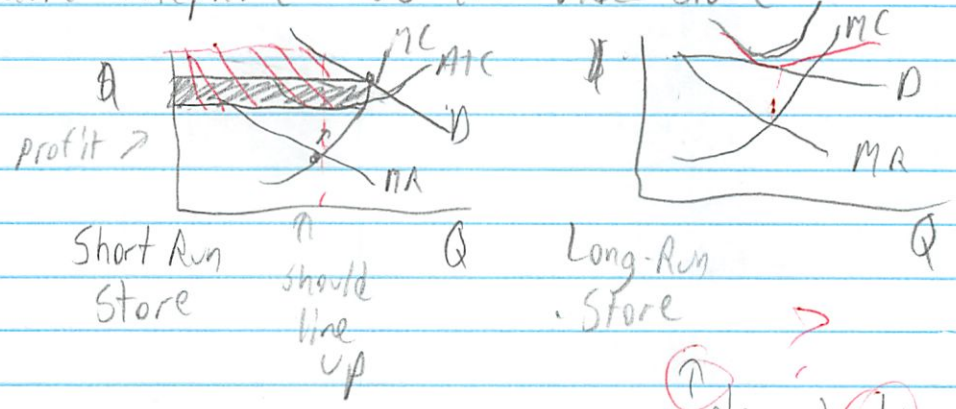
Article: Information Superhighway May Bypass Rental Stores

1. Video rental store's market structure
   Monopolistic competition
   - same product
   - ease of entry
   - compete on location + service

2. Partnership = Oligopoly
   Limited sellers
   Large capital investment
   Partnerships create barriers to entry

3. Price or product quality competition?
   Product quality - needs to be good enough for people to use it over video store
   "Collosion" keeps prices at certain point.

4. Cable + Telephone = sub for video store



(↑) demand (↓)

25 Monopolistic Competition + Oligopoly

Oligopoly Behavior: Game Theory

526-527 3/27

best way to play depends on how opponents play
Use a game theory model

		Company A: High	Company A: Low
Company B	High	12 / 12	15 / 6
	Low	6 / 15	8 / 8

Payoff matrix for a duopoly

Revenue

- unfair - one will Δ price
- collusion - keeping prices up ← best for companies
- price war - disaterous

Oligopolys affect their + rivals profits by Δ price
mutual interdependence

Collusion
if one lowers prices - makes more $
then other has to - to keep market share + revenue
in the end revenue for both ↓

Incentive to Cheat
Both firms however tempted to cheat collusion agreement since they could make more
(till rival matches price)

25 Monopolistic Competition + Oligopoly

3 Oligopoly Models 527-534 3/27

3 models since

Diversity of Oligopolies

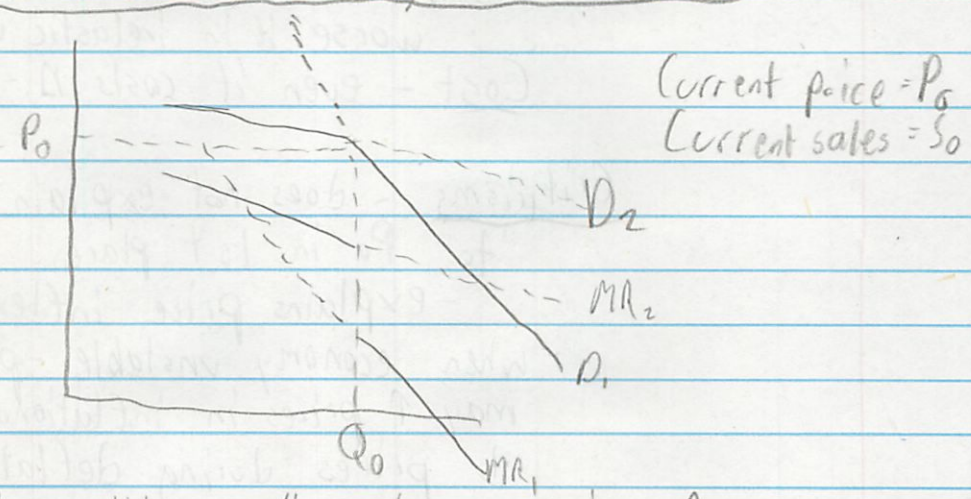
- tight - 2 or 3 firms
- loose - 7 or 8 firms with "competitive fringe"
- differentiated vs standardized
- collusive or independent
- barriers to entry none or heavy
- so can't explain w/ 1 model

Complications of Interdependence

- firms don't know what others will do
- might not have clear picture of market

- but if macroeconomy is stable, prices are generally sticky
- firms generally change prices together

Kinked-Demand Theory: Noncollusive



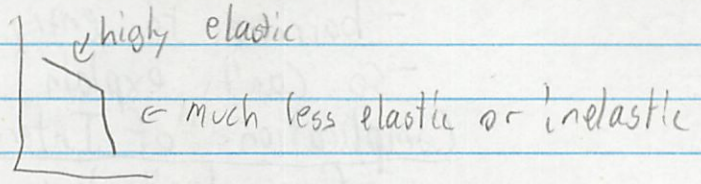
2 possible reactions to a price Δ

Match price cut - will change to MR_1 and D_1

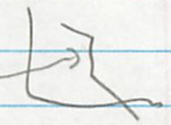
- steep Demand curve since can only get customers from other industries
- but sharp change in profit

Ignore Price Δ - Demand will = D_2 and MR_2
- Price Δ will cause customers to come flocking at expense of rivals
- But market share ≠ 0, since have strong pretrence

Combined Strategy - rivals will react with some of each
will match price cuts - not price hike
so faced kinked demand curve



MR also kinked
Middle vertical segement



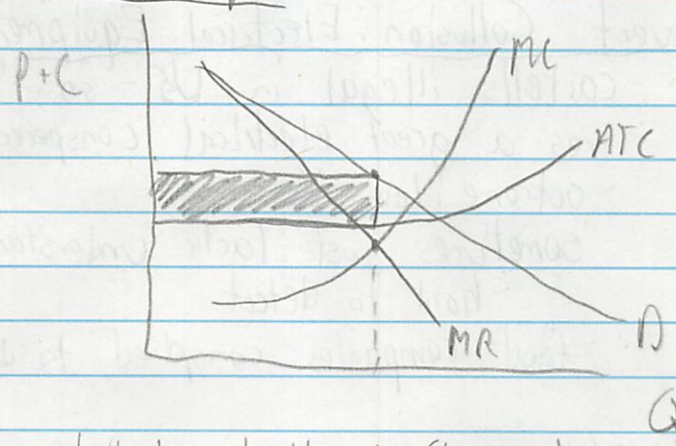
Price Inflexibility
Demand - any Δ in price seems to be for worse
raises prices - won't match + lose customers
price cut - ↑ MR somewhat, but ↑ in TC
worse if in inelastic version
Cost - even if costs Δ - may keep same price

Criticisms - does not explain how price gets to P_0 in 1st place
- explains price inflexibility - not price itself
- when economy unstable - prices are not as rigid
may ↑ prices in inflationary periods
↓ prices during deflation

Cartels + Collusion

- oligopoly subject to collusion
- collusion: agreement to fix prices, divide market, or otherwise restrict competion within themselves

Price + Output



3 firms
same product
match price ↑

What should 1 firm charge?
- if monopoly - MC = MR at that price
  but price may be undercut by rivals
  - then could ignore → lose business
  - match → price war
  - but other firms realize they should all charge same price to come out ahead
  * most profitable to all charge same price - if all do
  - so agree to all charge same price
    - acts like a monopoly now

Overt Collusion: OPEC

- can establish a cartel = an agreement on price + marketshare
- OPEC was higly sucessful in 1970
  - allowed ↑ prices + ↓ in cost (due to output ↓)

→

Sucessful since
- demand inelastic
- covered almost all producers
- demand was strong + expanding

Covert Collusion: Electrical Equipment
- cartells illegal in US - so in secret
- was a great electrical consperecy
- outcome: lawsuits
- sometimes just Tactic understanding not to ↓ prices
  - hard to detect
- food companies conspired to ↓ prices

Obsticles
demand + cost differences
- especially w/ diff products or costs
- diff companies have different costs
- so profit maximizing price varies

# of firms
- the more firms there are, harder to agree

cheating
buyers may try to force lower prices
easier to collued if easy to find cheats
tempted by ↓ revenue

recession
↑ATC
squeezed by excess price capacity

potential entry
high profits attract new firms (possibly foreign)

legal obsticles
need to hide it

OPEC in disarray

Opec fell apart in the '80s

New suppliers

- forced new non-OPEC suppliers in

Declining Demand

- switched to alternates: nat gas, coal, nuclear
- created oil glut

Cheating

has many members w/ diverse needs

Saudi Arabia wanted moderated pricing to maintain long term value

Others wanted $ now

Price Leadership Model

dominate firm sets price and others follow

no agreements involved

dominate = largest or most efficent

Leadership tactics

infrequent changes - due to risk of rivals not following only Δ price every year or for long changes

Communication - price leader usually advance announces price Δ, giving others a heads up

Limit pricing - may set prices low as a barrier to entry for new firms

may sacrifice short term profits

Breakdown in Leadership - leadership breakdown may result in price wars

Breakfast cereal in 1996

May return after run its course

25 Monopolistic Competition + Oligopoly

Oligopoly Advertising 534-537 3/29

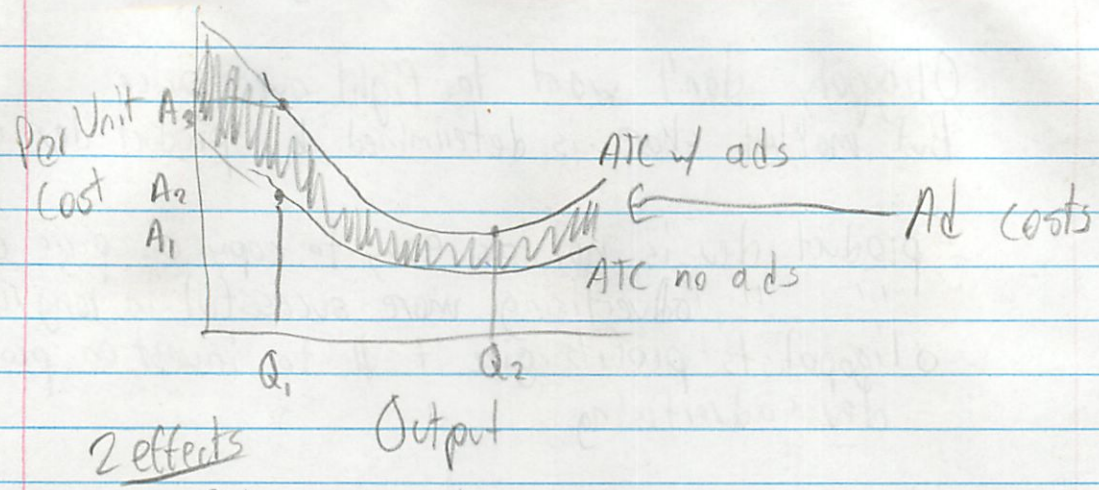
Oligopolys don't want to fight over price
But market share is determined by product dev. + advertising

- product dev is not as easy to copy as price cuts
- " " + advertising more sucessful in long run
- oligopolist's profits give it $ to invest on product dev + advertising

advertising
- done by oligopolies + monopolistic competitors
- affects both good + bad prices, competition + efficency

Positive
- consumers need info to make rational decisions
- advertising in low-cost way to do that
  - reduces search costs looking for products
  - diminishes monopoly power
  - greater economic efficency b/c more informed consumers + technical progress
  - decreases long-run costs

Negitive
- designed to manipulate or persuade
- may not provide info
- may try to get people to buy more expensive, but worse products
- brand-name loyality builds brands into powerhouse that use extra profits to extend their reach
- large ad costs may be barrier to entry
- can be self-canceling + achieve nothing



2 effects
- ↑ demand, output, sales
- ↑ expense

↑ for example here, if ads made $Q_1 \to Q_2$ would be lower costs (even w/ ads) because the ↑ Q would take better advantage of economies of scale

- but if self canceling, Q_1 stays the same while cost ↑ to A_3
  - large increase in cost

* no general conclusions can be made
- depends on situation

25 Monopolistic Competition + Oligopoly

Oligopoly Efficency 537-538 3/29

neither productive efficency $P = \min ATC$ ↑ profits
nor allocative efficency $P = MC$

perhaps even less desirbile than pure monopoly
- as a monopoly is regulated
- but collusion may result in just as high prices and low output even as firm appears to be competiting

Qualifications

1. Increased foreign competition
   - in many industries ↑ competition
   - broke down old oligopolies 'collusion
2. Limit pricing
   setting prices low to starve off competitors is good for consumers in short term
3. Technological advance
   - Oligopolies have large profits to invest in R+D
   - barriers to entry mean will feel benifits of R+D
   - short-run problems may be offset by long-run efficiency increases

Last Word: Oligopoly Brewing
- beer industry used to be despersed
- now is being concentrated into a few brewers
- ↑ efficency + economies of scale
- taste pref Δ + cans easier to ship
- breweries launch new brands
- big breweries compete for market share
- come back of small brewers

26 Technology, R+D, and Efficiency

Invention, Innovation + Diffusion 341-544

3/30

technological advances - new and better goods + services and new and better ways of producing them

occurs in

very long run - period where technology can change and firms can introduce entirely new products

Scientific advance fuels economy - got us out of the middle ages

tech advance is 3 step process of invention, innovation + diffusion

Invention

- 1st discovery of product or process through imagination, ingenious thinking + experimentation and the first proof that it will work
- name of process + final result
- based on sci knowlege
- by an individual, or corperate r+d team
- protected by a patent
  - exclusive right from gov to sell a product for a certain time period

J. Schumpter - 2nd most famous economists
↓
Creative destroction

Innovation

- 1st sucessful commercial introduction, 1st use of a new method or new business method
- product
- process) 2 types
- can not be patented
- but allows firm to "leapfrog" competition
- can hurt older firms
  - but these can use R+D to catch back up

Diffusion
- spread of innovation through imitation or copying
- Alamo introduced unlimited millage - everyone soon followed

Expenditures
1995: (private + gov) R+D expenditures was 2.5% of GDP
- high relitive to other nations
5% - Basic Development
21% - Applied Research (Invention)
74% - Development (innovation + immitation)

Modern View
- before economists saw tech advance as outside economy - and companies just adjust
- modern economist: capitalism is driving force of tech advance
- adrises from rivalry b/w firms
- sometimes advances in pure science are driven by search for eventual profit

26/ Technology, R+D, Efficiency

Role of Entrenures + Innovators
544-545

3/30

Entrep renures - initatior, innovator + risk bearer
- catalyst who combines land, labor + capital
- before by individuals
- now by teams a lot

Other Innovators - do not bear financle risk personally
- key executives, scientists, salaried R+D employees
- sometimes called intraprenures

Forming Start-Ups
- firms focused on creating + introducing a particular new product or employing a specific new production or distribution technique

Innovation in Exisiting Firms
firms have R+D departments to stay ahead
some firms have bonus systems to reward innovators
some large firm's bureacracy stifles R+D
some firms spun off their R+D arms

Anticipating the Future
- people who can see into the future can be well rewarded
- nonmonatory: satsifaction
- monatory: can become very rich
- past sucesses gives one access to more resources but may or may not succed again

→

Exploiting University + Government Research

- entprenures study university + gov research to find possible business applications for it
- nations with strong science communities have strong tech companies
- firms increasing fund university research
- universities are starting to have business inventions themselves
- some firms still do basic sci research

26/ Technology; R+D, + Efficiency

Optimal Amount of R+D 546-548 4/1

R+D spending

depends on firm's perception of marginal benefit + cost

untill MB = MC

if marginal benefit > marginal cost will expand activity

but complex since present sacrifice for future gain

- present + concrete costs
- highly uncertain future benefits

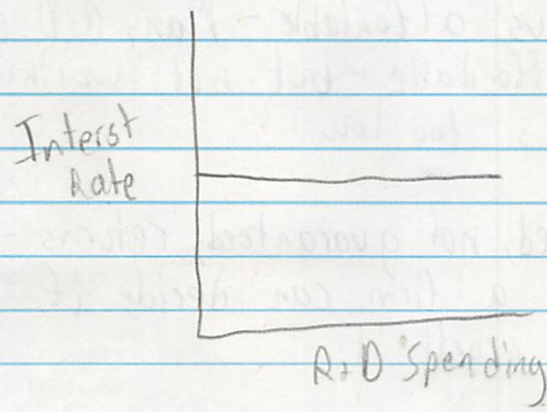
Marginal analysis

Benifit > Cost

Interest Rate Cost of Funds

1. Bank loans - from bank
   marginal cost is only interest rate
2. Bonds - Firms may be able to borrow $
   Marginal cost is funds' intrest rate
3. Retained Earnings - larger firms can reinvest profits instead of paying dividands
   MC = is rate funds could earn deposited in bank
4. Venture Capital - money invested in a high risk company (household savings) in exchange for a percentage of sales or profit
   - Paid for like an intrest rate
5. Personal Savings - entprenure might finance from his savings
   MC = his/her forgone interest

So whenever R+D funds are used has intrest rate:

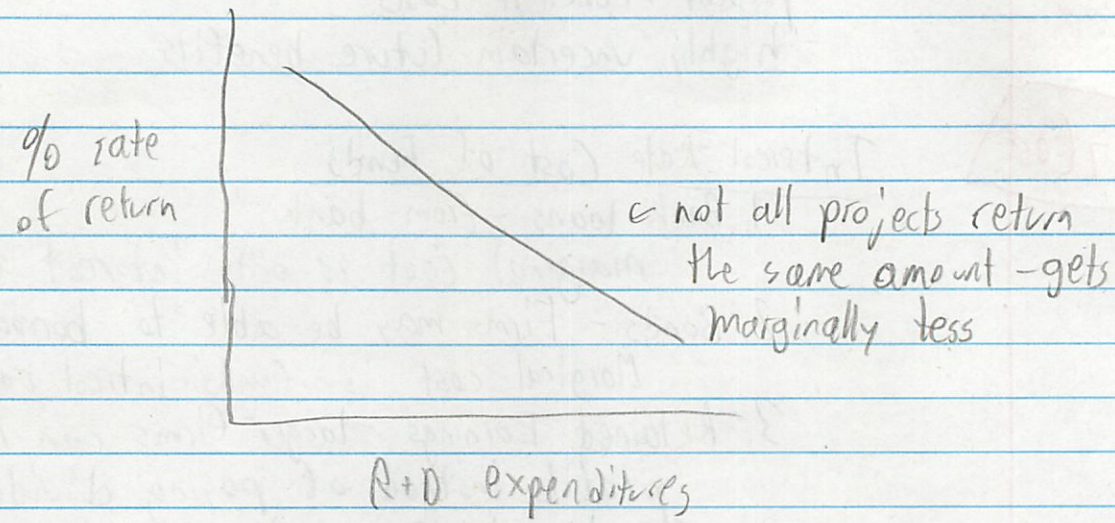


Intrest rate cost of funds curve

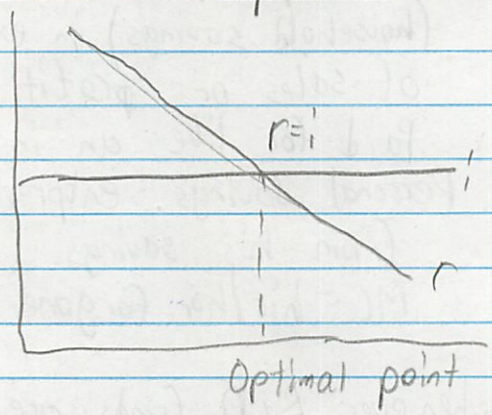
← marginal rate of funding the same at any amount

Expected Rate of Return

- MB decreases for firms R+D
- new product (↑ revenue)
- new production methods (↓ cost)
- any return at all not certain



Optimal R+D Expenditures



* where expected rate of return = interest rate

1. Optimal vs affordable - Many R+D efforts may be affordable - but not worthwile because MB is too low

2. Expected, not guaranteed, returns - looking back a firm can decide if expenditure was worth it.

26/ Technology, R+D, Efficiency

Increased Profits via Innovation 548-551 4/1

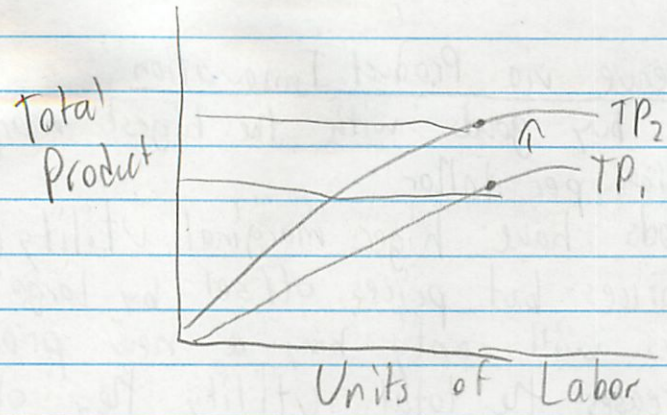
Increased Revenue via Product Innovation

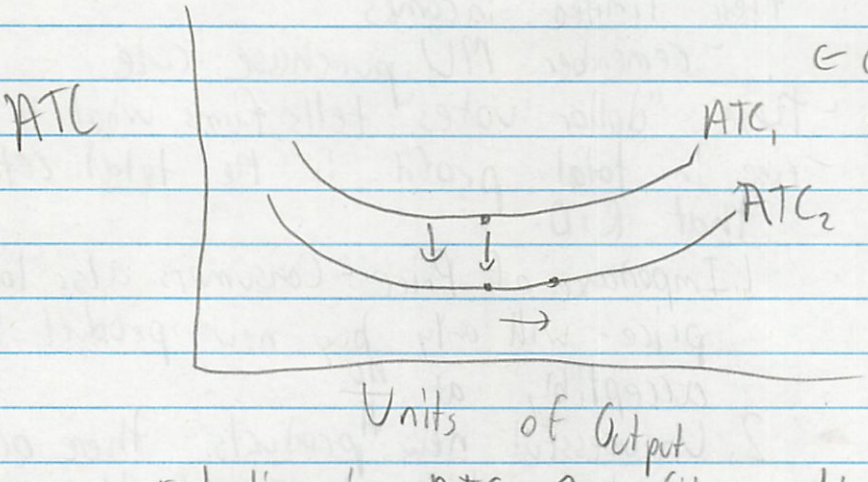
- consumers buy goods with the higest marginal satisfaction per dollar
- new goods have higer marginal utility (and often higer prices - but prices offset by large MU π)
- * Consumers will only buy a new product if it increases the total utility they obtain from their limited incomes
  - remember MU purchase rule
- these "dollar votes" tells firms what to produce
- rise in total profit is the total return on that R+D
  1. Importance of Price - Consumers also look at price - will only buy new product if priced acceptibly at $\frac{MU}{\$}$
  2. Unsucessful new products - there are many products which don't make it - expected return is what drives innovation
  3. Product improvements - Most product innovations are simply improvements of existing ones

Reduced Cost via Process Innovation

- can also save $ + π profits by producing things cheaper
- innovation = π shift of total product curve
  - more output at some level of resourse input
- results in downward shift of ATC curve

→





← could produce more at a relitivly small ATC increase

reduction in ATC ↑ profits - which is the return from R+D

Example: Wal-Mart's invetory control systems
↓ cost

26/ Technology, R+D, and Efficiency

Imitation + R+D Incentitives 551-553 4/1

- Competitors imitate products by taking them apart (called reverse engineering)
- a dominate firm could let smaller firms do R+D and then just copy their products quickly
  - called fast-second strategy
  - dominate firms count on own product-improvement, marketing prowess and/or economies of scale

Ford Taurus

Benefits of Being 1st

Why would firms want costs or risks of R+D if they can just copy off another firm?

Patents
- some new products can be patened and not legally copied for 20 years
- designed to protect company taking R+D risk

Copyrights + Trademarks
- Copyrights protects publishers
- trademarks protect product names

Brand Name Recognition
- brand names may build consumer connections
- blue jeans = Levi

Trade Secrets + Learning by Doing
- can keep stuff secret
- head start may give firms a cost-advantage rivals had not figured out yet

Time Lags
- coplor has to design product + retool factory as that happens 1st firm profits
- also economies of scale + price cutting may help

Profitable Buyouts - 1st firm can be just purchased by a large firm
- allowed if does not create a monopoly

26 Technology, R+D, + Efficiency

Role of Market Structures 553-556

4/2

Is any particular industry most efficent for R+D

Pure Competition - standardized product

- debatable
- strong competition provides reason to innovate
  - rivals may steal its marketshare
- more firms = more people searching for innovation
- however low expected rate of return since many competitors would steal innovation
- R+D may come from gov or supporting industries
  - like fertilizers, seeds + farm equipment for farmers

Monopolistic Competition

- can not afford to be complacent
- strong incentive to develope + differentiate products
- noval products create monopoly-like power
  - many large firms grew from this
- but most are small and spend little in R+D
- hard to profit because of ease of entry
- relitivly low expected returns

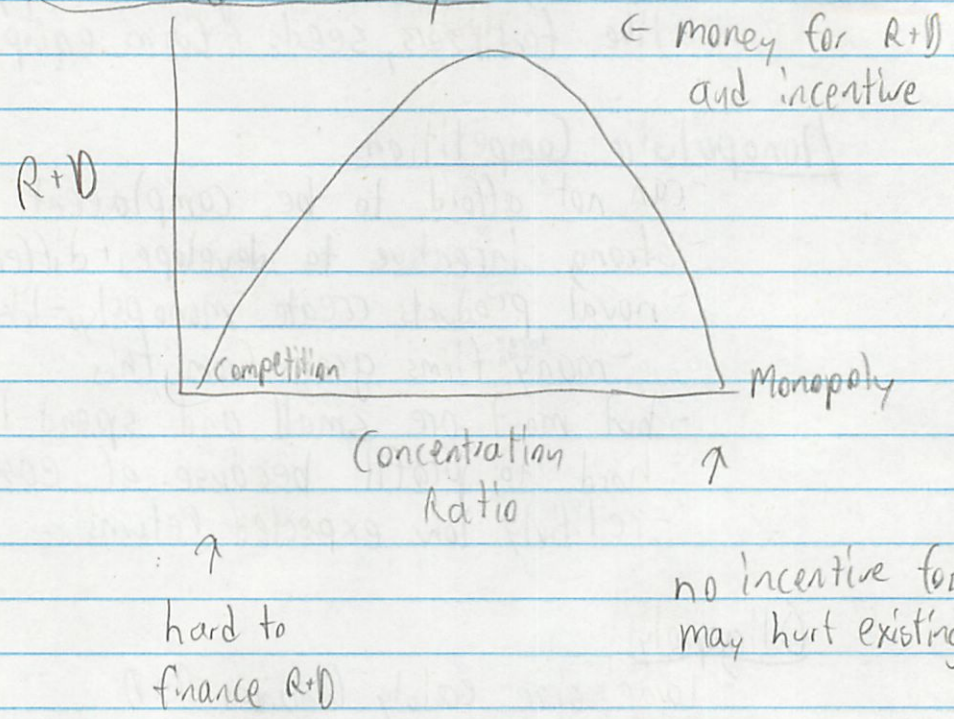
Oligopoly

- large size ealsly finances R+D
- retain part of large economic profit
  - provides funding for R+D
- barrier of entry provides protection of profit
- can spread costs over large volume
- can ealsy offset any misses
- but may not innovade - b/c wants complacency
- may not want to earn a larger profit
- may not want to kill out its other industries

Pure Monopoly

- little incentive to innovate
  - high barriers of entry maintain profit
- Only incentive is defensive
  - don't want to be put out of business
  - wants to find + exploit or supress tech which may break its monopoly
- structure least innovative

Inverted-U Theory



* factors occur in industries w/ a few large (absolutely) but concentration raito is not too high to stop competition from small rivals
  - rivalry among larger oligopolists and with the smaller firms
* "loose" oligopoly most optimal

Evidence

- many studies tried to prove market structure's relation
- generally support inverted U theory
- best: mix of large + small firms
  40-60% concentration ratio
  several highly innovative smaller firms

- but some concentrated industries spend a lot on R+D
  - electronics, aircraft, electronics
- some not
  - cigarettes, aluminum, gypsum products

* result of industies character and tech opportunities more than market type
  ↑ U-shape curve works other things =

26 Technology, R+D, Efficiency

Technology Advance + Efficency
556-559

4/2

tech plays important role in ↑ efficiency
new and better processes allow society to produce more and higher-valued mix of output

Productive Efficiency
- done by process innovation
- same output with less resourses
- reduces per-unit costs

Allocative Efficiency
- product enhancements
- gives society a more preferred mix of services
- buy new product if it ↑ utility
- economic profits support goods people like
- but can create monopoly power
  - can cause inefficiencies
- but innovation can also destroy a monopoly

entrepreure

Creative Destruction

J. Schumpter

Creation of new product may destroy an industry
railroads destroyed wagons → trucks destroyed railroads
Schumpeter: any monopoly not doing well will automatically be relaced by a new invention

economy grows in leaps + bounds

- other economists don't really agree
  - can create legal battles + lobby
  - selective price cutting, buy outs, ads
  - collude, gov tax breaks + subsidies
- tech change, innovation + efficiency are not alltogether inconsistant w/ monopolies

drives until the innovation is "used up" until next tech advance

Path to Computer (Last Word)

a bunch of computer history

AP Microeconomics
With Dr. Reilly

Last Name:_____

Alternative Assessment for Unit 5: Microeconomics of Product Markets

We have a test over chapters 20 through 26 that is scheduled for April 7; the test will follow the format of the AP exam--two short problems and one long problems requiring use and manipulation of the graphic models we have learned on the four types of market structure. If you do not plan on taking the AP exam, then you might want to consider this opportunity.

The goal is to give you a way to demonstrate through research, reading, and writing that you have learned how to analyze market structure and know how the four models that we have studied apply to the real world. This assessment consists of four steps

STEP 1: Locate a substantial article from a newspaper, magazine, or scholarly source on the web about each of the four market structures that we have studied: perfect competition, monopoly, monopolistic competition, and oligopoly. The articles must have real intellectualsubstance (nothing from People Magazine, for example); they must be published in a respected source or be by a college professor. I will show you how to determine this. Submit a copy of the first page of your article to me for approval by March 31 at the beginning of class; the first person to submit an article, gets it--no duplication allowed. While you may use search engines to find your articles, you also should check databases such as Ebscohost. Submit a copy of you article and the complete correct URL.

STEP 2: Read each article and write an abstract, a one paragraph summary, to be submitted with the article. Include a full, correct citation for each article.

STEP 3: Write an essay evaluating the information you have learned from the article in light of the theory that you have studied in chapters 20 through 26. In other words, compare the information from the articles to the text and come to a conclusion.

STEP 4: Be prepared to engage in a discussion of your essay in class on April 8.

This assignment is due at the beginning of class on April 7, 2008. If you do not submit it at that time, I expect you to take the regularly scheduled test

AP Microeconomics
With Dr. Reilly

Last Name:_____

Alternative Assessment for Unit 5: Microeconomics in the Movies

We have a test over chapters 20 through 26 that is scheduled for April 7; the test will follow the format of the AP exam--two short problems and one long problems requiring use and manipulation of the graphic models we have learned on the four types of market structure. If you do not plan on taking the AP exam, then you might want to consider this opportunity for a different type of assessment using movies.

The goal is for you to demonstrate through viewing movies critically and writing that you have learned how to analyze market structure and can recognize the characteristics of these market structures in these films. This assessment consists analyzing four or the following four movies, one for each market structure:

Perfect Competition: "The River"
"Places in the Heart"
"Real Women Have Curves"

Monopolistic Competition: "Mystic Pizza"

Oligopoly: "Tucker"
"The Aviator"

Monopoly: "Anti-trust"
"There Will Be Blood"

STEP 1: Watch your four films and create a correct MLA citation for each.

STEP 2: Find a substantial published review for each film, print out a copy to be turned in with you essay. Create a correct MLA citation for each.

STEP 3: Be prepared to engage in a discussion of your essay in class on April 8.

This assignment is due at the beginning of class on April 7, 2008. If you do not submit it at that time, I expect you to take the regularly scheduled test

27/ Demand for Resourses

Significance + Complexity 564-565 4/8

All firms need to use resourses
land, labor, capital, entrepenurial resourses
supplied + owned by households

Money-income determination - resourse prices are an elemental factor of determining a household's income

Resourse allocation - resourse prices allocate resourses to the different firms
shifting allocations are part of a dynamic economy

Cost minimization - resourse prices are costs
must use resourses most efficentely

Policy issues - should the gov set a min wage?
tax executive pay?

Krugman; :)
gov screwed stuff up

Covered by laws of demand + supply
- but may be certain differences in each market
- gov or labor unions may interfear

27 Demand for Resourses

Marginal Productivity Theory 565-569 4/8

in this example a purley competitive firm buys purely competitive resourses - price - wage taker

Derived Demand

- demand for resourses is derived from the products it helps produce
- demand comes from other goods being demanded
- ex: demand for autos creats demand for auto workers

Marginal Revenue Product (MRP)

Strenght of resource demand dependent on 2 things:

Productivity - declining marginal productivity with each worker that is hired

Product price - the demand for a resourse is affected by the value of the good it produces

So total product output x product price = total revenue

↑ from the changes you get MRP

* the change in TR from the use of each additional unit of a resourse

$$MRP = \frac{\Delta TR}{\Delta \text{ Resource Quantity}}$$

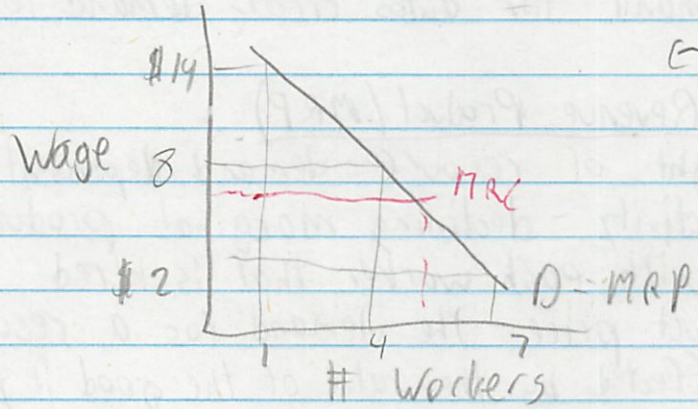
Rule: MRC = MRP

* to maximize profits, a firm should hire additional units of a specific resource as long as each sucessive unit adds more to the firms TR than to its TC

$$MRC = \frac{\Delta \text{ in total resource cost}}{\Delta \text{ Resource quantity}}$$

MRP: Resource Demand Schedules

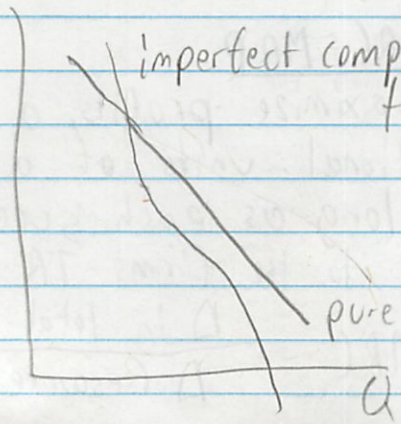
- in purely competitive markets - wage rate is set by pure market forces
- since a firm hires so few workers it can not change market rates
- so each extra unit of labor costs the same
  - so MRC is constant
- so will hire when MRP = wage rate



← resource demand curve

Imperfect Market Conditions

product prices ↓ as output ↑ in non purely competitive markets
MRP also falls b/c marginal product ↓ per extra resource
remember lower price applies to all units of output
↑ so MRP curve is less elastic than purely competitive



imperfect competition ← so less responsive to price cuts
- also produces less resource - so needs less resources

pure competition ← can sell added output at same price

22/ Demand for Resources

Determinates of Demand 569-572 4/8

What can change a resources' demand curve?

Change in Product Demand

* change in demand for a product that uses a particular resource will change demand for that resource in the same direction

Changes in Productivity

* other things equal, a change in productivity of a resource will change demand for that resource in the same direction
  - if double MP → MRP will also double
  - quantity of other resources - the marginal productivity of a resource relies on other resources
    for example: labor more productive in new building
  - technological progress - can improve the quality of other resources
    for example better capital: cranes not conveyer belts for dockworkers
  - quality of variable resource
    improvements in labor itself ↑ demand could be new demand curve for different, more skilled labor
  - explains why workers are paid more in US than Somalia (more productive)
    - and better capital goods
    - relatively scarce in US

→

Changes in Price of Other Resources

depends if complement or substitute

Substitue

Say a company could produce same output with
- lots of labor + little capital
- lots of capital + little labor

if price of machine goes ↓ - may switch

substitue effect - will switch to machines
will consume more if price has ↓

output effect - because costs ↓, can ↑ output
will purchase more of one output when prices of other output falls

net effect - both present - but work oppset each other
↓
so machines switch fires people who are hired back as output ↑
size of Δ based on relative sizes of Δ

depends on market structure

Complementary

increase in one might require increase in other but ↓ in costs
- still need one of each
- but lower costs allow ↑ output

* change in price causes output Δ in opposet direction

Demand for labor increases

1. Product demand ↑
2. Productivity (MP) ↑ (training)
3. Price of substitute ↓ if large output ↑
4. Price of substitute ↑ if small output ↑
5. Price of complement resourse ↓

Real World Applications

Restaurant Workers

demand increased significantly
more people working + ↑ incomes ↑ demand

Computer-Related Workers

- increased demand for some types of labor
- decreased for others
- large ↑ demand for programmers
- where computer complements labor - output ↑
- but can also be a substitute for labor

Defense Personnel

end of Cold War cut jobs

Contingent Workers

- many firms decreased "core" labor and relied more on seasonal help
- allowed them to ↓ benefits
- and be more flexable

27 Demand for Resources

Elasticity of Resourse Demand

572-574

4/8

remember shift in demand vs amount demanded

$$\text{elasticity}_{rd} = \frac{\% \Delta \text{ resourse quantity}}{\% \Delta \text{ resource price}}$$

$E_{rd} > 1$ = elastic
$E_{rd} < 1$ = inelastic
$E_{rd} = 1$ = unit elastic

Rate of MP Decline
- if MP declines slowly - MRP declines slowly + is highly elastic
  - small ↓ in price gives relituly ↑ in demand
- if MP declines sharply - resourse demand curve also declines rapidly
  - if large drop in wages only moderate ↑ in people hiring since labor is inelastic

Ease of Substitutability
- the more # of close substitutes, the greater the elasticity of demand for that resource
- it can sub easily to 5 wood types - a small price ↑ causes large ↓ in demand
- but if no substitue demand is inelastic
- but time can play a role - if pilolet wages ↑ eventually planes will be designed with less pilots

→

Elasticity of Product Demand

greater elasticity of product, the greater the demand for the resources used to produce it

Ratio Resource Cost to Total Cost

- the larger the proportion of cost of that resource for all resources - the greater the elasticity of demand for that resource
- if labor wages ↑ and product demand is elastic, the price ↑ will cause output to ↓ along with total revenue
- but when labor is a smaller cost relitve to other resources, Δ in labor will cause less of a price Δ

Michael Plasmeier 100% 5 4/8

ACTIVITY 50

The Derived Demand for a Product

The key to understanding how resources are priced in the factor markets is to see the relationship between demand in the factor market and demand in the product market.

The demand for a resource (land, labor, capital, or entrepreneurship) is called *derived demand* because it is derived from the demand for the goods and services that are produced by these resources. To be more specific, the demand for any resource is the downward sloping portion of the marginal revenue product curve. Let's examine why this is so.

1. Complete the following chart *Data for a Yo-Yo Manufacturer*. The firm operates in a perfectly competitive factor market and in a perfectly competitive product market. In a perfectly competitive factor market, market supply and demand determine the price of the factors of production, and in a perfectly competitive product market, supply and demand determine the price of the product.

Data for a Yo-Yo Manufacturer

Units of Resource	Total Product	Marginal Physical Product (Marginal Product)	Product Price	Total Revenue	Marginal Revenue Product
0	0		$2.00	$0	
		8			~~6~~ 16
1	8		$2.00	$16	
		6			~~4~~ 12
2	14	5	$2.00	$28	10
3	19	4	$2.00	38	8
4	23	3	$2.00	46	6
5	26	2	$2.00	52	4
6	28	1	$2.00	56	2
7	29		$2.00	58	

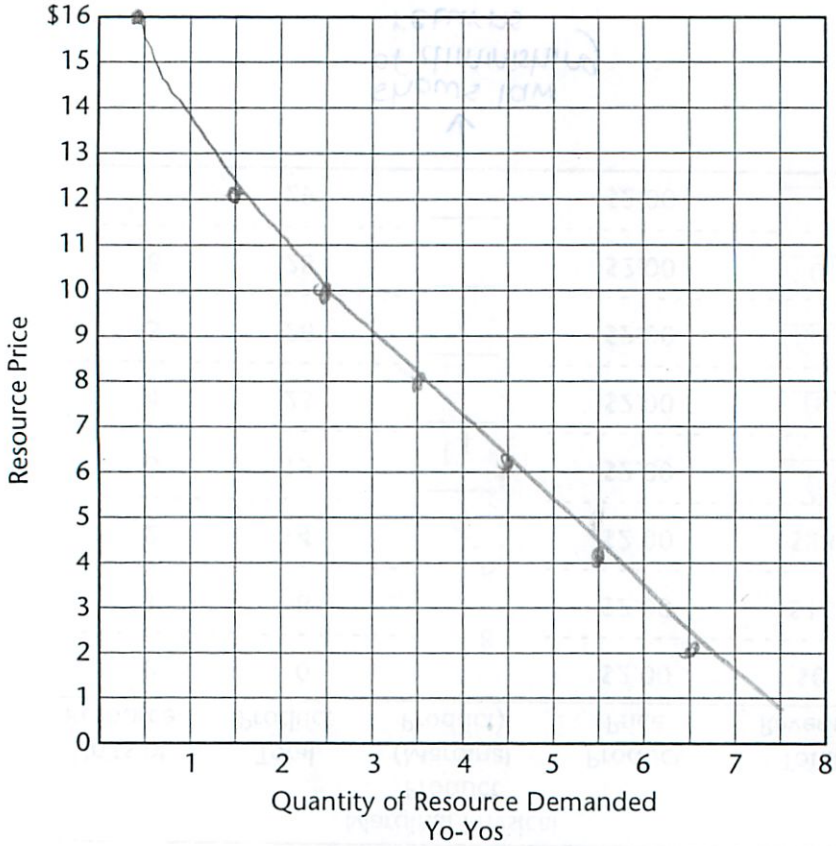
shows law of diminishing returns

graded by Megan Nolan

ACTIVITY 50 continued

2. Use the answers you got in the last column of the chart on the preceding page to graph marginal revenue product on *Plotting Resource Price and Quantity for Yo-Yos*. Label the MRP curve, "MRP = D."

Plotting Resource Price and Quantity for Yo-Yos



MRP = D

Perfect competition so can sell as many as want at the price this means output will ↑

3. MRP depends on two variables. One is marginal physical product (MPP), sometimes referred to as marginal product. The second variable is the price of the good or service being produced. For each of the following situations, indicate whether the demand for a resource would increase or decrease.

   a. A new yo-yo machine increases productivity. decrease then ~~potentially~~ increase as output ~~potential~~

   b. The price of yo-yos increases. ~~decreased~~ ← if demand ↑ (supply ↓ or demand ↑ →)

   c. Better training increases the efficiency of yo-yo workers. decrease then increase as output ↑

   d. The demand for yo-yos increases. increase

   e. New technology increases the output of yo-yo workers. decrease " " " ~~potentially~~

   f. Consumers tire of yo-yos. decrease

↑ derived demand

then q increased so resource would ↑

27 Demand for Resources

Optimal Combination of Resources 574-578 4/9

in the long run, firms can vary the resources they use

Least-Cost Rule

* when the last dollar spent on each resource yields the same marginal product
  remember in competitive market a firm can hire as few or as many resources as they want

Same as with consumers →

$$\frac{\text{Marginal Product Labor}}{\text{Price of Labor}} = \frac{\text{Marginal Product Capital}}{\text{Price of capital}}$$

will try to get that to =

$$\frac{MP_L = 10}{P_L = 1\$} > \frac{MP_C = 5}{P_C = \$1}$$

will go till $MP_{C \text{ or } L} = 7$

↑ greater output at same cost

can produce larger output at same cost or same output at smaller cost

- so could spend \$1 less on capital and lose 5 units and spend 50¢ to gain back 5 units
- but when = can't reduce costs further
- long run cost curves (chap 22) assume that we are using best combin
  - if not would have x-inefficency
- like consumer's utility maximizing rule (Chap 21)

* takes into account both ↓MU and prices of various products →

Construction crew would use a back hoe instead of lots of workers with shovels

Profit Maximizing Rule

don't just have to minimize costs
must also maximize profits
remember $MR = MC$
also MRC = cost = price (price doesn't Δ w/ Q)
* so $MRP = P$
- must hold for every resource

$$\frac{MRP_L}{P_L} = \frac{MRP_C}{P_C} = 1$$

$MRP = P$ (so ratio = 1)

includes cost minimizing rule
(but cost minimizing is not always profit maximizing)

27/ Demand for Resources

Marginal Productivity Theory of Income Distribution 528-529 4/9

- resourse pricing is cornorstone of economic fairness discussion

- we recieve labor payments = marginal contribution to firm's output + revenue
- basically labor is paid what it is worth
- paid according to marginal contribution to society
- "to each what he or she creates"
- Criticisms
  1. Inequality - may be unequal because resources are unevenly distributed
     - people have different oppertunities
     - people with disabilities may recieve nothing
     - ownership of property is unequal
       - especially due to inhertance
     - says gov should modify distribution policies with this in mind
  2. Market imperfections
     - many markets are riddled w/ imperfections
       - employers may inforce pricing power
       - labor unions may get monopolistic power
     - discrimination makes it imperfect

Marxist: pay according to need

Lost Word! ATMs + Substitution

- new technology which ↓ costs can rapidly Δ mix
- ATMs have replaced human tellers
- expensive to buy - but run 24 hrs/day
- ATM cards work all over the world
- substitute for human teller
- society wins w/ more convient banking services + "freed up" workers

Michael Plasmeier (20.5/22) = 4.4/5 4/9

ACTIVITY 51

How Many Workers Should Be Hired?

You are the president of Acme Yo-Yo Company, a small manufacturing firm that produced Supersonic Yo-Yos, a popular toy that makes a "supersonic" noise when used.

Acme's yo-yos are manufactured by yo-yo makers working at two yo-yo making machines. You have been estimating how many yo-yos your company can make using different numbers of workers, and you now have to decide just how many workers Acme will hire.

Your study of your yo-yo making process has shown that you can produce the following number of yo-yos per day depending upon how many workers you hire.

Workers Hired and Yo-Yos Produced

No. of workers hired	No. of yo-yos produced each workday	Change in no. of yo-yos produced
1	20	20
2	50	30
3	70	20
4	85	15
5	95	10
6	100	5

After the second worker is hired, hiring more workers still increases the number of yo-yos produced, but the extra number of yo-yos produced gets smaller and smaller as more workers are hired.

You have also learned that the market for Acme's yo-yos is such that Acme can sell as many yo-yos as it wants each day for $2 each, and that you can hire as many qualified yo-yo makers as you need by paying each one $25 per day.

The table *How Many Workers to Hire for $2 Yo-Yos* can help you decide how many workers to hire. First, you need to calculate the marginal physical product, the *additional* output created by one more worker.* You can do this by comparing the level of output with the level of output from *one less* worker. Next, you need to calculate how much revenue Acme will take in at each possible level of output. Then you will have to calculate how much *additional* revenue is earned by hiring one more worker. You can do this by comparing total revenue at one level of output with total revenue at the *next lowest* level of output. Finally, you can compare the *additional* revenue from hiring each worker (this is called the marginal revenue product of labor) with the *cost* of hiring the additional worker (which in this case is always $25 per day).

How Many Workers to Hire for $2 Yo-Yos

1 Number of workers hired	2 Level of output (number of yo-yos produced per day)	3 Marginal Physical Product (Extra output from hiring one more worker)	4 Price at which yo-yos can be sold	5 Total Revenue (P x Q, or col. 4 x col. 2)	6 Marginal Revenue Product (col. 3 x col. 4)	MRP at $3
0	0		$2.00	$0		
		20			$40	
1	20	30	$2.00	($20 x 2) = $40	60	90
2	50	20	$2.00	100	40	60
3	70	15	$2.00	140	30	45
4	85	10	$2.00	170	20	30
5	95	5	$2.00	190	10	15
6	100		$2.00	200		

* Some textbooks call this marginal product.

Adapted from *Student Activities to Accompany the People on Market Street Series,* Indiana Council on Economic Education, Purdue Research Foundation, 1983.

ACTIVITY 51 continued

1. Why does the number of extra yo-yos produced decrease as more workers are hired?

The extra workers will do more standing around waiting for machines inefficencies of scale

What does economist call this situation?

2. If the wage is $25 per day, how many workers should Acme hire? 3 Why?

MRP should = Price of worker
3 workers meets it without going over

3. If the demand for yo-yos increases so that Acme can sell as many yo-yos as it wants for $3 each, what effect will this have on Acme's level of employment?

Yes, it should now employ 4 workers

4. In order to make as much profit as possible, a firm should hire an additional worker as long as that worker's MRP is greater than his or her Cost (wage).

Plasmeia 34/34 100% 4/10

ACTIVITY 53

Factor Market Pricing

Part A.

1. Fill in the blank spaces in the table *Number of Workers Hired in a Competitive Market.* Note that marginal figures are placed between levels of employment.

2. If the product of this firm sells for $3.00 in a purely competitive market and the costs for wages and benefits for each worker hired are $60 per day, how many workers would be hired? 6 if 5

3. At this employment level, total wage and benefit cost is $ 360 per day; total revenue is $ 480 ; and the difference is $ 120 . same 300 420 120

4. What is the daily wage and benefit cost below which a seventh worker would be hired? $ 45

5. If the price of the competitive firm's product increased to $5.00, how many workers would be hired at a wage and benefit cost of $60.00 a day? 7

Number of Workers Hired in a Competitive Market

Employment No. of Workers (L)	Total Output per Day (Q)	Marginal Physical Product (ΔQ/ΔL)	Marginal Revenue Product (ΔR/ΔL) P = $3.00	Marginal Revenue Product (ΔR/ΔL) P = $5.00
0	0			
		20	$60	$100
1	20			
		30	90	150
2	50			
		35	105	175
3	85			
		30	90	150
4	115			
		25	75	125
5	140			
		20	60 ←	100
6	160			
		15	45	75 ←
7	175			
		10	30	50
8	185			
		5	15	25
9	190			
		0	0	0
10	190			
		-5	-15	-25
11	185			

Plasmeier 12/12 100%

ACTIVITY 53 continued

Part B.
Assuming that there is a competitive market at Siwash University, graduate students can earn money by working for professors as Research Assistants (RAs) or as Teaching Assistants (TAs). A survey gives the following results:

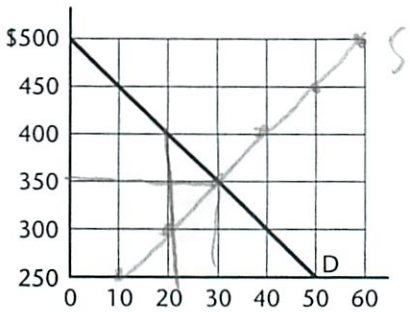
RAs Who Would Be Hired

Monthly Salary	No. of Grad Students Professors Would Hire (D)	No. of Grad Students Who Would Work (S)
$500	0	60
450	10	50
400	20	40
350	30	30
300	40	20
250	50	10

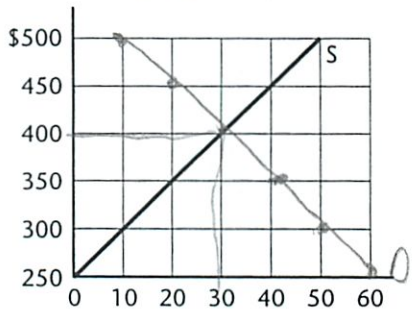
TAs Who Would Be Hired

Monthly Salary	No. of Grad Students Professors Would Hire (D)	No. of Grad Students Who Would Work (S)
$500	10	50
450	20	40
400	30	30
350	40	20
300	50	10
250	60	0

RAs–Supply and Demand



TAs–Supply and Demand



Follow directions, fill in the answer blanks, or cross out the incorrect words in parentheses.

1. Draw in the supply curve of RAs (left diagram) and label it "S."
2. Draw in the demand curve for TAs (right diagram) and label it "D."
3. a. The equilibrium wage for RAs is $ 350 .
   b. The equilibrium wage for TAs is $ 400 .
4. At these wages how many students would be hired? as RAs 30 as TAs 30
5. Suppose research assistants formed a union and agreed not to work unless they received $400 a month.
   a. How many RAs would be employed at $400 a month? 20
   b. How many previously employed RAs would be out of a job at $400 a month? 10

? have not learned about

ACTIVITY 53 continued

6. If these unemployed RAs start looking for work as TAs, what would happen in the TA market at the old equilibrium wage? There would be an excess *(demand/supply)*.

7. Under these circumstances, what would you expect to happen to the equilibrium wage of TAs? It would tend to *(rise/fall)*.

8. In the TA market, would this be a shift in the supply curve or a move along it? *(shift/move)*

9. If more TAs are employed at a new equilibrium wage rate, would this be the result of a shift in the demand curve or a move along it? *(shift/move)*

 Michael Plasmeier 4/15

ACTIVITY 54

What Is the Optimum Allocation of Resources?

1. The table *Total Production Employing Varying Amounts of Resource A* shows the total production a firm will be able to obtain if it employs varying amounts of resource A while the amounts of the other resources the firm employs remain constant.
   a. Compute the marginal product of each of the seven units of resource A and enter these figures in the table.
   b. Assume the product the firm produces sells in the market for $1.50 per unit. Compute the total revenue of the firm at each of the eight levels of output and the marginal revenue product of each of the seven units of resource A. Enter these figures in the table.

Same price

Purly competive

Total Production Employing Varying Amounts of Resource A

×1.50

Quantity of Resource A employed	Total product	Marginal product of A	Total revenue	Marginal revenue product of A
0	0	12	$ 0	$ 18
1	12	10	18	15
2	22	8	33	12
3	30	6	45	9
4	36	4	54	6
5	40	2	60	3
6	42	1	63	1.5
7	43		64.5	

×1.50

   c. On the basis of your computations, complete the firm's demand schedule for resource A by indicating in the table *Demand Schedule for Resource A* the number of units of resource A the firm would employ at the given prices.

Demand Schedule for Resource A

Price of A	Quantity of A demanded
$21.00	0
18.00	1
15.00	2
12.00	3
9.00	4
6.00	5
3.00	6
1.50	7

MRC = MRP
Marginal Decision Rule

Activity developed from Robert C. Bingham and William B. Walstad, *Study Guide to Accompany McConnell and Brue Economics*, (New York: McGraw-Hill Book Co., 1993), pp. 316-317.

ACTIVITY 54 continued

2. The table *Marginal Product Data for Resource B* shows the marginal product data for resource B. Assume that the quantities of other resources employed by the firm remain constant.

   a. Compute the total product (output) of the firm for each of the seven quantities of resource B employed and enter these figures in the table.

   b. Assume that the firm sells its output in an imperfectly competitive market and that the prices at which it can sell its product are those given in the table.

   Compute and enter in the table:

   1) Total revenue for each of the seven quantities of B employed.

   2) The marginal revenue product of each of the seven units of resource B.

   c. How many units of B would the firm employ if the market price of B were:

   1) $25 0 4) $9 3
   2) $20 1 5) $5 4 (or 3) ↑ don't need
   3) $15 2 6) $1 4

   MRP=MRC

Marginal Product Data for Resource B

Quantity of resource B employed	total ~~Total~~	Marginal product	~~Total~~ ~~Marginal~~ product of B	Product price	Total revenue	Marginal revenue product of B
0	0	0	22		$ 0.00	$ 22
1	22	22	-1	$ 1.00	22	16.7
2	43	21	-2	.90	38.7	10.9
3	62	19	-3	.80	49.6	5
4	78	16	-4	.70	54.6	-.6
5	90	12	-5	.60	54	-5.5
6	97	7	-6	.50	48.5	-9.3
7	98	1		.40	39.2	

↑ diminishing marginal utility

imperfect competition

ACTIVITY 54 continued

3. The table *Marginal Revenue Data for Resources C and D* shows the marginal product and marginal revenue product schedules for resources C and D. Both resources are variable and are employed in purely competitive markets. The price of C is $2 and the price of D is $3. Resources C and D are substitutable.

Marginal Revenue Data for Resources C and D

Quantity of resource C employed	Marginal product of C (MP/P)	Marginal revenue product of C	Quantity of resource D employed	Marginal product of D (MP/P)	Marginal revenue product of D
1	10 5	5.00	1	21 7	10.50
2	8 4	4.00	2	18 6	9.00
3	6 3	3.00	3	15 5	7.50
4	5 2.5	2.50	4	12 4	6.00
5	4 2	2.00	5	9 3	4.50
6	3 1.5	1.50	6	6 2	3.00
7	2 1	1.00	7	3 1	1.50

a. The least-cost combination of C and D that would enable the firm to produce:

1) 64 units of its product is 1 C and 3 D. → 10/2 = 15/3 at 3
2) 99 units of its product is 3 C and 5 D. at 1
(add up the MP/P in order till 64)

$\frac{MP}{P} = \frac{MP}{P}$ or MRC

b. The profit-maximizing combination of C and D is 5 C and 6 D.

5 → 2/2 = 3/3 E 6

$\frac{MRP}{P} = \frac{MRP}{P} = 1$

c. When the firm employs the profit-maximizing combination of C and D, it is also employing C and D in the least-cost combination because MRC (MRP = MRC) equals resource price P.

d. Examination of the figures in the table *Marginal Revenue Data for Resources C and D* reveals that the firm sells its product in a purly competitive market at a price of 50¢. (where is this from) I must sell at that price

total revenue (from MRP) / total output

e. Employing the profit-maximizing combination of C and D, the firm's:

1) Total output is 114.
2) Total revenue is 58.
3) Total cost is 28. 5·2 + 6·3
4) Assuming resources C and D are the only inputs, total profit is 29.

price stays the same at each output

ACTIVITY 54 continued

4. Acme Yo-Yo, Inc., can hire labor for $2 per unit and capital at $4 per unit. The firm can produce 50 yo-yos using any one of the three following combinations of factors:

Method of Production

	A	B	C
Units of labor	2	5	6
Units of capital	9	7	5
	40	38	32

a. Should Acme use method A, B, or C? C Why?

lowest total cost (6·2 + 5·4)

b. How much profit will Acme make if it uses its most profitable combination and sells the yo-yos for $1 each? _____

50 - 32 = 18

The Economy Today

NEWS FLASH

Newsletter for Teachers of Economics to accompany Bradley R. Schiller's *The Economy Today* and *Essentials of Economics* texts.

Book: more fringe benefits like healthcare

Re-Thinking Inequality Trends

Americans are clearly convinced that America is becoming a nation of "Haves" and "Have-nots." Public opinion polls reveal that 60-70 percent of the population perceives that the "rich are getting richer" while the "poor are getting poorer." These perceptions of wide and increasing inequality add intensity to political debates about tax reform ("tax cuts for the rich"), poverty policy, and income support for the middle class (relieving the "middle class squeeze").

Census Data

The empirical foundation for these perceptions resides in data from the U.S. Bureau of Census. Every March the Census Bureau surveys a cross-section of 60,000 households. Those annual surveys are the primary source of all information about U.S. household incomes. They allow us to depict not only the distribution of incomes in any given year, but also to track changes in the distribution over time. The annual Census surveys also provide the data for counting the number of "poor" people in the United States and tracking changes in poverty rates over time. Though not perfect, the Census data are universally regarded as the most reliable source of statistical information on U.S. household incomes.

First Impressions

Data from the annual Census surveys do seem to validate popular sentiment. They show, for example, that lower-income households are getting a tiny slice of the income pie while upper-income households are gorging themselves. In 2006, the lowest *quintile* (bottom twenty percent of households ranked by income) got only 3.4 percent of America's *total* income. The highest quintile, by contrast, got a whopping 50.5 percent of the total. Were incomes distributed *equally*, every quintile of the population would get 20 percent of the pie. But this is clearly not the case: the share received by the "rich" (the top quintile) is 15 times larger than the slice received by the "poor" (the bottom quintile).

Worse yet, it appears that the divide between the "Haves" and the "Have-nots" is growing. As the following table reveals, the income shares of the top and bottom quintiles have gotten significantly *more* unequal over time:

Income Shares

	Top Quintile	Bottom Quintile
1970	43.3	4.1
1980	44.1	4.2
1990	46.5	3.8
2000	49.4	3.6
2006	50.5	3.4

Of particular political concern here is how the shrinking slice of the bottom quintile has made the poor "poorer."

Poor Not Getting Poorer

The jump from the observation of declining income shares to the notion that the "poor are getting poorer" confuses *relative* incomes and *absolute* incomes. While the income share of the poor has been shrinking, the size of the pie has been growing enormously. In 2006, America produced nearly $14 trillion of goods and services. In 1980, the total "pie" was only $6.3 trillion (in 2006 dollars). So the **absolute** size the of "poor's" slice was

1980	4.2% of $6.3 trillion = $265 billion
2006	3.4% of $14 trillion = $476 billion

The slice received by the lowest quintile was 80 percent larger in 2006 than in 1980. Allowing for population growth still leaves the average "poor" household with 40 percent more income in 2006 than in 1980. **The "poor" may not have gotten rich over the last 26 years, but they certainly didn't get poorer.**

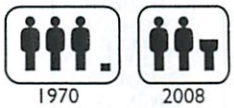
Stagnant Middle-Class

Another first impression that jumps out of annual Census data is the apparent income stagnation of middle class households. The median household income in 2006 was $48,201. That was less than the 1999 benchmark of $49,244 and only ten percent above the level of 1986. That suggests that the middle-class gained relatively little from the growth of the economy since 1986 and nothing at all since 1999. This is the data that supports the notion of a "struggling middle-class."

Shrinking Households

The notion of middle class stagnation is greatly exaggerated, however, by demographic changes in the make-up of the U.S. population. Keep in mind that the Census data depicts the "average" household in any given year. But the size and composition of U.S. households have changed dramatically in recent years. As a result, the **average** household in 2006 is very different in appearance than the **average** household of earlier years. Comparing this year's "household" to that of 1986, 1970, or even 1999 is akin to comparing apples and oranges.

High rates of divorce, separation and non-marital births have changed household composition and size. In 1970, the average size of a U.S. household was 3.14 persons. Today the average size is 2.57 persons. This 20 percent reduction in household size implies that even a "stagnant" *average* household income conceals an *increase* in the standard of living for the typical household member.



Even more dramatic is the increased prevalence of *one*-person households. In 1970 only 17 percent of all households contained only a single person. **Today over 27 percent of all U.S. households–over 30 million households–contain only one person.** Clearly, a one-person household can live quite comfortably on the income of an *average* household.

Who are all these single-person households? A great many of them are GenXers, who have left the parental home and set up their own residence. Another large group are seniors who choose to live independently rather than with their extended family. In both cases, they have established single-person households because they can *afford* to do so. In

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other words, the spread of single-person households is more a symptom of rising affluence than of increased deprivation. The *statistical* impact, however, is to reduce observed *average* household incomes.

Immigration Flows

Another problem in interpreting inequality trends is the unrelenting flow of immigrants. When people look at the incomes of low-income households in any two years, they often assume they are observing the *same* households from one year to the next. But this is rarely true, especially over longer periods of time. Every year at least a million immigrants enter the United States. Whether legal or illegal, they get counted in the Census household surveys. Overwhelmingly, the immigrants enter at the bottom rungs of the income distribution. These low-income immigrants dampen *average* household income. In fact, *everyone's* income could rise without increasing the statistical average so long as immigrants and other labor-market entrants keep entering the income distribution from the bottom. When you look at inequality trends over a decade, the impact of immigration on *average* household incomes can be dramatic.

Cautionary Tales

In view of these and other demographic shifts, one must exercise great caution in interpreting annual Census data on U.S. household incomes. Most of the recent demographic changes have exaggerated inequality trends, poverty persistence, and middle class income stagnation. That doesn't mean that a "corrected" reading of the data would reveal optimal answers to the For Whom question, but it does underscore the importance of using caution in drawing conclusions about inequality trends.

Webnote: Current and historical data on household incomes are available at www.census.gov. Public opinions are tracked by several organizations, including www.pewtrusts.com, www.maxwell.syr.edu, www.pollingreport.com.

Text Note: Chapters 33 and 34 of the new eleventh edition of the *The Economy Today* examine the role of taxes and transfers in redistributing incomes; Chapter 2 offers a global comparison on inequality.

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Melissa Larmon,
Marketing Manager
for McGraw-Hill/Irwin,
800.634.3963, x5034 or
melissa_larmon@mcgraw-hill.com

Bradley R. Schiller
is visiting at the University of Nevada-Reno this year; e-mail bschiller@unr.edu.
Visit the Schiller website at
www.mhhe.com/schiller11e

28 Wage Determination

Labor, Wages + Earnings 581-582 4/10

your wage is critical to determining your economic well being

real wages used to rise but were stagnant in last 20 years
Union workers get paid more
baseball players are paid more than teachers
paid by: hour, year (salary), output, commissions

wages set by supply + demand
3/4 of national income set by wages

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labor means:
- typical blue collar jobs
- professionals like doctors
- owners of small businesses working for their business

wage is amount paid for labor (inc. bonuses)
earnings are wages over time

nominal wage - amt of $
real wage - quantity of goods + services it can buy
- adjusted for inflation

↑ we always talk about real wages unless otherwise indicated

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General Level of Wages 582-585

4/10

Wages differ by
- country
- region
- occupation
- gender
- race
- ethnic background
- and more!

In USA
- demand grew w/ supply

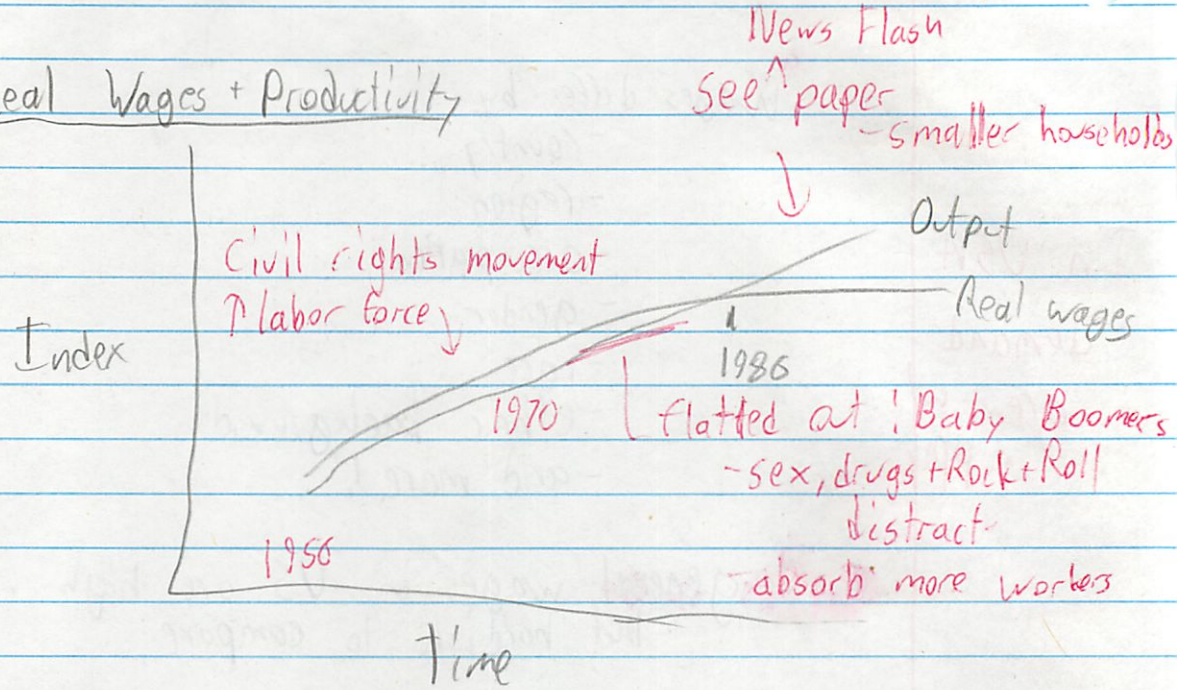
general wages in US are high
- but hardish to compare

wages higher in "advanced economies" because demand relitivly larger than supply

Productivity

demand for labor depends on it
greater the productivity - the greater the demand
helped by large amounts of capital
- ~ $90,000 / worker in USA
helped by abundant natural resources
helped by technology
- not only more but better capital
helped by healthy + smart workers
helped by good management
helped by business, social, + political environment
friendly to business
helped by large domestic economy
motivation
culture

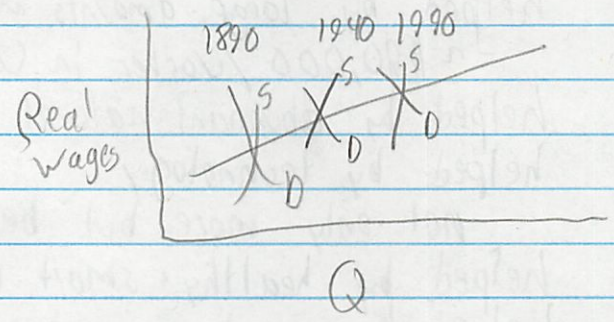
Real Wages + Productivity



* real income per worker can only increase at about the same rate as output per worker
  - when more is produced, more can be distributed as wages

Secular Growth of Real Wages

labor demand has increased more rapidly than supply



← long run (secular) growth

Recent Stagnation of Real Wage Growth

book from 1997 ↓

real wages have been stagnant since 1980

Slow productivity growth
- decreased capital accumulation
- over burdended infrastructure
  - with poup. growth →

- rapid gain of employment in service industries
  - low productivity gains
- deterioration of skills
  - bad education
- surge in workforce size
- management emphizing short-term

Downward Wage Growth

not just slow productivity growth
- has not kept pace

Globalization of Production
- expands supply of workers as laid off
- real wages for low skilled workers actually declined

Statistical Illusion
- fringe benifits not included in this
- fringe benifits (health plans) are expanding
- calculation of inflation too high

28 Wage Determination

Purely Competitive Labor Market 585-587 / 4/10

- many firms compete for hiring a certain type of worker
- many independent workers provide this skill
- both are "wage takers"

McDonalds + fast food purely competitive

Market Demand for Labor

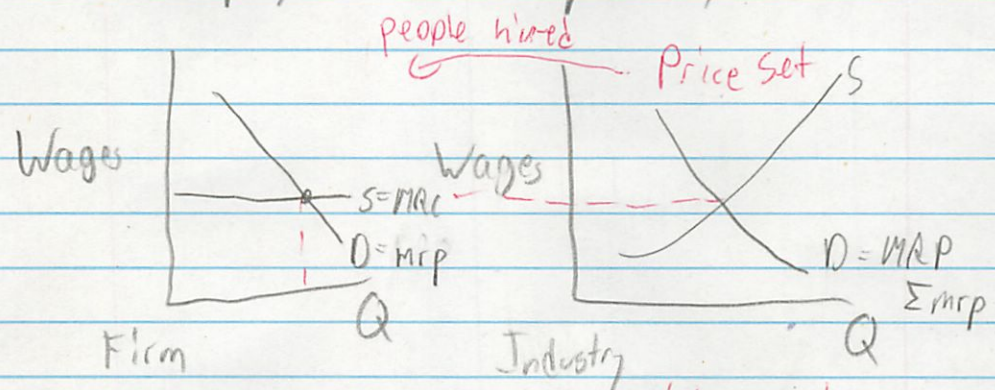
- different industries compete for a skill set
- wood cabriets vs wood door makers compete for carpenters

Market Supply for Labor

- assume no union
- must pay higher wages to get more workers
  - to get them away from other workers
- also need to pay enough to get people to work

Labor Market Equalibrium

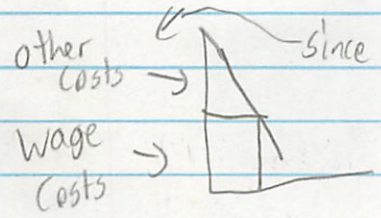
- firm can not Δ wage rate since so few employees - market perfectly elastic



marginal decision rule

- each firm hires up to MRP=MRC

↑ constant w/ wage rate



since purley competive firm can only earn a normal profit

28 Wage Determination

Monopsony Model 587-589

4/10

1 buyer

in a monopsony - the firm hires all of the labor
1. Only a single buyer of the labor
2. Labor immobile
   - special skills
   - geograph(ical
3. "wage maker" - can ↓ wages by # of workers it employs

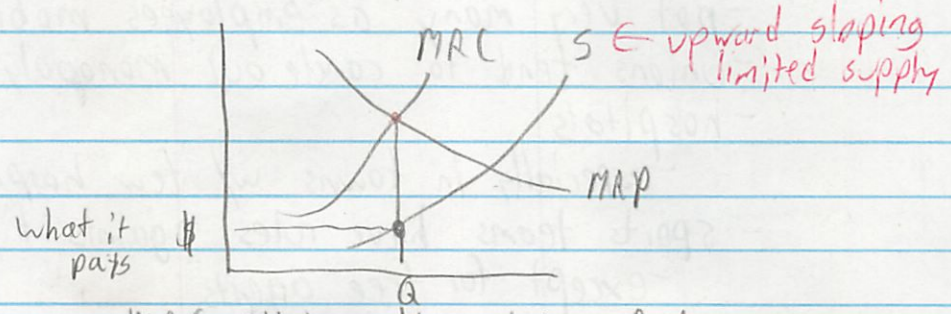
in small towns - 1 manufacturer might employ everyone
nurses in a small town

make profits by ↓ costs

oligopsonies might act like monopsonies
- when a few hospitals in a town

Upsloping Labor Supply to Firms
* if a firm is large in relation to labor market it will have to pay a higher wage to obtain more labor
firm's labor supply curve closer to that of the industry

prime target for unionization



MRC Higher than Wage Rate
- must pay the higher wage it needs to attract more workers to all of its workers
- worker earns $7
  Hire new worker at $8 } MRC = $8 + $1 raise for 1st worker
  $9
* MRC > wage rate
  - trouble if don't pay everyone the same amount

Equalibrium Wages + Employment

Monopolistic equations

$$\frac{MP_L}{MRC_L} = \frac{MP_E}{MRC_E}$$

$$\frac{MRP_L}{MRC_L} = \frac{MRP_E}{MRC_E} = 1$$

Will employ Q where MRP = MRC
Will pay rates where this Q meets supply

* can hire less workers and pays a less than competitive wage
  - society gets a smaller output

- monopolies find it profitable to buy less than competitive resources

Examples
- not very many as employees mobile
- unions tend to cancel out monopoly powers
- hospitals
  - especially in towns w/ few hospitals
- sports teams have rules againts bidding for players
  - except for free agents
  - brought saleries closer to MRP

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Three Union Models 590-593

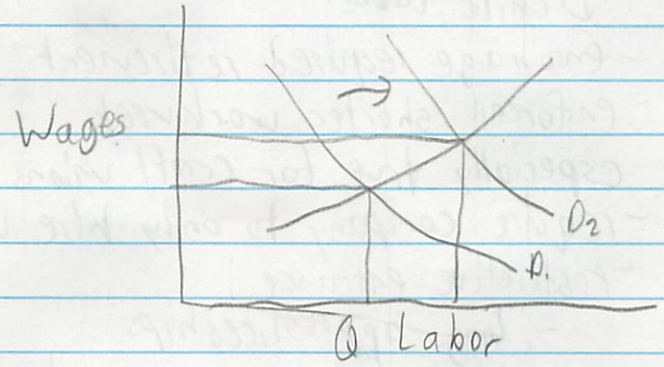
4/13

labor is usually purely competitive
but unions sell labor services collectively
seeks many goals; most important: ↑ wages

All depends on strenght of unions + employers relative

Demand Inhancement Model

- best way to ↑ wages is to ↑ demand for labor
- higher wages and more jobs



Increase Product Demand

- tring to ↑ derived demand for products
- advertising, lobbying, requiring redundent labor (hard →)
- "buy Union" advertising
- construction unions; more public works projects
- teachers; ↑ edu spending (lobby gov for projects w/ union jobs →)
- protective tarrifs + quotas from foreign competitors
- "featherbedding"
  - for example requiring diesel trains to have fireman

Increased Productivity

- increase of labor-managed companies

Change Price of Other Inputs

- unions want ↑ minimum wage
  - so it can't be easily subbed for union workers

- or can also want reduce complementary resources prices
  - don't want ↑ in electricity prices
- but their influence is limited
- try more to halt decline of labor demand

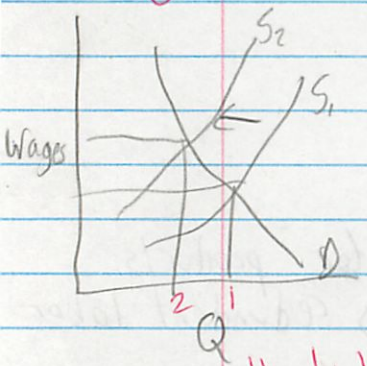
Exclusive or Craft Union Model

- can ↑ wages by ↓ supply of labor
- restrict immigration
- ↓ child labor
- encourage required retirement
- enforced shorter workweek
- especially true for craft unions
- require company to only hire union
- restrictive entrance:
  - long apprenticeships
  - high fees
  - quotas
- "exclusive unionism"
- occupational licensing
  - often controlled by the members
  - sometimes restricts interstate movement

decrease supply of workers

want your MRP to = MRC

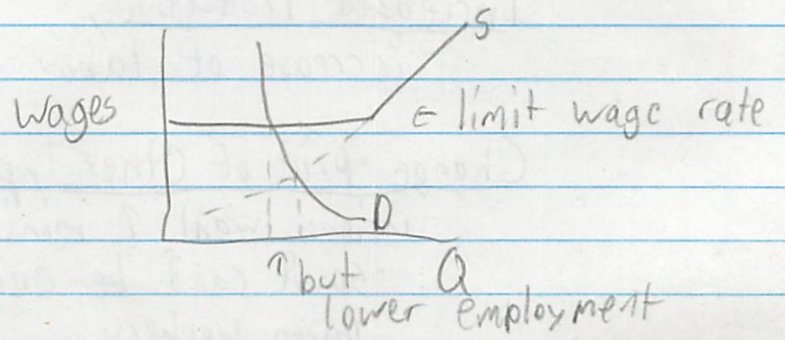
keep wages ↑ by supply ↓



but would ↓ workers with jobs

Inclusive or Industrial Union Model

- most unions do not limit entrance
- instead want to cover most people as possible
- mostly for unskilled labor



- employer must pay demanded wage
  - or no labor at all (strike)
- individual workers become "wage takers"
- perfectly elastic in flat part
  - MRC = wage
- but surplus of workers

Wage Increases + Unemployment

- about 10-15% ↑ over nonunion workers
- but sucess means ↓ in employment
  - restraint on union demands
  - union not happy if 20-30% unemployed
- reduced through:
  - growth - growth of econ could offset the unemployment
    - would only ↓ rate of job growth
  - elasticity - size depends on elasticity
    - inelastic: smaller unemployment
    - may be able to block new equipment
    - may get ↑ severance pay
    - may not allow subcontracting
    - " " " outsourcing
- so unemployment is less pressing

28 Wage Determination

Bilateral Monopoly Model

593-594

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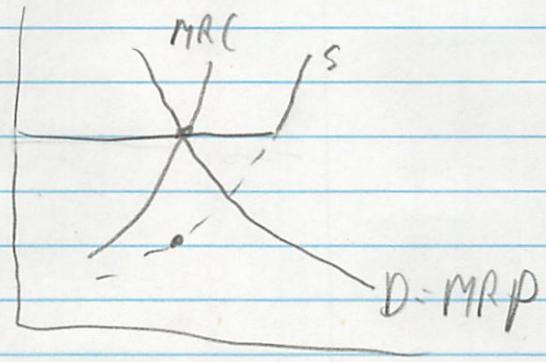
combines monopsony + inclusive unionism model
↑ 1 buyer
only seller of labor
faces a monopsonic or combo of oligopolist employers
both can affect prices
* "big labor" vs "big business"



union wants high wage
business wants low wage
) indeterminate
- however has more bargining power

<u>Desirability</u>
- might cancle out yielding near-competive result
- might cause labor surplus if managerent wins
- but if labor strikes back - can no longer
  ↓ employment to ↓ wages
- hires where MRP = MRC
- so closest to competitive

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Minimum Wage Controversity 594-595 4/13

must be above equalibrium wage

90% covered
started in 1938
about 40'-50% average manufacturing workers

Critics
causes ↓ in employment
causes firms to go out of business
mostly helps teenagers who can rely on family
↑ like a union

Pros
helps in a monopsonistic market
may ↑ jobs by removing case to restrict emplayment
may force ↑ in productivity cancling offset
- shock effect
- higher wages may ↑ health + vigor

Evidence + Conclusions
- does cause some unemployment
  - especially for teens
  - 10% ↑ would ↓ teen employment 1-3%
- those employed recieve ↑ wages
- those w/ jobs escape poverty
- those w/o fall into it

* few people actually work at it (3-4%)

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Wage Differentials 595-597

4/13

Why do different people earn different amounts?
- supply + demand
  - ↑ but why?

Same if
- all workers homogeneous (same)
- all jobs =ly attractive
- labor markets perfectly competitive

But
- not all workers are the same
  - differ: ability, edu, training
- jobs varry in attractiveness
- labor markets do not work perfectly

<u>Noncompeting groups</u>
workers in 1 group do not qualify for another

<u>Ability</u>

more education = higher wages

- not everyone can be a brain surgon or violinist or athlete
- also ability matters inside the groups
  - Michal Jordan made more
- less talented people are imperfect substitutes

<u>Education + Training</u>
- difference in human capital investment
- edu = investment to ↑ productivity
- earnings of edu workers rise faster
- edu has short term cost
- 1 year of school = 8% wage ↑
- pay gap only ↑

Compensating Differences

- sales clerk + unskilled construction require same amt of edu - but paid differently
- but construction is dirty + dangerous
- so construction pays more to make up difference

Market Imperfections

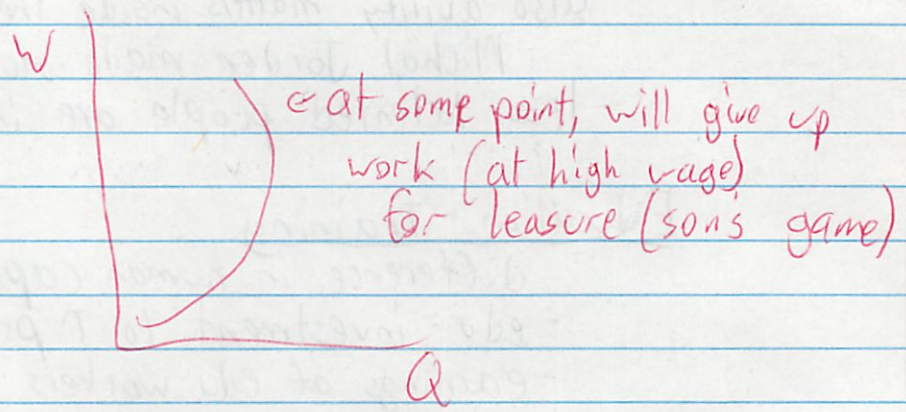
→ Lack of Job Info - workers may not know about higher paying jobs

generally mobile in US → Geographic Immobility - workers are reluctant to move (and is expensive)

Unions + Gov Restraints - unions restrict workers
gov's licensing restrictions stops people from moving

Discrimination - although illegal may happen

Typically all 3 groups play a role



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Pay for Performance 597-600 4/13

- not just hourly wages
- but saleries + fringe benifits
- and also performance pay

Principal-Agent Problem
- firm's owners (principals) make $ based on companies' returns
- but managers + workers (agents) do not
  - however the firm needs to do well enough to keep them employed
- principals need to discourage employee's shirking
  - could hire a guard (expensive)
  - or create an incentive pay plan
- piece-rate - by the output (bushel picked)
- commissions or royalities - tied to value of the sales (% of them)
  - real estate agents + performing artists
- bonuses and profit sharing - extra pay based on individual, group or firm performance
- efficiency wages - firms may pay a higher wage to ↑ productivity so much to cover wage ↑
  - higher morale + worker quality
  - turnover lower, increasing experience
  - workers don't misbehave to keep job
  - work harder

Side Effects

performance-based pay has some drawbacks
- rapid production could ↓ quality
- sales people may exagerate or use illegal tactics to make a sale
- personal performance: may rely on team
  less

- group: worker may get a free ride on works of others
- low turnover reduces "new blood" invigorating workplace

Last Word: African Hairbraids

- stringent licensing requirements limit African hair braiding shops
  - DC businesses need extensive + expensive cosmetology licence → barrier to entry
  - need to take classes unrelated to their business
  - got special license with 1/3 the work
  - ↓ employment by keeping people out of the business

In this special issue, join PARADE as we peek into America's pocketbooks

How Does Your Salary Stack Up?

By Lynn Brenner

AMERICANS ARE OPTIMISTIC AND resilient by nature. We're upbeat about our personal prospects despite our anxiety about the current economy. Almost two-thirds of respondents to a national survey say they're hopeful about what 2008 has in store for them, even though a majority of them, like many experts, believe we are already in the midst of a recession.

Wages Are Down

It's tough out there: Hiring has slowed, unemployment is rising, and most salaries haven't kept pace with the cost of basics such as groceries, gasoline and health care.

The U.S. is losing jobs for the first time since 2004. February's loss of 101,000 jobs was the biggest drop in five years and the third monthly loss in a row.

Both high-end and low-end retailers are reporting slower sales, a sign that consumers at every income level are tightening their belts. As demand falls, many employers have cut their workers' hours. The Labor Department says more than 600,000 people now work part-time because they can't find full-time work. A growing number of Americans have been out of work for more than six months. The unemployment rate is expected to rise from 4.8% to 5.5% this year—and experts say it would be even higher if so many people hadn't given up looking for work.

The nation's median salary last year was $36,140 (half of all workers made more, half made less). After inflation, that's almost 0.5% below the 2006 median salary. The average 2007 pay increase was less than 4%, and many Americans got smaller raises or none. Meanwhile, the Consumer Price Index rose 4.3%. We now spend almost 5% more for food, 8.6% more for hospital services and a whopping 35% more for gasoline than we did a year ago.

Good Jobs For Right Now

In a struggling economy, some jobs are more recession-proof than others

Energy. Jobs related to oil, gas and nuclear power remain essential and in demand. Positions range from scientists to engineers to rig and well workers.

Security. The Defense and Homeland Security departments are attempting to fill 83,000 civilian jobs, from auditors to program analysts.

Accounting. Managing corporate finances is especially important during lean times. "Job-board sites list more than 325,000 accounting and finance openings right now," says Rick Moore of Volte Services Group.

Wireless Support. With a mobile workforce, companies need professionals who can maintain wireless networks and protect information security.

Database Administration. As companies become more reliant on data for research, sales, and marketing, there is an increased need for database administrators.

Paychecks Won't Stretch

Even people with good jobs feel they're losing ground. "I'm lucky to get a small raise each January, but it's not even close to keeping up with the cost of living," says Randy T. Bubar, 45, a software developer in Maine who made $58,000 last year. "I feel I have less money in my pocket at the end of each month after paying the bills."

Many PARADE interviewees echo his words. "Money just doesn't stretch as far as it used to," says Gary Zell, 42, who made $77,500 as a National Weather Service meteorologist in Tucson. Karen

Health Costs Soar

Health-care costs also are on the rise. Americans whose jobs provide health insurance paid about 11% more for it last year and probably will pay an additional 10% in 2008. Coverage is even more expensive for independent contractors. "I pay about 25% of my monthly income for health insurance for my daughter and myself—by far the least-expensive policy I found," says Michele Elder, 44, a freelance talent manager in Portland, Ore. Still, Elder feels lucky to have it. Indeed, 76% of Americans who are insured told a recent survey they'd rather have $7500 of health benefits at work than a $7500 raise.

Freeman, 32, v
expects her sala
money will be v

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$61,400 as a high

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Freeman, 32, who earned $65,000 as an architect in Atlanta, expects her salary to improve this year. "But I do not believe my ey will be worth as much in 2008," she adds.

The Job Market Contracts

A major housing downturn and nationwide belt-tightening are having a big impact on the job market. The biggest layoffs have been in construction, manufacturing and financial services. Indeed, experts predict that up to 20% of securities-industry workers may lose their jobs. Bear Stearns—Wall Street's fifth-largest investment bank—collapsed in March and was sold at a fire-sale price. Many of its 14,000 employees may be laid off.

As consumers spend less, hotels, restaurants and other service companies are experiencing their slowest growth in years, so they're holding off on hiring.

And older workers aren't retiring. In the mid-1980s, only 18% of people in their late 60s worked. Today, that figure is 29% and growing.

Consumers Cut Back

Americans are responding to today's economic realities by spending more cautiously, borrowing less and trying to save more. "In the past, we used the equity on our home to make major purchases without a second thought," says Karen Koen, 49, a laboratory scientist in Woodbury, Minn., who earned $65,000 last year. "Now, we're focused on getting the mortgage paid off."

"We're in self-preservation mode," says Sean Abid, summing up the American consumer's new attitude. Abid, 40, earned $61,400 as a high school guidance counselor in Henderson, Nev.

continued


Baddy/Getty

Carrie Underwood, 25
Singer
Nashville, Tenn.
$7 million

Cameron Chinatti, 27
Singer
Boulder, Colo.
$18,400

John Huffman, 36
Industrial electrician
Dinwiddie, Va.
$145,200

Eileen W
Preschoo
Roslyn, P
$15,000

Sergio Martinez, 29
Machine operator
Paxton, Ill.
$34,700

Deborah Baker, 48
Graphic illustrator
Radcliff, Ky.
$32,000


Winter/Getty

Jessica Alba, 26
Actress
Los Angeles, Calif.
$9 million

Michael I
Screen pr
Mishawal
$47,800

Donna Puls, 44
Locksmith
Iowa City, Iowa
$45,200

Allen Kite, 48
Firefighter/paramedic
Osceola, Ind.
$53,000

Jimmy Parrish, 55
ID theft consultant
Birmingham, Ala.
$143,000

Andrea
Domesti
Bakersfi
$8,500 (

Marc Cardullo, 37
Loan officer
Saco, Maine
$65,000


Phillips/WireImage

Meredith Vieira, 54
Television anchor
New York, N.Y.
$10 million

Chelsea Lynn, 23
Television reporter
Anchorage, Alaska
$28,900

Bruce Hc
Truck dri
Madison,
$45,000

a Summers, 41
.. clinic coordinator
Newport News, Va.
$46,600

Timothy Janus, 31
Competitive eater
New York, N.Y.
$25,000

Susan Chick, 50
Weight-loss facilitator
Merrimack, N.H.
$27,000

Michael Spikes, 25
Radio producer/teacher
Washington, D.C.
$87,000

Kim Leisure, 41
Payroll administrator
Ocoee, Fla.
$41,000


WirePix/Newscom

Kerry Killinger, 58
CEO, Washington Mutual
Seattle, Wash.
$5.25 million

Sue Gag
Janitor
Shelby Tc
$10,700

Visit

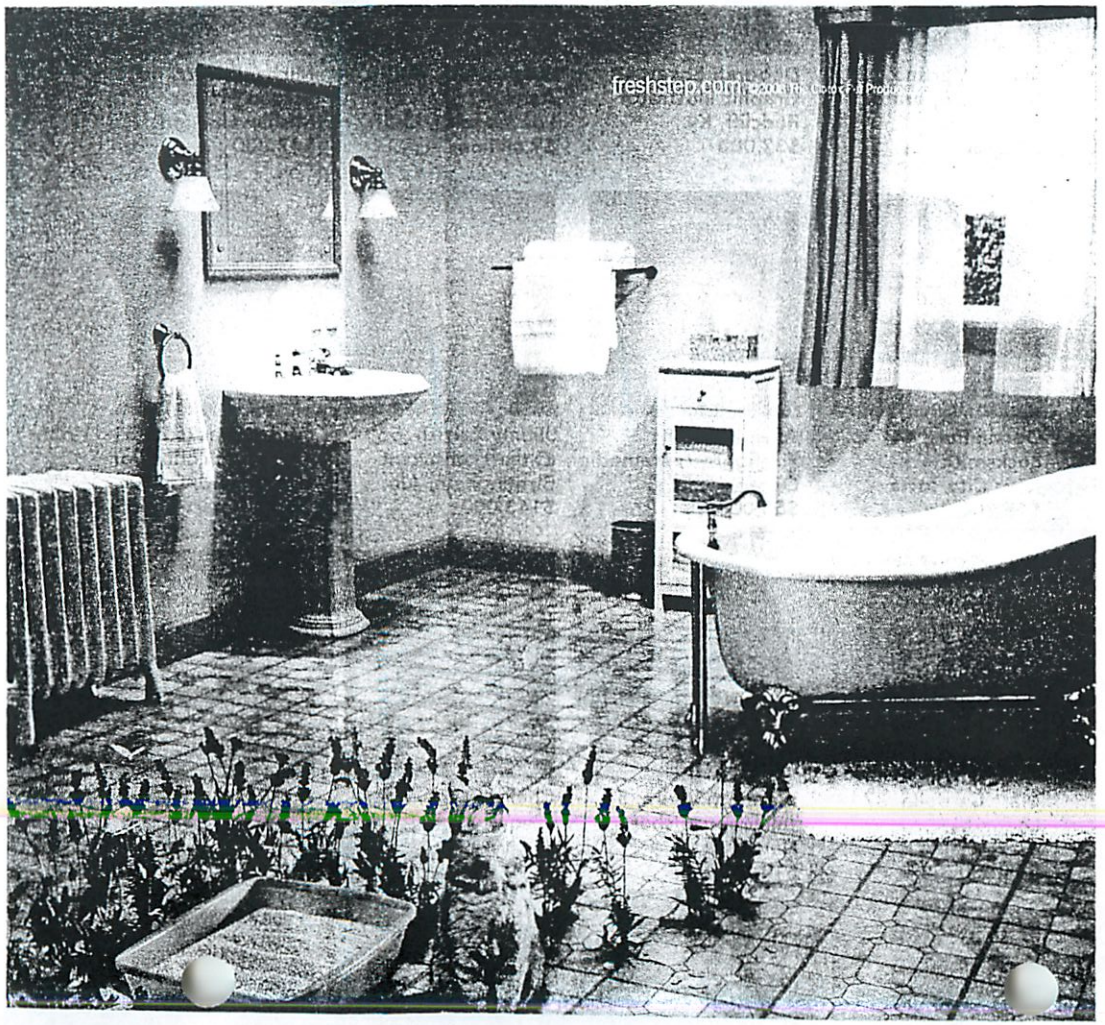
He and his wife have stopped traveling for pleasure and have limited their daughter's extracurricular activities to gymnastics. "We couldn't afford swimming and dance classes," he says.

Deborah Baker, 48, an illustrator at the Army's support center in Fort Knox, Ky., says she now buys generic grocery items instead of name brands. "I budget just to get from one paycheck to the next," adds Baker, who earned $32,000 last year. "I have $40 for gas and have to cut down excess traveling to make it last two weeks."

The soaring cost of oil, now around $100 a barrel, also has driven up the cost of petrochemical-based products—from lipstick, shampoo and shower curtains to polyester clothing and computer parts.

Where the Jobs Are

Even in a recession, some sectors of the economy are likely to keep growing—among them education, health care, security services and information technology. As entertainment increasingly is distributed online, there's a growing demand for designers, writers and art directors with tech skills. Dottie Martin, 36, who made $83,600 as an editor for an entertainment website last year, loves her job. Her words confirm what many we spoke with say—that, in any economy, the best jobs provide emotional as well as financial rewards. "Although I've been doing it for almost three years now," says Martin, "I still pinch myself because it essentially doesn't seem like work."



What You Can Make In...

HEALTH CARE

Jobs in health care have soared 45% in the last 15 years, and experts expect opportunities to continue to grow as the population ages.

- The U.S. will need more than 500,000 new nurses by 2016. Median salary for a registered nurse: $57,280.
- Many of the fastest-growing occupations are medicine-related. Pharmacy technicians average $12.32 an hour. Medical transcribers can earn $17 an hour.
- Family doctors and pediatricians are in demand, as more medical students pursue higher-paying fields like dermatology (average salary: $390,274) and plastic surgery (average salary: $412,000).

Archie McEvers, 53
Nurse practitioner
Syracuse, N.Y.
$79,000

"Nursing is very satisfying, and it's up and coming as far as salary and benefits."

Brian P. Wicks, 50
Orthopedic surgeon
Silverdale, Wash.
$425,000

Patricia Bingham, 53
Medical transcriber
Pocatello, Idaho
$25,000

Christie Coggins, 27
Pharmacy resident
Blythewood, S.C.
$38,300

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29 Rent, Interest, and Profit

Economic Rent 603-606

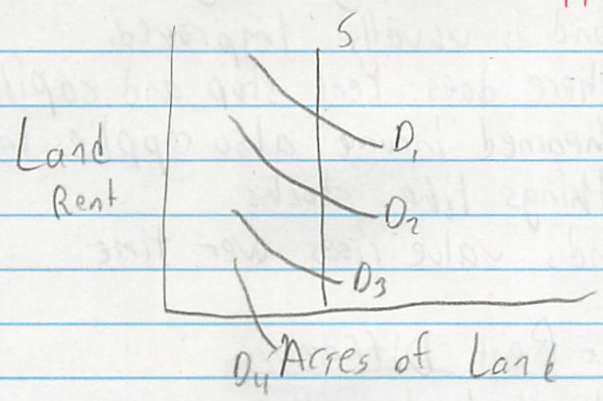
4/15

- are the 3 other sources of income
- land prices varry greatly
- interst rates vary with time
- firms suffer profits + losses

rent is payment to use factory building, machine, or facility

* price paid for use of land and other natural resources that are completly fixed in total supply

↙ can't ↑ supply ↑ different than others



← demand derived from product land is producing

D downsloping - diminishing returns
price must ↓ to sell more units

Perfectly Inelastic Supply
- rent = surplus payment
- not needed to pay to insure that land is avalible
- not like capital which requires a certain return for its use

Single Tax on Land

- some say rent income is unearned
- so surplus should be collected by the gov
- Henry George argues for "single-tax" in Progress and Poverty (1879)
  - Won't reduce land's supply
- land owners only make $ from holding land
  - which they may have inherited
- * - dosen't alter use of the land
  - wage tax makes less people work

Problems

1. Would not bring enough $ to be the only tax
2. Land is usually improved.
   where does rent stop and capital begin?
3. "Unearned income" also applies to other things like stocks
4. Land's value rises over time

Productivity + Rent Differences

- but not all land is the same
- some land gets enough sun+rain for corn growing
- so corn growers bid on that land
- location is very important
  - land in city is very expensive
- more productive land has higher rent

Alternative Uses of Land

- oppertunity cost of putting something else there
- rent must cover that oppurtunity cost

* rent is not a cost to society
- only to firms

 Michael Plasmeier 14/20 = 70% 4/22/08

?? Go over

ACTIVITY 58

What Do Land, Athletics, and Government Have in Common? The Story of Economic Rent

Part A.

1. Assume that the quantity of a certain type of land available is 300,000 acres and the demand for this land is that given in the table *Demand for Land at Varying Prices*.

Demand for Land at Varying Prices

Pure land rent, per acre	Land demanded, acres
$350	100,000
300	200,000
250	300,000
200	400,000
150	500,000
100	600,000
50	700,000

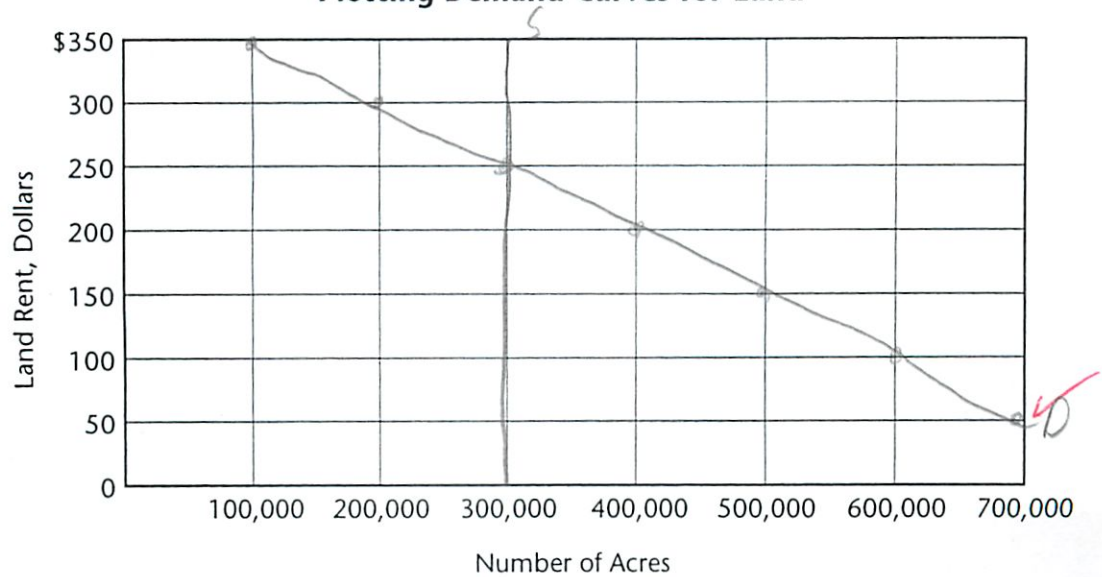
a. On the graph *Plotting Demand Curves for Land,* plot the supply and demand curves for this land and indicate the pure rent for land and the quantity of land rented.

b. The pure rent on this land will be $ 250 .

c. The total quantity of land rented will be 300,000 acres.

d. If landowners were taxed at a rate of $250/acre for their land, the pure rent on this land after taxes would be $ 0 but the number of acres rented would be 300,000

Plotting Demand Curves for Land



ACTIVITY 58 continued

2. The table *Yield per Acre on Three Grades of Land* gives the yields (i.e., output per acre) in bushels on three grades of land resulting from varied amounts of expenditure on workers, fertilizer, etc. (Use only these data; don't try to estimate what would happen if other amounts are expended.) To answer the questions below, apply your marginal analysis skills to the data in the table.

Yield per Acre on Three Grades of Land

	Expenditure Per Acre						
Land Quality	0	$100	$200	$300	$400	$500	$600
		75	126	150	125	75	15
Grade A land:	0	175	325	450	525	575	615
Grade B land:	0	160	290	375	445	490	525
Grade C land:	0	120	210	290	330	360	385

← Just find total profit

a. If the product sells for $1.00 a bushel, how many dollars per acre should be spent on:
Grade A land? ~~600~~ $300 Grade B land? ~~400~~ 200 Grade C land? ~~200~~ 100

b. In a competitive market, what do you think the rental price would be for an acre of:
Grade A land? 600 $150 Grade B land? ~~400~~ $75 Grade C land? ~~200~~ $20

← extra amt you make

(**Note:** Economic rent is defined as a return over and above opportunity cost or the "normal" return necessary to keep a resource in its current use. Using this logic, you can approach question 2b by asking: "What is the most someone would be willing to pay for the right to use an acre of each type of land?")

Part B.
Land is not the only resource whose supply is fixed. For example, the supply of some star athletes is fixed, at least in the short run. Hakeem Olajuwon, star center of the Houston Rockets, was the most valuable player in the National Basketball Association (NBA) in 1994. There is only one "Hakeem the Dream." Let's say he earns $6 million a year. Economic rent is any payment made to a resource above the amount necessary to induce any amount of the resource to be employed. Economic rent can also be defined as the amount over and above the opportunity cost necessary to keep the resource in its current use.

1. Assume that Olajuwon's next best option after playing basketball is to work as a high school teacher and coach. He could earn $40,000 a year in this job. How much economic rent is involved in Olajuwon's salary? _____ 5,960,000

2. Now assume that someone else is as good at soccer as Olajuwon is at basketball. If that person wanted to play soccer in the United States, would he receive more or less economic rent than Olajuwon does for playing basketball? Support your answer. Less - since less people watch soccer

6x

ACTIVITY 58 continued

3. Now assume that the NBA is successful in passing a rule that requires a player to play for the same team for his entire career.
   a. What will happen to Olajuwon's salary? Go down
   b. Will there still be economic rent? Yes
   c. If there is economic rent, who will receive it and why?

The new players in the form of new sign on bonuses.

Part C.

The concept of economic rent also is used to explain the behavior of business executives, lawyers, and lobbyists in pursuing government contracts. For example, if a firm received an exclusive monopoly cable-TV contract for a city, it could charge more than the competitive price and receive economic rent. Therefore, firms will fight over this economic rent. To be successful, a firm may hire lobbyists or even offer bribes. This is wasteful behavior because valuable time used to get the contract could be used in producing goods and services. Economists believe that these activities will be undertaken until the cost equals the economic rent.

1. A city is offering a cable-TV contract for 20 years. The potential revenues from this exclusive franchise are $900 million. The costs including a normal profit are $500 million. How much economic rent is involved in this contract? ~~$400 million~~
2. What is the maximum amount that will be wasted gaining the contract? $400 million
3. If city officials want the economic rent to go to the residents of the city, what steps should they take in awarding the contract?

- Offer it fairly - by having them bid on it and using the proceeds to build something for the public
- Make the process of awarding it very transparent and unable to be affected by people (who could be bribed)

0

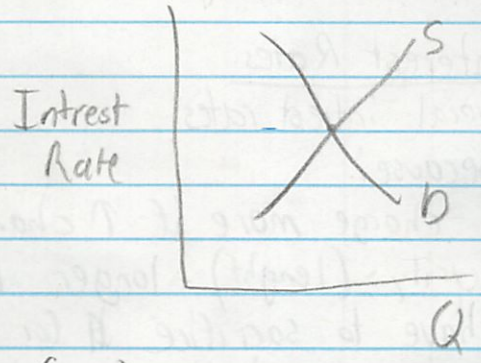
29/ Rent, Interest, and Profit

Interest 606-611 4/16

* price paid for use of money
  - the amount to use $1 for a year

- Stated as a percentage
  12% = $120 for $1000
- Money is not a resource
  - not productive
  - can't produce goods + services
  - it is used to hire facilities which produces

Lonable Funds Theory
supply + demand for money avalible for lending



Supply
- households make avalible more $ at a higher interest rate
- must be bribed to put off purchases today
- some thing rate of saving is more elastic - does not depend very much on interst rate

Demand
- Expected Rate of Return > Interst Rate
- so more projects done at lower interest rates

→

Extending the Model

Financle Instutions - households put $ in banks
and businesses borrow from banks

Changes in Supply - if no tax on interst income
then supply of $ would ↑ and rate would ↓

Changes in Demand - tech advance may ↑ expected
rate of return
- more demand for a producers' product

Other Participants - households borrow $ too
so does the gov.
businesses may loan out $
banks can also <u>create</u> loanable funds

Range of Interest Rates

are several intrest rates
varry because:
- risk - charge more if ↑ chance borror won't pay
- maturity (lenght) - longer loans cost more
  - have to sacrifice $ for a longer time
- loan size - cost the same in $ for any loan
  - in a smaller loan, that cost is a ↑ percentage
- taxability - state + muncipie bonds may be
  tax exempt from Federal tax
- market imperfections - small borrowers don't
  shop around as much
  in a small town, a bank has a monopoly

Pure Rate of Interest

- "the" rate economists talk about
- long-term, almost riskless 30 year
  Treasury Bonds
- no risk or admin costs

Role of Interest Rate

affects level + composition of investment goods
as well as amount of R+D spending

Interest + Total Output

- lower rate encourages borrowing
  - spending + output in econ rises
  - gov manipulates rates to expand or contract economy
    - does by changing $ supply

Interest + Allocation of Capital

- prices are rationing devices
- will only spend if expected return > interest rate
- in the interest of society
- but does not ration it to most productive uses
- large oligopolies can pass on costs to consumers
- big name firms most likley to get $

Interest + Level + Composition of R+D spending

- the ↓ the interest rate, the more R+D
- funds allocated to projects with highest expected returns
  - good for society

Nominal + Real Interest Rates

nominal - just in $
real - adjusted for inflation
- so if borrow at 10% and inflation is 10% the real interst rate = 0%
- people look at the real interest rate

Application: Usury Laws

- Some states set max interest rate
- good for low income borrowers
- if law set rate below =librium:
  - nonmarket rationing - shortage of loanable funds
    - will only loan to most credit worthy people
    - low income people may have to turn to loansharks
  - gainers + losers - borrowers win, banks lose
  - inefficiency - may fund a lower return project instead - causing inefficiency

federal + trade deficits
will make interest rates ↑
- causing econ to slow down

 Michael Plasmeier 9x 90% 4/22/08

ACTIVITY 59

The Determination of Interest Rates and Their Effect on Investment Decisions

Part A.

Fill in the answer blanks or cross out the incorrect words in parentheses.

1. a. Interest is the price paid for the use of money.
   b. Interest is typically stated as a percentage of the amount of money borrowed.

2. Money or financial capital is obtained in the loanable funds market.
   a. The equilibrium rate of interest is determined by the intersection of the supply curve and the demand curve for loanable funds.
   b. The quantity demanded for loanable funds is *(greater than/less than/equal to)* the quantity supplied at the equilibrium rate of interest.

3. a. The quantity supplied of loanable funds is *(inversely/directly)* related to the interest rate.
   b. In this case, the higher the interest rate, the *(more/fewer)* funds households are willing to save and make available for loans.

4. a. The quantity demanded of loanable funds is *(inversely/directly)* related to the interest rate.
   b. In this case, the higher the interest rate, the *(more/less)* the quantity demanded for loanable funds because there are less opportunities for profitable investment.
   c. An investment is considered profitable if the expected return is greater than the interest rate.

5. The interest rate performs two important functions. It helps determine how much R+D will occur in the economy and then distributes it among various firms and industries.

Part B.

The *Schedule of Interest Rates* shows interest rates (column 1), the associated quantity demanded of loanable funds (column 2), and the quantity supplied of loanable funds (column 4) in billions of dollars at those interest rates.

Schedule of Interest Rates

Interest Rate (1)	Quantity Demanded (2)	(3)	Quantity Supplied (4)	(5)	
12%	50	120	260	120	400
10%	100	170	240	100	380
8%	150	220	220	80	360
6%	200	270	200	60	340
4%	250	320	180	40	320
2%	300	370	160	20	300

6x

+76 +140 ← add

ACTIVITY 59 continued

1. Plot the demand and supply schedules on the graph *Loanable Funds—Demand and Supply*. The interest rate is measured on the vertical axis and the quantity demanded or supplied is measured on the horizontal axis.

2. a. The equilibrium interest rate is 6% .

   b. The quantity demanded is 200 billion and the quantity supplied is 200 billion.

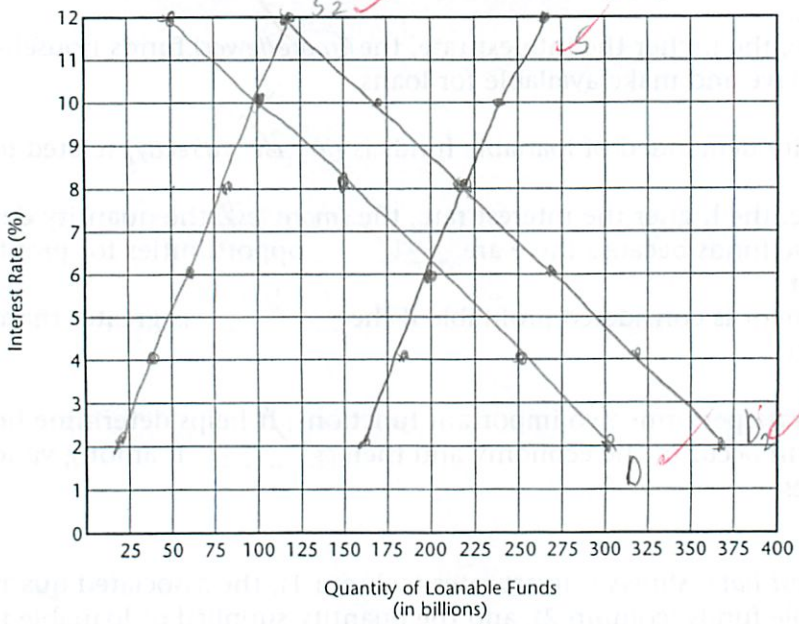
3. a. At an interest rate of ten percent, the quantity demanded of loanable funds is 100 billion and the quantity supplied of loanable funds is 240 billion.

   b. There is an excess of loanable funds of 140 billion.

4. a. At an interest rate of four percent, the quantity demanded of loanable funds is 250 billion and the quantity supplied of loanable funds is 180 .

   b. There is a shortage of loanable funds of 70 billion.

Loanable Funds–Demand and Supply



ACTIVITY 59 continued

5. If GDP increases and the demand for loanable funds increases by $70 billion at each interest rate, then the new equilibrium interest rate will be ___8___ percent and the equilibrium quantity of loanable funds will be ___225___ billion. Fill in the new demand schedule in column 3 of the table *Schedule of Interest Rates* and plot this new demand curve on the graph *Loanable Funds—Demand and Supply*.

save more ↓

add $140

6. Then, because of changes in tax laws, households become more thrifty by $140 billion at each interest rate. The new equilibrium interest rate will be ___4___ and the equilibrium quantity of loanable funds will be ___320___ billion. Fill in the new supply schedule in column 5 of the table and plot this new supply curve on the graph.

Both $D_2 + S_2$

7. Now it is time to distinguish between nominal and real interest rates. A nominal interest rate is uncorrected for inflation and is the interest rate normally quoted in newspapers. A real interest rate is the nominal interest rate minus the rate of inflation. It is real interest rates—not nominal interest rates—that affect investment decisions.

   a. If the nominal interest rate is nine percent and the rate of inflation is five percent, the real interest rate is ___4___ percent.

   b. True, false, or uncertain, and why? "The lowest real interest rate possible is a rate of zero percent."

True the econ would not be growing, Would there ever be a situation where you pay people to store your money. I don't think so

False - if inflation > nominal rate
- Savings account pay lower than rate of inflation

3

29/ Rent, Interest, and Profit

Economic Profit 612-614 4/17

economic (or pure) profit is what remains after all costs (implicit + explicit + normal profit) have been subtracted from a firm's total revenue

↑ must count your time as a cost in a small business because you gave it up to work in a small business.

Role of an Entrepreneur

- combine
  - resources to produce a good or service
  - make basic, nonroutine decisions for a firm
  - introduce innovation
  - bear economic risk
- cost of this is normal profit
- also gets to keep any residual claims - or economic profit

Sources of Economic Profit

- econ profit would be 0 in a purely competive market and a static econ
  ↑ no uncertanity

- Risk and Profit
  - in a real econ the future is uncertain
  - entprenure must assume risk
  - some types of risk is insurable
    - fire, flood, theft, accidents
  - but entprenure bears uninsurable risks
    - uncontrolled + unpredictible supply + demand Δ
    - change in general econ environment
      - recession
    - changes in structure of econ

- consumer tastes, tech, resources prices
  - airlines unsure of fuel prices
- changes in gov policy
  - new taxes would ↓ profits
- entprenures are compensated for taking these risks

Innovations + Profit
- entprenure will purpusly upset his business to try and ↓ costs and ↑ revenue
- but new products or changes may be failures
- only some products make large profits
- entprenures may lose or make $

Monopoly + Profit
- monopolies can ↓ output + restrict firm's entry into market and make large econ profit and use its power to sustain that
- this is not socially desireable

Functions of Profits
- main energizer of capitalistic econ

Profit + Total Output
- profit causes firms to innovate
  - persuit of
- causes econ growth

Profit + Resource Allocation
- allocates $ to different productions
- econ profit means industry wants to expand
- loses mean business doesn't help society
- but monopoly does not mean firm helps society

society is getting what it wants

29 Rent, Interest, Profit

Income Shares 314-315

4/17

labor = 71% of national income
- proprietor's income is largely implicit income + wages

been stable ~80% since 1900

w/ larger definition

so rent, interest, + profits are only ~20% of income
- good for a "capitalist system"

Last Word: Determining the Price of Credit

- interest rates can vary based on terms
- paying in installments is a bad deal
- compounding ↑ interest rate on a savings account
- gov requires all charges to be unified + simply disclosed

34 Income Inequality + Poverty

Facts 701-704

4/17

wide income disparity in America
13% poupulation lives in poverty
half a million homeless

Average income is one of the higest in the world
- but considerable income inequality
  - 10% made > $100,000
  - 1/7 made < $15,000

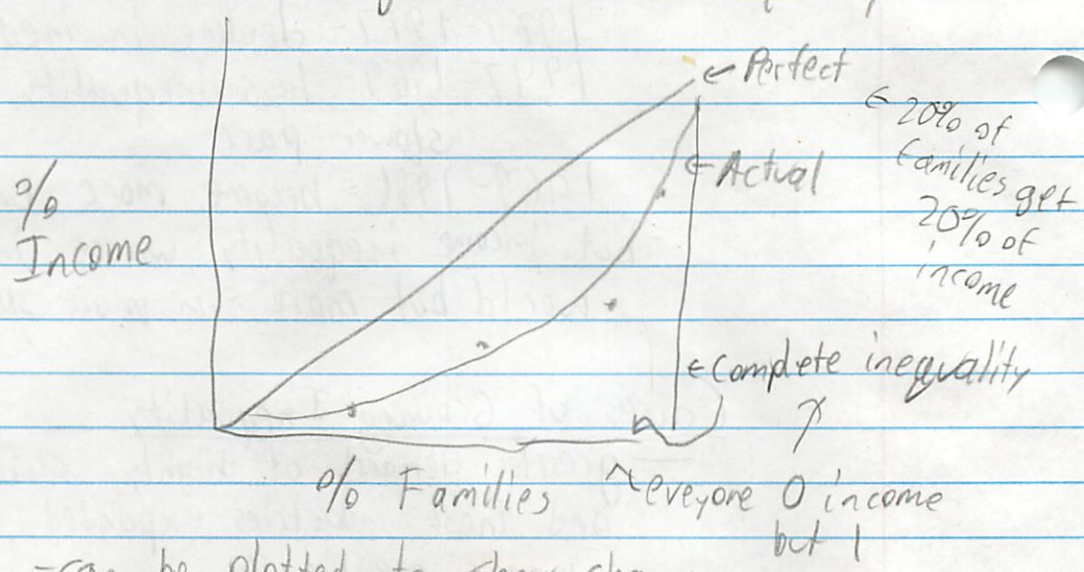
Trends
- absolute incomes ↑
- relative incomes ↓
  - 1929-1947 - decline in inequality
  - 1947-1969 - less inequality, but a much slower pace
  - 1969-1996 - become more unequal
- but income inequality worse in the developing world but more = in more socialist countries

Causes of Growing Inequality
- greater demand of highly skilled workers
  - and these industries expanded recently
  - wages are bid ↑
  - wage gap b/w HS + Collage grad growing
- demographic changes
  - entry of many low-skill Baby Boomers
  - rich people marry each other, consolidating income
  - more divorced familes
    - now counted 2x - w/ lower incomes

- international trade + ↓ in unionism
  - imports cut demand for low skilled workers
    ↑ but highly paid
  - ↑ filled ranks of low-paying industries
  - immigration ↑ # of low income families
  - decline in unionism

- Note: both rich and poor are getting richer
  - but growing <u>fastest</u> at the top

<u>Lorenz Curve</u>
- shows degree of income inequality



- can be plotted to show changes over time and show different groups

34/ Income Inequality + Poverty

Income Mobility: The Time Decision 704-705 4/20

income data used = 1 year
↑ too short

Considerable "churning around" in income year to year

have to compare low-income teens with middle aged correr people

income distribution more = over long term

movement of income = income mobility

95% of people in lowest quintile moved up in 15 years
30% went to the highest quintile
↑ went to college and became lawers, etc

* ↑ not percement - but many people move

Change over life time

34/ Income Inequality + Poverty
Effect of Gov Redistribution 705 4/20

data includes cash income - including cash transfer payments
- before tax
does <u>not</u> include non-cash transfer payments
- Medicare
- food stamps

* gov significanty restributes income from higher to lower income via tax + transfers

- so income inequality is significantly <u>less</u>
- lowest quintile gets 300% more

80% of reduction in equality is due to transfer payments

lowest quintile gets 75% of its income from transfers
↑ illeviate poverty

34 Income Inequality + Poverty

Causes 705-707

4/20

market system is impersonal
- no conscience or ethics
- reflects person's output

Ability Differences
people have different abilities
only a few people can be athleats
only a few have drive for high stress job

Education + Training
- people must develop + refine capibilities
- can be choice if going to college
  - or forced since don't have $
- some people get on-the job training

immigrants have to find work

Discrimination
- ↓ supply of workers where some kept out of
- wages ↑ for those who get in

Tastes + Risks
- people enjoy different types of work
- some enjoy tough jobs like mining
- entreprenures take risks too
- in a certain geo area + not willing to move

Unequal Distribution of Wealth
income = flow
wealth = stock (over time)
college grad may have large income but low wealth
top 20% of households have 80% assets
contributes to income inequality
↑ people w/ machines + land get $ from rent

retire low income but high wealth

Market Power

- certain unions can keep people out
- licences can keep people out

Luck, Connections, Misfortunes

- "right place at the right time"
- striking oil on your farm
- illness or death may ↓ families income
- borne unevenly

34 Income Inequality + Poverty

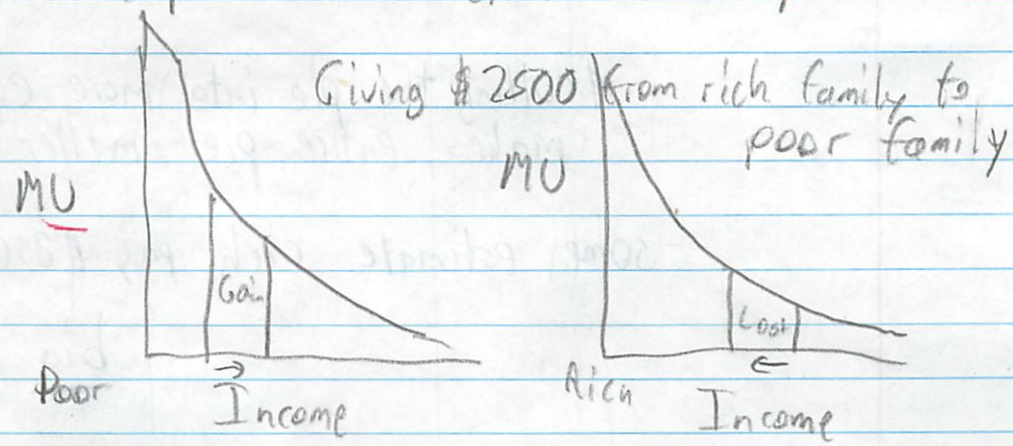
Equality vs. Efficiency 708-710

4/20

how much equality is justified?

Case for Equality: Maximizing Total Utility

- maximizes consumer's total satisfaction (utility)
- * decreasing MU of each $ recieved
  - first $ useful
  - next ones less so
  - $50,000 useful to most families
  - drop in the bucket for Mr. Trump.



theoretical

- so greater total satisfaction in the world

Case for Inequality: Incentives + Inefficency

- critics don't think that there is a total "income" which can be distributed
- since taxing away income would ↓ incentive to earn it in the 1st place
- societies total income ↓ (smaller total pie)
- inequality provides the incentive to make the pie bigger

tradeoff →

Equality - Efficency Tradeoff

- reflects rewards + penalities to make society productive
- this creates efficency - but inequality is a trade off

much decide what is important

- redistribution = leaky bucket
  - ↓ incentive to work
  - buracratic costs

* cutting the pie into more equal peaces makes entire pie smaller

- some estimate rich pay $350 to give poor $100

big loss

34/ Income Inequality and Poverty

Economics of Poverty 210-711

4/28

Definition

* person or family does not have means to satisfy basic needs: food, clothing, shelter + transport

- means = income, transfer payments, savings, property
- needs - determined from family size, health + age

1996: < 7995/year individual
13.7% of US in poverty

Incidence

- heterogenous
- all parts of nation
- but poverty rate higher for blacks + hispanics as well as female headed families + children
- poverty breeds poverty w/ health problems
- drug users more likely to stay in poverty

Trends

Poverty fell 1959-1969 → stabalized → increased → down

Invisible?

- much of poverty is hidden
- ½ are poor for only a year or 2 - not visibly
- permanent poor isolated geographically needy
  - "slums"
  - rural poverty
- politically invisible
  - don't form lobby groups

- little dreams
- for college
- or better life

- richer people don't want to be associated with
  - dirty, smelly, ragged
  - don't talk with