Above you see a time-series of foreign exchange rates for the U.S. dollar and the Japanese yen. In 1986, $1 was equivalent to 240 yen. In 1988, the dollar was equivalent to 120 yen. Between 1986 and 1988, economists say that the dollar “weakened” relative to the yen. In 1986, the dollar was said to be very “strong” relative to the yen. In 1986, you could buy more “Japanese car or truck for your buck” than you could in 1988, 1994, 1995, or 1996. This does not only apply to Japanese cars and trucks, but to any commodity imported into this country from Japan. When the dollar “strengthens” relative to another foreign currency, imports from that country are “cheaper” for Americans to buy. When the dollar “weakens” relative to another country’s currency, imports from that country become more expensive for Americans to buy.

Now a little history. In 1986, the dollar was very strong relative to the yen. Japanese motor vehicles were pretty cheap for U.S. consumers relative to American made motor vehicles. The CEO’s from the “big three” U.S. auto-makers called then President Reagan for a meeting. At this meeting, the CEO’s asked Reagan to intervene in the foreign currency markets to “weaken” the dollar. This would cause Japanese auto prices to U.S. consumers to increase. The theory was to make Japanese imports more expensive so that Americans would buy more Ford, General Motors, and Chrysler products. The U.S. auto-makers allegedly told the President that this action would allow them to regain market share from the Japanese and improve the health of the U.S. auto industry.
Rather than go after increased market share, the U.S. auto-makers increased the prices of their vehicles as the dollar was “weakened” by the government intervention. Auto industry profits soared, stock prices increased. The American consumer, the same consumer that was yelling, “Buy American” ended up paying more for Japanese and American automobiles as a result of this government action. When all was said and done, U.S. auto-makers had not gained any significant gains in market share. The Japanese responded with rebates and low interest financing; and accelerated the building of production facilities in this country to insulate themselves from foreign currency fluctuations.

Agriculture generally benefits from a “weak” U.S. dollar. When the dollar is “weak”, American commodities are cheaper for foreign countries to purchase. Corn, wheat, and soybean exports generally increase as the dollar weakens. These exports remove a portion of the crop from U.S. markets which generally results in an increase in the price that a farmer receives for his crop sold in the U.S.

But remember, a “weak” dollar makes imports from other countries more expensive to consumers and can help fuel inflation.

Why understand economics?

### Why Understand Economics?

**Big Three U.S. Automakers, and the Strong Dollar of 1986**

- 1986: $1 ===> 240 yen
- 1988: $1 ===> 120 yen
- 1994: $1 ===> 113.58 yen
- 1995: $1 ===> 104.08 yen
- 1996: $1 ===> 108.83 yen
- 1997: $1 ===> 121.05 yen
## Most Recent Currency Exchange Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Yen per Dollar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>130.88</td>
</tr>
<tr>
<td>1999</td>
<td>113.81</td>
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<tr>
<td>2002</td>
<td>125.22</td>
</tr>
<tr>
<td>2003</td>
<td>115.98</td>
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</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Yen per Dollar</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>108.18</td>
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<tr>
<td>2005</td>
<td>110.13</td>
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<tr>
<td>2006</td>
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<tr>
<td>2007</td>
<td>117.82</td>
</tr>
<tr>
<td>2008</td>
<td>109.11</td>
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<tr>
<td>2009</td>
<td>94.28</td>
</tr>
<tr>
<td>2010</td>
<td>84.71</td>
</tr>
</tbody>
</table>
Why Understand Economics?

You can read the Wall Street Journal Article in the Library’s Electronic Reserve Room:

Click on the title of the article:

_Fateful Choice: Did U.S. Car Makers Err By Raising Prices When The Yen Rose?_

I would encourage you to read the Wall Street Journal Article reference above by clicking on article’s title. You will then be linked to the Electronic Reserve Room at D.H. Hill Library. You will be leaving this web site and going to the library web site. You can use your <BACK> button on your web browser to get back here, or type in the the URL for this segment of the course in your web browser to come back to the course.

When you get to the Electronic Reserve Room, click on “Search the Electronic Reserves System” and follow the directions there. You should be able to access the article. Let me know if you are having problems.
Approximately 26.5% of the U.S. population consists of individuals born between the years of 1946 and 1964. Collectively, these individuals are referred to as “Baby Boomers.” You may have heard of them. Some of your parents may be members of this demographic group. If you notice, these folks were born after World War II. Think about it. Hundreds of thousands of young men and women off at war in Europe and in the Pacific come home after the war to hundreds of thousands of young women and men. Do you think they missed each other? Presto, a bunch of youngin’s. This same phenomenon occurred after the Korean War. Add to this, a relatively prosperous economy during this time period and you can conjecture how folks thought back then about strategic family planning.

In 2011, baby boomers will range in age from 47 to 65 years old. We are talking about a very large group of people with a very large amount of money to spend. Most are still working and they are earning substantial incomes that provide them with significant amounts of discretionary spending. Many can purchase luxury autos, beach houses, hot tubs, vacations, landscape services, a college education for their children and grandchildren, and afford the time to play golf. All this spending is, and has been, a boon to the current economy. But now, some are starting to retire as they turn 65.

So, what happens when they get older and begin to retire? Social Security? Medicare? Lower incomes and thus tax revenues? Home building? There are, and will probably be more of “them”, and fewer of “you.” They will live longer due to advances in medical technology. How will we sustain our future economy? Why understand economics?
A 1993 Study by Prof. Ayers of Northwestern University

<table>
<thead>
<tr>
<th>165 Automobile Dealers in Chicago Area</th>
<th>Average Vehicle Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Men</td>
<td>$362</td>
</tr>
<tr>
<td>African-American Men</td>
<td>$504</td>
</tr>
<tr>
<td>White Women</td>
<td>$783</td>
</tr>
<tr>
<td>African-American Women</td>
<td>$1237</td>
</tr>
</tbody>
</table>

Does this represent racial and sexual discrimination, or?

Now that I have your interest, I hope, let us take a look at a couple of other societal issues from an economic perspective. The slide above summarizes the results of a study conducted at Northwestern University by a Professor Ayers in 1993 in Chicago, Illinois. Graduate students were authorized to find potential automobile buyers in the above racial and gender categories, and provide them with the funds to negotiate the purchase of an automobile. As you can see, auto dealers were able to extract less profit from white males than any of the other categories. Is there a “good ol’ boy” network at play here fostering racial and sexual discrimination? It may appear so on the surface. Once education levels were figured in the analysis, a different picture appeared. Think about it. Let’s take a look at this data from an economic perspective. What group above would you think would have the most education? Remember, it was not that long ago that society thought females should get married, have children, and stay at home; what did they need with a quality education? My wife grew up during these times, but chose to go against the “societal grain” and get an education. Believe it or not, there are a significant number of folks that still think this way today.

It was found, in this study, that education was the primary determinant in the ability to negotiate a purchase price that minimized the profit to the auto dealer. Yes, education levels are correlated in this study with race and gender, but it is not clear that any type of discrimination on the grounds of race or gender was occurring. Conclusion: The less you know, the more you get ripped off.
Individuals with a well rounded education tend to be more confident, more assertive, and more knowledgeable during purchase negotiations. They tend to be less naïve and less trusting of others to look out for their well being. How often have you seen on the T.V. news a segment about an older, less educated citizen that gets ripped off in some sort of a scam? You probably sit there wondering how “stupid” this person is to fall for this obvious scam. They are probably not “stupid”, they are probably ignorant of how to best protect themselves and too trusting of a slick talking con artist. Obvious to you maybe, but much less obvious to a less knowledgeable person. Ignorance is taken advantage of by those with knowledge in many cases. Your best defense is to become as knowledgeable as is economically warranted. How many of you truly understand how the auto purchase process really works? How do you know if you are getting a good deal or not? What did a dealer pay for a vehicle? How do you find out? Do you need credit life insurance if you finance a vehicle? Should you finance a vehicle with your bank or through a dealership? How does that financing stuff work anyway? What is a rate concession? Is leasing a good deal or what? During my college days, I was fortunate to work as an independent contractor for a major auto maker’s credit subsidiary. I repo’ed cars and trucks at 3:00 a.m. in the morning. You learn the business, and make contacts that you profit from in the form of lower costs years into the future. Want some answers to those questions? E-mail me. Are there positive net returns to knowledge (education)?

---

### A 1993 Study by Prof. Ayers of Northwestern University

**165 Automobile Dealers in Chicago Area**

<table>
<thead>
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<th>Demographic</th>
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Does this represent racial and sexual discrimination, or?
Above you see a proposed cost of raising a child in 2007 at different income levels or standards of living. For example, families earning less than $45,800 per year on average spend $7,830 per year for children up to 2 years of age; 8,0200 per year for children between the ages of 3 and 5. Study the table for a minute and think about calling mom and dad and saying, “Thanks.”

Click on the link at the bottom of the table and visit USDA’s web site and read the particulars of this study. The estimates include expenses for housing, food, transportation, clothing, health care, child care and education, and miscellaneous expenses (personal care items, entertainment, etc.)

The three largest expense categories associated with raising a child are:

Housing ~33%
Food ~17%
Transportation ~14%

Kids are not cheap to raise are they?
Above, you see the cumulative totals. If you are in the $45,800 - $77,100 income bracket, and you are average, you will spend $204,060 to raise your child to the age of 18. Notice that these estimates do not include a college education, and they are not adjusted for inflation! These estimates are based on the value of a dollar in 2007. Will a year 2017 dollar buy as much as a 2007 dollar? Probably not, because inflation will erode the purchasing power of that 2007 dollar away over time. Any of you all starting to think about the consequences (potential cost) of a wild Saturday night in terms of an 18 year financial responsibility before you are adequately prepared to meet that responsibility? Ah, your thinking that this would not happen to you. Everyone I have known that this has happened to thought the same thing, and it is not a rare occurrence.

The costs and benefits of our personal actions? Economics? Why understand economics?
Adjustments:

If family has only one child, they will probably spend 24% MORE than the above amount on that child.

If family has three or more children, family will benefit from *economies of scale* probably spend 23% LESS on each child.


This data has been based upon a family with two children. If a family has only one child, they probably spend about 24% **more** than the values indicated by our data tables. If a family has three of more children, the family will benefit from economies of scale and will probably spend 23% **less** on each child.

What do you mean, “economies of scale”. Well, as families get bigger, their per unit cost of providing for each family member generally decreases. If you are a middle child, or the youngest; you probably wore a hand me down clothes and played with hand me down toys. You were not as expensive to raise as the first born. Housing costs are spread over three or four children instead of two. Meal preparation for two kids would take just as long as meal preparation for 3 or 4 kids. Do you get the idea?

Businesses also experience economies of scale. Large businesses often have lower per unit production cost than small businesses. This is true to a point. Some businesses get so large that they start to experience “diseconomies of scale.” This occurs most often because the right hand of the business is out of touch with the left hand of the business and per unit costs of production begin to increase due to poor planning, duplication of purchases, low quality control, etc. We will talk about this in more detail later in the semester.
Notice in the slide above I refer to monetary cost of raising a child. There is another cost of raising a child that I cannot place a monetary value on. Only a particular individual can place a monetary value on this cost item.

What is a large non-monetary cost item incurred when raising a healthy, well balanced, and socially adapted child? TIME. Lot’s of TIME! Your life changes because of how much TIME a child requires to properly take care of.

My wife and I were raising our grandson, of course, I still am since my wife passed away. When I used to get home from work, I had to spend time with Zachary (still do). I had to give my wife a break. I did not have the TIME to do a lot of things that I used to have TIME to do. I now have less time to do some things that I used to do since there is just me. My late wife did not have the TIME to do the things she used to do either. Don’t get me wrong, we loved it, and I still do! But there is a cost, a high cost if it is to be done correctly. That high non-monetary cost is TIME.

Think for a moment of the non-monetary cost of TIME to a single parent compared to the shared non-monetary cost of TIME to a two-parent family. A single-parent has it tough in terms of TIME COST.
High income families usually spend more dollars on a child, but that spending represents a smaller percentage of their overall income.

Lower income parents spend less absolute dollars on a child, but that lower spending often represents a much higher percentage of their overall income when compared to wealthier families.

Percentage of Your Income

Households in Lowest Income Group:
~29% of household income on a child

Households in Middle Income Group:
~19% of household income on a child

Households in Highest Income Group:
~14% of household income on a child

The average annual inflation rate over the 20 year period from 1987 to 2006 was 3.1%. Over this time period, some years averaged less than this amount. From 1993 to the end of 1999, inflation averaged 2.4%. In future years, inflation may average higher.

Notice that once inflation is figured in how much the expected cost to raise a child increases. For middle income parents, they will spend about $269,040 by the time their child reaches 18 years old. That is over a quarter of a million dollars folks.
Now let’s take a look at the cost of raising a child from a slightly different perspective. Let us assume that you have a child out of wedlock, or you have a child during marriage but unfortunately get divorced from your spouse. Also assume that the child is living with your ex-spouse or partner. You will probably have to pay some child support. The situation in the slide is an actual case that is representative. The circumstances of each case are however unique. The State of North Carolina uses a formula based on tax records and the amount of support that may be mandated by a separation agreement to calculate child support requirements.

In this case, the non-custodial parent was earning $40,200 gross income, and the custodial spouse was earning slightly less than this amount. The child support came to $790.00 per month for both children. That amounts to $4,740 per child per year or $85,320 per child over an 18 year period.

### N.C. Child Support Formula Example for 2007:

If have two children and earn $40,200/year gross income

- $790/month in child support
- $4,740 per child per year
- $85,320 per child over 18 years
In this case, the child support payment came out to be approximately 50% of the total support the state deemed necessary to adequately care for this child.

Therefore, we can determine that the state of N.C. estimates that the total cost of raising a child from birth to 18 years of age in 2005 to be approximately $170,640 without inflation taken into consideration.

This estimate falls between the estimates quoted by USDA’s Center for Nutrition Policy and Promotion for families earning less than $45,800 and families earning $45,800 to $77,100 for the U.S. overall.

Our case’s “family” income falls in the upper end of the $45,800 to $77,100 range.

Remember that families earning a gross income of less that $45,800 were expected to spend $148,320 per child unadjusted for inflation; and families earning a gross income of $45,800 to $77,100 were expected to spend $204,060 unadjusted for inflation.
So what is the point of all this information. Well, you all are adults. Most of you are young adults, somewhere in the range of 18 to 20 years old. Most of you are not yet married, but may have a desire to go beyond platonic relationships. I am just trying to provide you with some economic information for you to base your choices upon. Rational adults process information and assess the costs and benefits of their actions while taking into consideration the probability of each alternative outcome from a decision. **Think with your brain, not your hormones.**

Remember that alcohol and drugs distort the rational decision making process, so think twice or even three times before you make a choice that may have very expensive consequences for all the persons that will be affected by the choice that you make. You choice you make, affects others (externalities).

Remember we have only accounted for the monetary costs of this situation. There are costs that are difficult to quantify such as the psychic, emotional, and time costs that are endured by you and all the individuals affected by your decision.

There are also psychic, emotional, and time benefits associated with having and raising children that an economist cannot quantify either.
The statistics listed above are given to provide another perspective on deaths attributed to automobile accidents. We often hear about the costs of war in terms of the “senseless loss of life”, and number of murders that occur in our society. Obviously the figures above are not death rates per 1,000 or 100,000 people, but looking at the sheer magnitude of deaths that occur on our highways in relation to what many of us perceive as the horror of war and murder does provide some information.

We are seeing about 43,480 deaths per year in the U.S. as the result of auto accidents, and about 16,053 murders per year. Recent statistics do point to a downward trend in the number of murders in the last few years. During the Vietnam War, approximately 60,000 Americans are listed as killed or missing. Compare that death toll to the approximately 53,543 Americans that died on our highways in the single year of 1969.

Over the three year period of 2003 to 2005:

- U.S. averaged ~ 16,053 murders per year,
- ~43,480 deaths by auto accidents per year


Over the 10 year period of the Vietnam War, more than 60,000 Americans were killed or missing. (1965 to 1975)

In 1969, a very hot period during that war, ~53,543 Americans were killed in automobile accidents.
Over the three year period of 2003 to 2005:

Of those Americans involved in automobile accidents that are not killed, how many are left disabled?

Not everyone is killed in an auto accident. Many are left disabled. What is the cost of “irresponsible driving?”
If we look at the Persian Gulf War, we see that there were 148 American battle deaths, 35 from “friendly fire”, and 145 other deaths. Many of these other deaths were attributed to auto accidents not related to battle conditions.

How long did the Gulf War last?
In the First Persian Gulf War:

Bombing began 3:00 A.M., January 16, 1991 Iraqi time.

Operation Desert Storm began February 24, 1991 and ended 100 hours later

Obviously, a very short war.
Again, we are not looking at death rates per 1,000 or per 100,000 people. I am only trying to point out the magnitude of deaths on our highways, and to look at a perspective that may be rarely considered.

Our highways are certainly safer than a war zone relative to the number of people that drive on them! What would the net return (profit) to society be from a societal change in attitude behind the wheel of an automobile?

Does society profit from automobile accidents and the injuries and deaths that occur as a result? Think of the auto body shops, the undertakers, the medical personnel. How much is a life worth? How much should we spend in efforts to save lives?

Is one person’s, or industry’s, gross return offset by the cost incurred by another?

I think I may have stirred up a few thoughts. E-mail me, and let me read what you think.
The unemployment rates provided above are seasonally adjusted and are based upon those individuals 16 years and older in the civilian labor force.

Unemployment trended down since December of 1993. In April and May, 1998, unemployment reached a low of 4.3%. By December of 1999, unemployment reached 4.1%. The last time U.S. total unemployment was this low was January and February of 1970. In April of 2000, unemployment dipped to 3.9%

In August 2000, the unemployment rate (4.1 percent) remained in the narrow range of 3.9 to 4.1 percent and held there since October 1999. The rates across major demographic groups--adult men (3.2 percent), adult women (3.8 percent), whites (3.6 percent), blacks (8.0 percent), and Hispanics (5.7 percent)--showed little or no change in August, 2000. The teenage unemployment rate edged up to 14.4 percent. The number of unemployed persons was essentially unchanged at 5.8 million.

For The Recession Officially Ending in the Middle of 1991

<table>
<thead>
<tr>
<th>U.S. Unemployment</th>
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<tbody>
<tr>
<td>Dec. ‘92</td>
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<tr>
<td>Dec. ‘93</td>
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<tr>
<td>Dec. ‘94</td>
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<td>Dec. ‘95</td>
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<td>Dec. ‘97</td>
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<tr>
<td>Dec. ‘98</td>
</tr>
<tr>
<td>Dec. ‘99</td>
</tr>
</tbody>
</table>

The “Great Economic Expansion” continued until March 2001 when the NBER declared the economy to be in recession. The 2001 recession lasted 9 months and officially ended November 2011 as declared by the NBER. You can notice how unemployment picked up during and after the recession, and as the economy got back on the path to growth, unemployment again trended downward until December 2007. December 2007 was the beginning of what some now call “The Great Recession”, and unemployment rates skyrocketed to levels not seen in decades. Quite a shock to Americans used to very good economic times through the 90’s and much of the mid 2000’s. NBER declared the “The Great Recession over in June of 2009. A total of 18 months.

### For The Recession Officially Ending in November of 2001

<table>
<thead>
<tr>
<th>U.S. Unemployment</th>
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</thead>
<tbody>
<tr>
<td>Dec. 2000</td>
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<td>Dec. ‘01</td>
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<tr>
<td>Dec. ‘02</td>
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<td>Dec. ‘03</td>
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<td>Dec. ‘05</td>
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<tr>
<td>Dec. ‘06</td>
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<tr>
<td>Dec. ‘07</td>
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</tbody>
</table>
Notice that unemployment is starting to trend downward in December 2010 through December 2011 as the economy struggles to regain some traction. But, one must be careful because the official unemployment number does not always tell the whole story as we shall see.

### For The Recession Officially Ending in November of 2009

<table>
<thead>
<tr>
<th></th>
<th>U.S. Unemployment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. ‘08</td>
<td>7.3%</td>
</tr>
<tr>
<td>Dec. ‘09</td>
<td>9.9%</td>
</tr>
<tr>
<td>Dec. ‘10</td>
<td>9.4%</td>
</tr>
<tr>
<td>Dec. ‘11</td>
<td>8.5%</td>
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</tbody>
</table>

Notice that unemployment is starting to trend downward in December 2010 through December 2011 as the economy struggles to regain some traction. But, one must be careful because the official unemployment number does not always tell the whole story as we shall see.
Persons under 16 years of age are automatically excluded from the official labor force measurements, as are all inmates of institutions and persons on active duty in the Armed forces. All other members of the civilian, non-institutional population are eligible for inclusion in the labor force, and those 16 and over who have a job or are actively looking for one are so classified. All others—those who have no job and are not looking for one—are counted as "not in the labor force." Many who do not participate in the labor force are going to school or are retired. Family responsibilities keep others out of the labor force. Still others have a physical or mental disability which prevents them from participating in labor force activities.

In August, 2000, the civilian non-institutionalized population was 209.935 million. The civilian labor force consisted of 140.742 million people. The civilian labor force consists of the civilian, non-institutional population that are either working or are actively looking for work. This means 69.193 million persons were not considered in the civilian labor force. Of the 140.742 million in the labor force, 134.912 million were employed, 5.829 million were unemployed (no job, but wanted one and were actively looking for one). This information provides the means to calculate the unemployment rate:

\[
(5.829 \text{ million} / 140.742 \text{ million}) \times 100 = 4.14\%
\]
Now, focus in on the “Not in Labor Force” parameter. See that number 69.193 million? When folks get tired of looking for a job when they are unemployed and stop looking for a job, they are called “discouraged workers”. When they stop actively looking for a job, they are removed from the civilian labor force AND from the rolls of the unemployed. They “drop” into the “Not in the Labor Force” category. When that happens, the not in the labor force number increases, the unemployed number decreases, and the civilian labor force number decreases. Let us add 2 million more folks to the “Not in the Labor Force” category. So, we now have 71.193 million. The “unemployed” category decreases by 2 million to 3.829 million. The Civilian Labor force number decreases to 138.742 million.

Now, let us calculate unemployment with this new set of numbers:

\[
(3.829 \text{ million} / 138.742 \text{ million}) \times 100 = 2.76 \% \text{ unemployment}
\]

Has the economy really improved? Nope?

So, one has to not only look at the unemployment rate but also at what is happening to the “Not in the Labor Force” numbers to get a real handle on what is occurring in the economy. Wouldn’t be nice if the press did some analysis like this?
Dec. ‘94: For the first time in 20 years, unemployment of Black Americans dipped below 10%.

The U.S. unemployment rate for the non-institutionalized, civilian labor force does not quite show a complete picture with respect to the racial distribution of unemployment. Above you see that the unemployment rate of African-Americans is approximately two times the unemployment rate of White Americans. Can this difference be attributed to discrimination on the part of employers? Some of it probably is, but I do not think all of it is. Unfortunately, discrimination still exists in our society, and probably will to some extent for a long time to come.

What about differences in employment between adult females and males (adult here refers to individuals that are 20 years old or older)? In August, 2000 unemployment rate of adult men was 2.7 percent, and of adult women was 3.3 percent.

So, what might be a good strategy for an individual to follow in order to minimize the affects of discrimination by race of gender? In a moment, we will take a look at unemployment rates associated with different levels of education and see if a strategy develops. First, we will look at some more recent unemployment data for African-Americans and whites.

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<tr>
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<td>9.9%</td>
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<tr>
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<td>10.2%</td>
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<tr>
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<td>10.0%</td>
</tr>
<tr>
<td>Dec. ‘98</td>
<td>7.7%</td>
</tr>
<tr>
<td>Dec. ‘99</td>
<td>7.8%</td>
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The 2001 recession resulted in Black unemployment to again rise above 10% but by 2005, it had come back down to under 10%.

Black unemployment continues to be roughly two times white unemployment.
The “Great Recession” of 2007 to 2009 resulted in significant unemployment for both races. What is interesting is that Black unemployment was less than two times white unemployment from Dec. 2008 to Dec. 2010.

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<tr>
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<td>9.0%</td>
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<tr>
<td>Dec. ‘08</td>
<td>12.1%</td>
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<tr>
<td>Dec. ‘09</td>
<td>16.2%</td>
</tr>
<tr>
<td>Dec. ‘10</td>
<td>15.8%</td>
</tr>
<tr>
<td>Dec. ‘11</td>
<td>15.8%</td>
</tr>
</tbody>
</table>

From the data presented above, it should be obvious that unemployment is probably correlated with education level. This data suggests that on the average; the higher the education level, the lower the unemployment rate. The data above is for all members of the civilian labor force that are 25 years to 64 years old.

Therefore, we might conclude that if you want to decrease the risk of being unemployed, or decrease the duration of unemployment, higher education appears to be a strategy the may prove successful. You have probably chosen to attend college for this reason as well as many others.

I would also encourage you to examine a secondary strategy as well. Learn to do more than one thing very well. While I was in undergraduate and graduate school at NCSU, I was employed as an automotive and equipment mechanic with a mid-sized construction firm in Raleigh. My mechanical skills were developed through self-teaching and experience. A person can make a pretty good living as an economics teacher, and they can make a pretty good living as a mechanic as well. Where is it written that you cannot achieve a higher education and learn a trade as well? You have a great deal of control over you own destiny when you have a personal tool box of diversified skills and abilities. Here is one place you can begin, or add to, your tool box.

---

**Education and Unemployment?**

**Civilian Labor Force, 25 to 64 years old**

<table>
<thead>
<tr>
<th>Year</th>
<th>Less than H.S.</th>
<th>H.S. Grad No College</th>
<th>Less than Bachelors</th>
<th>College Grads.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>10.4%</td>
<td>5.1%</td>
<td>3.8%</td>
<td>2.0%</td>
</tr>
<tr>
<td>1998</td>
<td>8.5%</td>
<td>4.8%</td>
<td>3.6%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

*U.S. Bureau of Labor Statistics, unpublished data*

*Statistical Abstract of the U.S., 1999, Table No. 684*
## Education and Unemployment?

**Civilian Labor Force, 25 to 64 years old**

<table>
<thead>
<tr>
<th>Year</th>
<th>Less than H.S.</th>
<th>H.S. Grad No College</th>
<th>Less than Bachelors</th>
<th>College Grads.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>6.3%</td>
<td>3.4%</td>
<td>2.7%</td>
<td>1.7%</td>
</tr>
<tr>
<td>2006</td>
<td>6.8%</td>
<td>4.3%</td>
<td>3.6%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

[www.census.gov/compendia/statatab/tables/08s0609.pdf](http://www.census.gov/compendia/statatab/tables/08s0609.pdf)
Here we are looking at unemployment data for the white population in the U.S. You should be able to see by flipping between the slides, that the unemployment of White Americans is slightly less than the overall unemployment level. This tells us that there are other demographic groups that have much higher unemployment levels.

But, please notice that the correlation between education level and unemployment is still evident in this data.

<table>
<thead>
<tr>
<th>Year</th>
<th>Less than H.S.</th>
<th>H.S. Grad No College</th>
<th>Less than Bachelors</th>
<th>College Grads.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>9.4%</td>
<td>4.6%</td>
<td>3.4%</td>
<td>1.8%</td>
</tr>
<tr>
<td>1998</td>
<td>7.5%</td>
<td>4.2%</td>
<td>3.2%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Statistical Abstract of the U.S., 1999, Table No. 684
## Education and Unemployment?

White Civilian Labor Force, 25 to 64 years old

<table>
<thead>
<tr>
<th>Year</th>
<th>Less than H.S.</th>
<th>H.S. Grad No College</th>
<th>Less than Bachelors</th>
<th>College Grads.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>5.6%</td>
<td>2.9%</td>
<td>2.4%</td>
<td>1.6%</td>
</tr>
<tr>
<td>2006</td>
<td>5.9%</td>
<td>3.7%</td>
<td>3.2%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

[www.census.gov/compendia/statab/tables/08s0609.pdf](http://www.census.gov/compendia/statab/tables/08s0609.pdf)
This data focuses on the African-American civilian labor force. Yes, the unemployment rates for African-Americans is higher than that of White Americans at each education level. But, look at what happens to that unemployment rate as education level increases. The unemployment level decreases significantly as education level increases. Yes, there is still a difference between African-American and White unemployment at the college graduate level of education. But, that difference is much more narrow than the difference at the other education levels.

What do you think? Let’s get a little discussion going here. We certainly have not shed any light on the problems of access to education or the uniformity of education. We have only presented data that suggests that as education levels increase, unemployment decreases for African-Americans and White Americans.

Therefore, take advantage of the educational opportunities of this University while you are here. Do not let this opportunity slip through your fingers by choosing social fun over the difficult road to achieving an education.
## Education and Unemployment?

**Black Civilian Labor Force, 25 to 64 years old**

<table>
<thead>
<tr>
<th>Year</th>
<th>Less than H.S.</th>
<th>H.S. Grad No College</th>
<th>Less than Bachelors</th>
<th>College Grads.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>10.7%</td>
<td>6.4%</td>
<td>4.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>2006</td>
<td>12.8%</td>
<td>8.0%</td>
<td>6.2%</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

[www.census.gov/compendia/statab/tables/08s0609.pdf](http://www.census.gov/compendia/statab/tables/08s0609.pdf)
Theory and Models

Economics is a social science that makes use of similar methodology used by the “hard” sciences (biology, physics, etc.)

The “hard” sciences refer to this method as the “scientific method”, in economics we will refer to this method as the “economic method”
The Scientific Method

Step 1: The observation of phenomena,
Step 2: The formulation of a hypothesis concerning the phenomena,
Step 3: Experimentation to demonstrate the truth or falseness of the hypothesis,
Step 4: Develop a conclusion that validates or modifies the hypothesis.
The Economic Method

Step 1: Identify and state the problem
Step 2: Apply the relevant economic model
Step 3: Identify the solutions
Step 4: Evaluate the solutions
Step 5: Select and implement a solution

1Adapted from Mabry and Ulbrich, “Introduction to Economic Principles, 1989.

You will notice a line drawn between Step 4 and Step 5. What do you think the significance of this line is? Well, if you have been reviewing your notes and studying, you may have a good idea. Think for a second before you go on.

Remember our discussion of positive and normative economics? Positive economists at the macroeconomic level stop at Step 4. This is the point that economic analysis is handed over to the politicians or policy analysts to select and implement a solution. Politicians and policy analysts make the normative judgements that they are elected or hired to make based upon the economic analysis and the preferences of the public that they serve. This is the way macroeconomic policy decisions are made in a representative democracy. I also hope you realize the importance of an educated citizenry to the survival, and peaceful continuance of a representative democracy. You theoretically “call the shots” in the long run through the voting process. One of our responsibilities as citizens is to “take care of business”, not “have business taken care of for us.”

What about at the microeconomic level? Well, there you are the positive economist and the normative decision-maker. When you own and operate your own business, you are the one “calling the shots”.

What choices will you make? What tough choices will you have to make? Well understanding economics will hopefully help you learn the processes to use in making your choices. Some have even referred to economics as the “science of making choices.”
Theory and Models

Models:

Simplified representations of the “real world” that we use to help us understand, explain, and predict economic events in the real world.

Did you ever put together a model airplane or car? Did you ever play with dolls? A toy firearm or knife? An “Easy-Bake Oven?” All are simplified versions of the real thing that you may have played with, and were part of your informal childhood education. Economics uses models as well, and we will “play” with them too. During this course we will be building and using “economic models.” These models will be in the form of graphs, relational graphics, and mathematical representations of theories that will attempt to explain and predict economic outcomes.
We make simplifying assumptions to develop models. Our purpose is not to try and capture every little detail and inter-relationship that may exist. We are looking more for the big picture, or basic understanding of what is occurring.

One major simplifying assumption made in economics is referred to as ceteris paribus. This is Latin for “other things being equal” or “all other things remaining constant”.

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**Theory and Models**

- No model captures every little detail and inter-relationship that exists
- Models are abstractions from reality
Theory and Models

A Good Model should capture only the essential relationships that are sufficient to analyze a particular problem, or answer a particular question.

A Model is the guideline we follow to analyze economic problems and predict outcomes.
Now let us determine what models you already have developed intuitively through your upbringing in a market-oriented economy. How do people respond to price changes? What if price increases for boneless chicken breasts, how would you expect people to respond? What assumptions will you make before you answer?

What alternatives do the consumers have who face higher boneless chicken breast prices? What choices will they make?
I don’t know how good a wing shooter you are, but those delicious dove breasts wrapped in a piece of bacon laid over some hot charcoal could get real expensive if dove shells were $10.00 a box at Walmart and Kmart instead of $3.00 to $4.00 a box. How would you respond to this high price for shotgun shells?

Well, if we assume that the price of dove shells increases to $10.00, I think it would be safe to assume that most folks would purchase fewer shotgun shells. You have probably heard people refer to this phenomenon as the “law of demand”. As price increases, consumption decreases, ceteris paribus. Or, as price decrease, consumption increases, ceteris paribus.

Would your behavior while hunting change any? Would you be more conservative with your shots? C’mon now, will you take as many shots at birds flying in the ozone layer? Or, will you more carefully select the shots you take with these high dollar shells. This change in behavior results in less consumption. What other actions might you take?

Will you search out substitutes? Yes, a substitute. You could reload your own shells rather than purchase them from Walmart or Kmart. You may find a mail-order firm that sells only case lots, but at a much reduced price. You and your buddies could split a case.

What if you are very wealthy, would $10 per box change your consumption very much, if at all?
There are several “determinants” involved in this purchase decision that will ultimately shape the demand for shotgun shells at the market level.

We focused primarily on three determinants of demand here. The price, the income level of the consumer, and the price of substitutes. We will learn of more determinants of demand later in the course. I hope you are starting to understand why the assumption of *ceteris paribus* is so important.

By asking the question, “What would you expect to happen to the consumption of shotgun shells during dove season to do if the price of shotgun shells increases from $3.25 per box to $10.00 per box, *ceteris paribus*?”, we are holding all other things constant. We would likely come to the conclusion that less shotgun shells would be consumed by dove hunters on average, in general.
It can be tough to predict how people will respond to a price change if we have ten different factors that can be changing at the same time, or over a period of time.

We first need to understand how each determinant can affect the outcome while holding all the others constant. Once we understand the impact that each determinant may have individually, then we can start to make more accurate predictions based on more than one determinant changing simultaneously.

We first must learn to crawl before we walk, and walk before we run. We will need to follow this same sequence as we explore economics.
Theory and Models

An economic model is nothing more than a set of definitions, assumptions, and hypotheses that are put together in a manner that expresses the relationships of certain observed events in a meaningful way.
Illustrated above is what I call the “Consumption-Production Model” illustrated in equilibrium. We could use this model to examine a macroeconomic or microeconomic issue. When the rate of consumption of a commodity is just equal to it’s rate of production (=), the price of that commodity is stable at it’s equilibrium price, or market clearing price.

You also notice that inventories are stable indicating that there is not a “shortage” or a “surplus” of the commodity. Inventories are often referred to as “buffer stocks”. Inventories are what many managers watch to determine whether a market is in equilibrium or not.

If inventories are increasing, this is an indication that the current rate of consumption is less than the current rate of production, and the market is not in equilibrium at the current price level. A “surplus” of the commodity is developing.

If inventories are decreasing, this is an indication that the current rate of consumption is greater than the current rate of production, and the market is not in equilibrium at the current price level. A “shortage” of the commodity is developing.
In Disequilibrium:

\[
P
\]
\[
C < Pr
\]
\[
Iv \uparrow
\]

How should a manager respond in this case?

Above, we see a market that is in disequilibrium. The current rate of consumption is less than the current rate of production at the prevailing market price. As a result, inventories are increasing. These increasing inventories will pressure a manager to take some action. What would you do?

Let’s assume that this is the market for Ford, F-150, extended cab, 2-wheel drive pickup trucks. Could we slow down the assembly line to reduce the rate of production? Yes, but now we are producing fewer trucks during the same work day or work week. What will happen to overhead costs per truck produced? What will happen to labor cost per truck produced? This action would cut into per unit profit margins. We could shut down the plant temporarily, and lay our workers off. Not a cheap alternative either. Our unemployment insurance rates will increase, and some workers may find another job. Don’t forget those overhead costs that “keep on going” whether we are producing or not. We have been focusing on the production or “supply” side of the equation here. What about looking at another perspective, the consumption or “demand” side of the management decision.

What could we do to increase consumption of our trucks? Lower the price? That is easy and cheap to do. Yes, this action MAY cut into our profit. We might be surprised to learn that profits MAY increase, but that is a discussion for later in the semester. We could offer a rebate (lower price), low interest financing (lower price), and/or dealer incentives (lower price)
If the production of F-150 trucks is currently at “full production capacity”, then it might not be so costly to slow the rate of production down a little, and monitor inventories to determine if the market has stabilized. Slowing the assembly line down, or cutting back to 36 hour weeks from 40 hour weeks may be a viable option.

If the production of F-150 trucks is currently at less than full production capacity, then it will become increasingly expensive to slow the rate of production further. Our manager would probably look on the consumption side of the equation for some help. Lowering the price a little may be all that is necessary to bring the market back into equilibrium. We would again monitor inventories to determine if our pricing strategy has been successful or not. Another strategy may be to increase advertising in an effort to enhance consumption.

Have you heard, read or witnessed any of what we have discussed occurring in the “real world” out there?

What should our manager do? Well, he/she will need to assess the costs and benefits of each of the alternative courses of action to determine which action would be the most profitable.
In Disequilibrium:

\[
\begin{align*}
P & \\
C & > \ Pr \\
Iv & \downarrow
\end{align*}
\]

How should a manager respond in this case?

The market is again in disequilibrium. The current rate of consumption is greater than the current rate of production at the prevailing market price. As a result, inventories are decreasing. These decreasing inventories will pressure a happy manager to take some action. What would you do?

Let’s assume that this is the market for Ford, F-150, extended cab, 2-wheel drive pickup trucks. Could we speed up the assembly line to increase the rate of production? Yes, but what may happen to the “quality” of the finished product. Are “recalls” cheap to deal with. Will on-the-job accidents increase, driving up our workman’s compensation rates? Will workers start calling in sick because they are so tired? What if we keep the assembly line at the same speed and work folks overtime? Time and a half can get expensive quick. We could build another plant, and hire more workers. Is this “excess demand” permanent or just temporary? A new plant would cost hundreds of millions of dollars. Not a cheap alternative either. Again, we have been focusing on the production or “supply” side of the equation here. What about looking at another perspective, the consumption or “demand” side of the management decision.

What could we do to decrease consumption of our trucks? Raise the price? That is easy and cheap to do. We could “hold firm” on the sticker price at dealerships, offer only market interest financing, and/or not offer any dealer incentives.
If the production of F-150 trucks is currently at “full production capacity”, then increasing the rate of production a little may become very expensive in a hurry. Perhaps our manager should begin studying to determine if another plant would be a viable option in the long run. But our manager would probably look on the consumption side of the equation for some help in the short run. Raising the price a little may be all that is necessary to bring the market back into equilibrium. We would again monitor inventories to determine if our pricing strategy has been successful or not. Another strategy may be to decrease or cut advertising in an effort to reduce consumption.

If the production of F-150 trucks is currently at less than full production capacity, then increasing the rate of production may be a viable option to pursue.

Have you heard, read or witnessed any of what we have discussed occurring in the “real world” out there? The 1997 Ford F-150 extended cab ran into the problems described above.

What should our manager do? Well, he/she will need to assess the costs and benefits of each of the alternative courses of action to determine which action would be the most profitable.
In our previous discussion the terms “short run” and “long run” were mentioned. What do these terms mean? Well their meanings are unique in economics relative to the way we often hear the terms in everyday use. A formal definition of each may be found in the glossary of your textbook. Look them up, and read them. I’ll use an example borrowed from Mabry and Ulbrich (1989): “the short run is the time period in which one or more important conditions cannot be changed. A firm may make a decision ‘in the short run’ because its building lease runs for another year or two, or because its workers have a three-year labor contract. Workers may make a decision in the short run because they have a fixed commitment, such as wanting to stay put until their children finish high school. Thus, most of the firm’s workers may accept a pay cut in the short run, but once their fixed commitments are gone, the long-run response may be very different. For some firms or individuals the short run may be only a week or a month, while for others the short run may be years. The exact length of the short run depends on the length of the fixed commitments people face in a given situation.”

“The long run is the time period in which anything can be changed, or in which individuals and firms are fully able to respond to economic incentives and take advantage of economic opportunities. The long run has no specific time frame; it is simply the time period that is long enough to allow full response to changing incentives.

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**Short Run vs. Long Run?**

- **Short Run**: a period of time that is not long enough to allow change to certain economic conditions that a decision maker may face.
- **Long Run**: a period of time long enough for all important information and choices to be available to a decision maker.

1Mabry and Ulbrich, “Introduction to Economic Principles, 1989