Remember, my office is 4332 Nelson Hall, and my phone number is 515-4676. If you have questions, please do not hesitate to come by the office, call or reach me via e-mail. The syllabus let’s you know when I am in class or lab, and when I am usually in my office. I am on several committees, and am often active with student organizations. These activities often require that I be out of the office at certain times during the semester. I will try to let you all know when I will not be in my office. If you call and my voice mail answers, please leave a message. If my phone rings once or twice and voice mail picks up, I am in the office talking on the phone to a student, alumni, colleagues, or perhaps family. If my phone rings four or more times and voice mail answers, I have stepped out of the office for a moment to get a soft drink or go to the rest room. Please leave a message.

My e-mail address is: herman_sampson@ncsu.edu

That little dash thing between my first name and last name is called an “underscore.” You press the “shift” key and hold it down, then press the “dash” key. That “dash” key is located next to the “zero” key on my keyboard.
Associate microeconomics with the individual “trees” in a very large forest. Some of the “trees” are known as consumers, some can be referred to as resources owners, and some can be called business firms. Microeconomics studies the behavior of these individual “trees” that we also consider to be individual decision making units.

Microeconomics can also study “clumps of trees” that we can refer to as a group of consumers (ie. African-Americans between the ages of 18 to 25), a group of business firms collectively known as an industry (ie. the swine industry in North Carolina), or a group of resource owners (ie. farmland owners in North Carolina).

Of course, these broad classifications do overlap each other. Virtually everyone in our economy is a consumer of goods and services, and we shall learn that we are all resource owners as well.

When we visit a grocery store and purchase items, we are considered consumers. When we sell our physical and mental abilities to employers, we are resource owners. When we produce a good or service and sell it for a particular price, we are considered producers. So it is possible for an individual to be all three!
Macroeconomics: (the “forest”)

Studies the aggregate level of economic activity,
- Economic system’s value of total output: GDP
- Level of National Income
- Total Level of Unemployment
- General Price Level of the Economy: Inflation

Associate macroeconomics with studying the “forest” as a whole. We can study the “general health of the forest”, the “general growth rate of the forest”, determine which portions of the “forest” might be having some trouble (disease, or pest problems). Rather than looking at individuals (trees), or small groups of individuals (clumps of trees); macroeconomics focuses on how well the economy as a whole is functioning and in what direction the economy may be heading.

We measure the economy’s value of total output, or Gross Domestic Product (GDP), from year to year to determine if the U.S. economy is expanding (growing) or contracting (shrinking). GDP is the monetary value of all the goods and services produced within the boundaries of the U.S. Therefore, GDP is the value of the production of all U.S. companies producing goods and services (G&S) within the U.S., as well as all foreign owned companies (Honda for example) that produce G&S within U.S. Think about it. Foreign owned companies hire U.S. workers to produce their goods and services.

Economists like to see the U.S. economy grow at what is called a “sustainable rate” believed to be around 2.5% to 3.5% per year. Some economists believe that if growth exceeds 2.5% per year for very long, inflation will occur. Other economists currently believe that the sustainable rate of economic growth for the U.S. is greater than 2.5%. As the economy grows, new jobs are created and unemployment rates tend to decrease.
The graph above illustrates real gross domestic product growth from 1990 to 2010. Think of real GDP growth as one of the “vital signs” of the economy. Think about when you visit a doctor’s office. Once you get into an examination room, a nurse usually takes your temperature, checks your heart rate and blood pressure. These are your vital signs. Well, economists use real GDP growth as one of the “vital signs” to monitor the health of the economy. The dip in real gross domestic growth below zero indicates the 1990-91 recession that occurred following the first Gulf War. A recession is defined as two consecutive quarters of negative growth in real gross domestic product. Since the 1990-91 recession, real growth has been above 2.5% for most of the decade long economic expansion from 1991 to 2001. From March 2001 to November 2001, the U.S. experienced a recession as determined by the NBER (National Bureau of Economic Research). The “sustainable” growth rate is derived from two factors, the U.S. growth in population and U.S. productivity growth. Productivity is measured as economic output per hour of labor. Historically, population growth has been averaging 1.0% and growth in productivity has averaged 1.5% per year. The sum of these two measurers provides the “sustainable” growth rate for the economy. But, during the 90’s computer technology had become more integrated into the economy and has enhanced productivity growth. For the 90’s productivity growth averaged well above the 1.5% historical benchmark and has allowed the economy to grow at faster rates without major trouble from inflation. So, many economists believed that the economy during the 90’s could have grown faster than the previously believed 2.5% without inflation worries. But, the question is, how long will the economy enjoy these larger than historically normal increases in annual productivity? December 2007 marked the beginning of another recession that has been termed the “Great Recession”. The NBER determined this latest recession ended in June 2009. Many
Here you see U.S. real GDP growth on a quarterly basis. The percentage of growth from one quarter to the next. You can certainly pick out the December 2007 to June 2009 recession in this graphical depiction.
The national unemployment rate is another “vital sign” of the U.S. economy. Full-employment in the economy is generally accepted to be 5.0% unemployment. Unemployment rates below 5.0% tend to result in increased pressure on inflation due to wage increases as producers compete with each other to find qualified labor to expand production. From 1992, the national unemployment rate had been generally decreasing, even dipping below 4.0% to 3.9%. Again, our friend, productivity growth was the “pressure relief valve” for inflation pressures. Enhanced productivity allows workers to produce more within the same hour of work, so employers can afford to pay workers more without having to try and pass the increased labor cost on to consumers in the form of higher product prices. For example, let us assume that the wage rate at a furniture factory is $10.00 per hour and 4 employees at the furniture factory can produce a two reclining chairs per hour. Labor cost per reclining chair is $40.00/2 chairs or $20.00 per chair. Now, let us increase the wage rate to 14.00 per hour and introduce new technology that allows the four employees to produce three chairs per hour. What is the labor cost now per chair? $56.00 / 3 chairs or $18.67 per chair. So even though the wage rate increased, the labor cost per chair decreased due to increased productivity pursuant to the use of new technology. We again saw unemployment rise during the 2001 recession, but then quickly decrease again. In this case, the productivity gain may allow for increased profits, or possibly lower prices to consumers. So today, even the 5.0% unemployment “benchmark” is being questioned by many economists. But again, will productivity growth continue at its current pace? I hope that you can see the striking increases in unemployment during the December 2007 to June 2009 recession. Unemployment reaching 10 percent. You can see the unemployment response to three recessions in this graphical depiction and you can certainly determine which of the three recessions was most severe.
Above is the industrial capacity utilization rate. A mouthful to be sure. This “vital sign” uses an 85% industrial capacity utilization rate as its “benchmark.” Economists believe that rates above 85% tend to be inflationary. Rates above 85% tend to cause production costs to escalate as we are pushing our economic engines to the “red line.” Think of the engine in your motor vehicle. It has an rpm range that is most efficient in terms of the inputs that produce power, gas and air. If you have a tachometer on the dash board, you will notice a “red line.” Sure, you can rev that motor to the red line and above, but how long will that motor last if you are constantly running it to the limit? Gas consumption starts to increase rapidly as greater demands are placed on that engine. What will happen to operating costs of that motor vehicle if you are constantly squeezing every horse power out of that engine? They are going to go up, not to mention all the speeding tickets you will acquire. Well a factory, a computer, a business has a “red line” as well. Machinery breaks down, people get tired, irritable, sick, etc. At the “red line”, productivity starts to decrease and costs begin to increase. So, 85% industrial capacity utilization is thought to be the “red line” for our economic engines. Can you point out the 90/91 recession and the 2001 recession in the data above?
Above is the industrial capacity utilization rate. A mouthful to be sure. This “vital sign” uses an 85% industrial capacity utilization rate as its “benchmark.” Economists believe that rates above 85% tend to be inflationary. Rates above 85% tend to cause production costs to escalate as we are pushing our economic engines to the “red line.” Think of the engine in your motor vehicle. It has an rpm range that is most efficient in terms of the inputs that produce power, gas and air. If you have a tachometer on the dash board, you will notice a “red line.” Sure, you can rev that motor to the red line and above, but how long with that motor last if you are constantly running it to the limit? Gas consumption starts to increase rapidly as greater demands are placed on that engine. What will happen to operating costs of that motor vehicle if you are constantly squeezing every horse power out of that engine? They are going to go up, not to mention all the speeding tickets you will acquire. Well a factory, a computer, a business has a “red line” as well. Machinery breaks down, people get tired, irritable, sick, etc. At the “red line”, productivity starts to decrease and costs begin to increase. So, 85% industrial capacity utilization is thought to be the “red line” for our economic engines. Can you point out the 90/91 recession and the 2001 recession in the data above?
Here is the industrial capacity utilization data again over a longer time period. Recessions are identified with gray shading. Notice how the ICUR dips during recessions. In the graph above, the gray line is “total capacity utilization” and the red line is “manufacturing capacity utilization”.

Notes: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER). See note on cover page.
Here is the industrial capacity utilization data again through 2011. Recessions are again identified with gray shading. Notice how the ICUR dips during recessions. In the graph above, the gray line is “total capacity utilization” and the red line is “manufacturing capacity utilization”. Notice the correlation that the ICUR has with recession. You may also want to look at the correlation that the ICUR has with unemployment.
Here is an additional source of data that you may enjoy taking a peek at. You can interact with this site to look at unemployment, ICUR, and gross domestic product.

More Industrial Capacity Utilization Rates and Correlation with Recessions

http://www.economytrack.org/capacity.php
Above is work force productivity or economic output per hour worked with respect to human labor. The productivity gains from 1995 to 2002 was the “safety valve” that relieved inflationary pressures on prices in the economy during that time period. The Federal Reserve increased the money supply (printed money) significantly during the previous recession. Many people expected the economy to see rampant inflation in response to the large increase in the money supply. But, that “run away inflation” has not reared its ugly head, yet. Can you tell why for the graph above? Look at the productivity gains between 2008 and 2010. Again, an economic “safety valve” that helped to relieve inflationary pressures on prices. As I have remarked before, we do not know how long these productivity gains will remain at higher than historical levels. When will computer technologies be fully integrated into the economy? What new technologies are in the pipeline that will continue to allow us to produce more with the same amount or fewer resources? Productivity growth is an important “vital sign” that economists will have to continue to monitor. And you thought the human body was a complex, dynamic system. Well the economy is a pretty complex, dynamic system as well. The general economy (macroeconomics) gets sick too. Businesses and consumers get economic disorders as well (microeconomics). And, economists can prescribe medications as well. For the general economy, lower or higher interest rates, lower or higher taxes, more or less government spending are medications used for when the economy is “too hot” or “too cold.” If the “economic doctors” misdiagnose the cause of an “economic illness,” a recession or a terrible bout of inflation could occurs as a result of prescribing the wrong “medicine.”
During the first few weeks of class, we will discuss some very general economic principles, and then tackle some macroeconomic concepts, and popular issues such as a balanced federal budget. We hear folks complain all the time about the federal budget, and suggest that balancing that budget is very simple. We also hear folks talking about how they do not understand how the government can spend more money than it brings in through tax revenues.

Well, you are going to get your chance at balancing the federal budget. We will also discuss public debt, such as the federal deficit and the national debt, and compare that to the nation’s private debt. Private debt is the amount of money most of you and I owe on credit cards, auto loans, mortgages, etc.

We will find that many of our fellow citizens have difficulty balancing their own budgets.
Before we get to some of those topics, we need to distinguish two other branches of economics. Normative and positive economics. Normative economics tends to be subjective, value laden, and emotional in its presentation. Normative economics is often referred to as “What ought to be” economics. “We ought to do this,” or “we ought to do that.” Normative economics is “prescription” and/or policy oriented. During political elections, we hear a great deal of normative economics from the candidates for office. Every four years a new person comes along that claims they have the answer to all of the our country’s economic problems. “We should raise taxes.” “We should lower taxes.” “The rich do not pay enough taxes.” These are all normative economic statements.

“That person is hungry, we have to feed them.” Again, a normative statement.
A branch of economics that I personally try hard to ascribe to is “positive economics.” Positive economics is objective, without emotion or value judgements. Positive economics can be referred to as “What is, what was, and what probably will be” economics. Positive economics is based on sound economic theory, probability, and statistical methods. Positive economics studies and determines the probable outcomes from an increase or decrease in taxes. Positive economics does not prescribe that taxes should be increased or decreased. That decision is for the people of our democratic society to evaluate and decide through their duly elected political representatives. Positive economics provides only the probable outcomes of alternative decisions. It is assumed that an educated society will make the most rational choices for themselves, and exercise those choices in the marketplace.

Positive economic analysis strives to explain current economic phenomena as well as answering "what if" type questions without value judgements.

“That person is hungry.” What is the cost of feeding that person? What is the benefit that you or society will accrue if that person is fed? What is the cost of not feeding this person? What is the benefit from not feeding this person? Positive economics tries to objectively answer these questions by doing what is called a cost/benefit analysis.
As you can see, economics can be basically broken down into two major areas of study, microeconomics and macroeconomics, with each major area being further divided into a normative or positive perspective.
Macroeconomics

1. Fiscal Policy:
   Govt. tax and spend policies

2. Monetary Policy
   Manipulation of the money supply by
   the Federal Reserve system to affect
   short-term interest rates and control
   inflation

From a government policy perspective, macroeconomics focuses on two primary issues:

• Fiscal Policy, which deals primarily with the amount of government spending and taxation. The Federal Budget is basically the government’s taxation and spending policy.

• Monetary Policy, which is controlled by the Federal Reserve currently chaired by Ben Bernanke. The monetary policy of the Federal Reserve affects short-term interest rates directly; and inflation and long-term interest rates indirectly. The current priority of Mr. Bernanke is to keep (inflation) in check.
In a competitive market system such as ours, property rights have been established to facilitate the exchange of commodities, and reduce the resources required to protect private property. Property rights are often constrained by the enactment of legislation due to the realization of a “negative externality”

The best way to explain this concept is through an example. Let’s take a look at second hand smoke. A person has bought a pack of cigarettes. The cigarettes are now their private property. They pull out a cigarette in class, and start smoking; exercising their right to use their private property.

However, a member of the class has asthma. This student begins to have labored breathing associated with the onset of an asthma attack. I have to stop class and call public safety to transport this student to the ER for treatment.

Another student in class is allergic to cigarette smoke. Their eyes start watering, their nose becomes congested, and they are generally uncomfortable and find it hard to concentrate in all their classes the rest of the day.

The smoker has imposed a negative externality on these two individuals and the class as a whole while exercising their private property rights.

Another example would be a producer that pollutes the environment.
What was the cost on other people for the smokers right to smoke?

Class had to be stopped to take care of the student with asthma, so everyone missed a lecture they had paid for. The student with asthma misses the rest of his/her classes, and has a hefty emergency room bill (the most expensive form of medical care available) that he/she or their insurance company must pay. Remember, health insurance companies extract premiums from their customers. As health care costs increase, very often insurance premiums increase as well. The student with the allergy is generally miserable.

The smokers rights have infringed on the rights of others, and it is very difficult if not impossible for the others to recover their damages from this smoker. Thus, legislation is passed that forbids the consumption of cigarettes in certain public areas to resolve this negative externality.
An individual’s recourse in the matter of a negative externality is usually a civil law suite such as the one filed by airline stewardesses against the tobacco companies in 1997. Lawsuits can be very expensive for individuals and society but they are a means of recovering damages imposed by another’s use of their private property.

Aug, 1996, FDA classified nicotine as a drug and proposes increased regulations on the tobacco industry to reduce the incidence of teen age smoking. This FDA action precipitated the law suites filed against tobacco companies to recover costs associated with treating smokers under the Medicare and Medicaid programs. All of this in response to a negative externality.

The recent outcries by some citizens of North Carolina and the national news media stem from a perceived negative externality. Some people are accusing the swine industry of N.C. of contaminating their ground water supplies with excess levels of nitrogen. Others are claiming that the odor from swine facilities has decreased the value of their homes and land resources that they own. As a result, calls for new legislation have surfaced. The N.C. legislature in 1997 considered a two-year moratorium on the building of any new swine facilities until research studies could document any problems or not.
Let’s take a look at some other examples of negative externalities. The seat belt law has provoked many people to question whether government has a right to tell them they must wear a seat belt in an automobile, or wear a helmet on a motorcycle. The negative externality arises because of the scientific data that informs us that people involved in auto accidents that wear seat belts have less injuries than those that do not wear seat belts. We have also been informed that seat belts reduce fatalities associated with auto accidents. Society very often must pay for these injuries and deaths through tax dollars because many of the persons involved in these accidents do not have ample insurance coverage. Think about the medical bills, time missed from work, disabilities, and the care to be given to children that may be left behind in the event of the death of a parent. The social burden can add up quickly.

Of course, the same argument can be used for a motorcycle helmet law. Have you ever heard someone’s head hit the pavement, and see the head trauma that occurs? Buy a cantaloupe and give it a hurl onto the pavement one day for a graphic visualization. We have the technology to keep virtual “vegetables” alive today for an extended period of time. Who pays for this?

Another problem: Federal Highway money is tied to seat belt compliance. If a lot of people choose not to wear their seat belt, Federal Highway Funds are cut off. Will state taxes be increased to meet the highway needs of N.C.? How will you feel if your state income taxes are increased because a large group of citizens choose not to wear their seat belt? What if you are a highway construction worker that gets laid off because of the loss of Federal Highway Funds
Negative Externalities

Possible Solutions:

- Pass Laws
- Post Bond to assure financial responsibility

A solution: laws are passed mandating that citizens wear a seat belt and children up to a certain age and weight be confined to approved restraint devices.

Another solution: post bond sufficient to cover your financial responsibilities, then you can do as you wish with regards to a seatbelt or motorcycle helmet. Otherwise, you may be asking society to bear the burden of your decision to not utilize safety devices while operating a motor vehicle in the event of an accident.

I have presented to you some perspectives that you may not have previously considered. What do we do? What course of action do we take to alleviate this negative externality? That is up to you to express to political representatives. True, we are sacrificing some personal freedom if we pass a law mandating seat belt or helmet use (cost). What is the benefit from doing so? What will be the net benefit? What if we don’t pass any laws (cost) that constrain personal freedoms (benefit)? What is the net benefit of this decision?
Another example of the obvious affects of a negative externality, and an example of
the not so obvious affects can be derived from the Imperial Foods incident in
Hamlet, N.C. In 1991, the owners of Imperial Foods padlocked the fire exits of the
food processing facility because of product losses that were alleged to be taking
place. In other words, employees were alleged to be carrying “stuff out the back
door.” A fire occurred within the plant, and I believe 28 people lost their lives due
to the fire exits being locked. The obvious recourse here was to pass more stringent
inspection laws and hire more inspectors.

The not so obvious negative externality was born by a small sandwich making
company in Goldsboro, N.C. named the Imperial Sandwich Company. These two
companies were not associated with each other in any way. The only thing they had
in common was a similar name. As are result of the Imperial Foods fiasco, Imperial
Sandwich Company received numerous phone calls and letters that were not
flattering. Businesses that confused Imperial Sandwich Company with Imperial
Foods; canceled orders. Convenient stores refused to do business with them
anymore. Imperial Sandwich Company quickly faced financial problems. The
company was salvaged only after changing its name to disassociate itself from
Imperial Foods. How does Imperial Sandwich Company recover its loses due to
Imperial Foods lack of rational behavior? We have a negative externality.
Positive Externalities

When you produce or consume a commodity or service within your private property rights that bestows a benefit on a third party not directly involved in the market transaction.

As you recognize, a positive externality is just the opposite of a negative externality. And again, an example is the best way to explain this concept.

Let us assume that you own a home in a sub-division of Raleigh. You spend thousands of dollars landscaping and maintaining your home site. You maintain your house very well. Your neighbor is one of those folks who just does the minimum. His/her place looks O.K., but it is not on the Parade of Homes list. Do your actions increase the value of your neighbors home? If he/she were to place their home on the market, would the potential buyer look around at neighbors homes and the neighborhood in general?
Positive Externalities

The benefit bestowed on the third party is very difficult (expensive) for the third party to recover

AKA a “Spillover benefit”

I think you would agree that you have added value to your neighbors home. Now how will you get that value added to your neighbor’s home when he/she sells it? Will you politely ask for your share at the closing? What is your neighbor likely to tell you? Thus we have what is known as a positive externality.

Now assume you have a neighbor that does not maintain their home site well at all. Your neighbor has junk cars in the back yard on cinder blocks, a goat running around grazing the over grown crabgrass in the yard, and paint peeling off the siding and trim. This would probably diminish the value of your well kept home (negative externality). How would you recover this loss?

Do you now see the rationale behind the development of “Homeowners Associations”, and restrictive covenants that are placed in real estate deeds. These legal instruments are used to preserve and maintain the value of homes in subdivisions. Zoning ordinances and municipal land use plans are other legal prescriptions for preserving or enhancing real estate values.

Another example of a positive externality is EDUCATION. Higher education leads to increased GDP (economic growth) and lower crime rates.