

Introduction to Macroeconomics

- When the macroeconomy is doing well, jobs are easy to find, incomes are generally rising, and profits of corporations are high.
- If the macroeconomy is in a slump, new jobs are scarce, incomes are not growing, and profits are low.

What is Economics?

Studies of

- decision-making,
- allocation of resources,
- how economies work,
- etc.

Resource Allocation – WHY?

- Resources are scarce, but people have unlimited needs.
- Scarcity implies Trade-off
- Trade-off implies Opportunity Cost

Trade-off vs Opportunity Cost

- Trade-off: sacrifice of one thing in order to get another

i.e. making choices

- Opportunity Cost: the best foregone alternative

i.e. the best choice sacrificed

Trade-off vs Opportunity Cost

Example

We have 100\$ and are given only 3 choices:

(a) Consume

(b) Buy bond with 5% return after a year

(c) Buy stock with 10% return after a year

What is the opportunity cost of choosing (a)?

Trade-off vs Opportunity Cost

Answer

10% return after a year (from buying stock) will be the opportunity cost of choosing (a).

This is because (c) is a better choice than (b).

Additionally,

Trade-off refers to the act of choosing between the 3 choices

MICRO vs MACRO

- **microeconomics** Examines the functioning of individual industries and the behavior of individual decision-making units — firms and households.

i.e. focus on individual decisions

- **macroeconomics** Deals with the economy as a whole, focuses on aggregates such as aggregate consumption and investment, and looks at the overall level of prices.
- i.e. focus on the SUM of individual decisions

MICRO vs MACRO

- Micro often assumes Flexible Price
- Macro observes Sticky Price in reality
- Flexible Price: price adjusts rapidly to the equilibrium (where demand = supply), and the market clears.
- Sticky Price: price adjusts slowly to the equilibrium, so the market takes time to clear.

Macroeconomic Concerns

- Three of the major concerns of macroeconomics are:
 - Output growth
 - Unemployment
 - Inflation and deflation

Output Growth *(1 of 2)*

- **business cycle** The cycle of short-term ups and downs in the economy.
- **aggregate output** The total quantity of goods and services produced in an economy in a given period.
- **recession** A period during which aggregate output declines. Conventionally, a period in which aggregate output declines for two consecutive quarters.

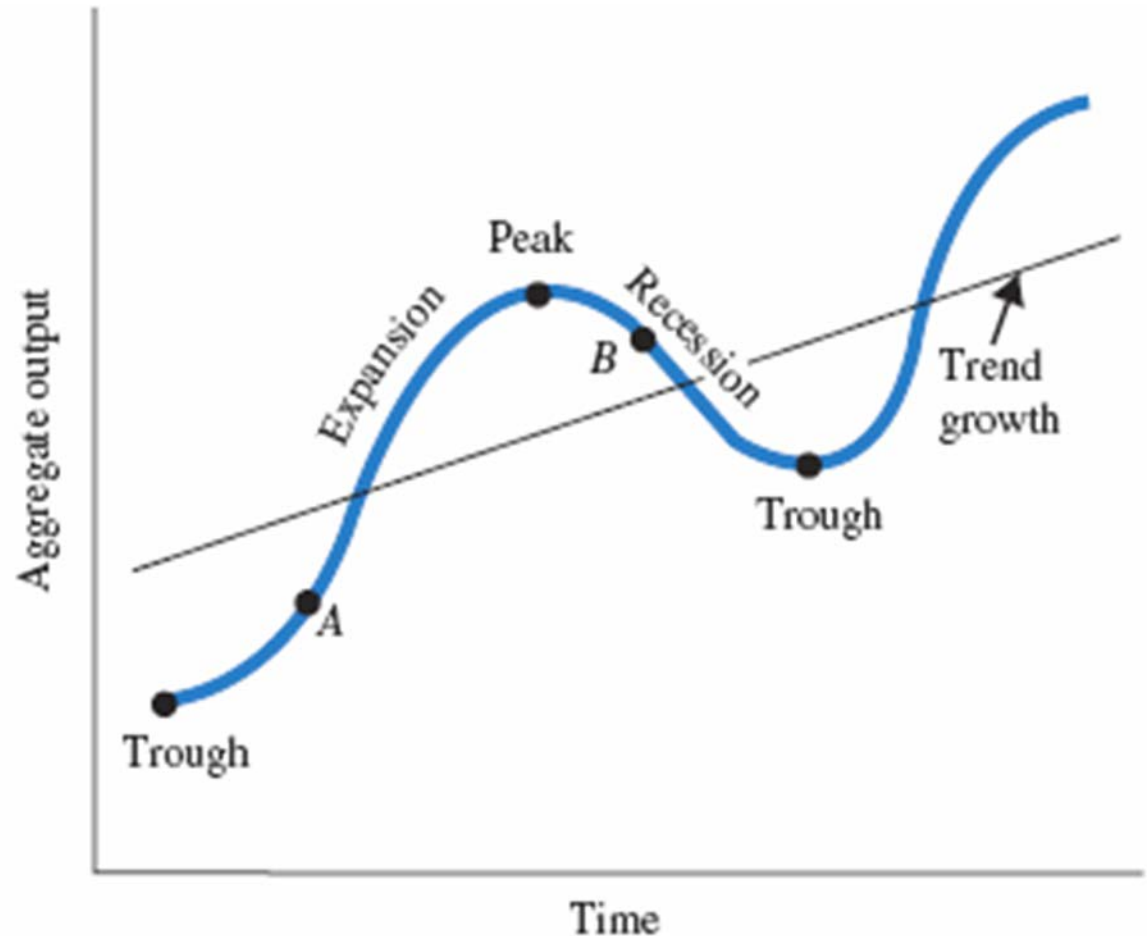
Output Growth *(2 of 2)*

- **depression** A prolonged and deep recession.
- **expansion** or **boom** The period in the business cycle from a trough up to a peak during which output and employment grow.
- **contraction, recession, or slump** The period in the business cycle from a peak down to a trough during which output and employment fall.

A Typical Business Cycle

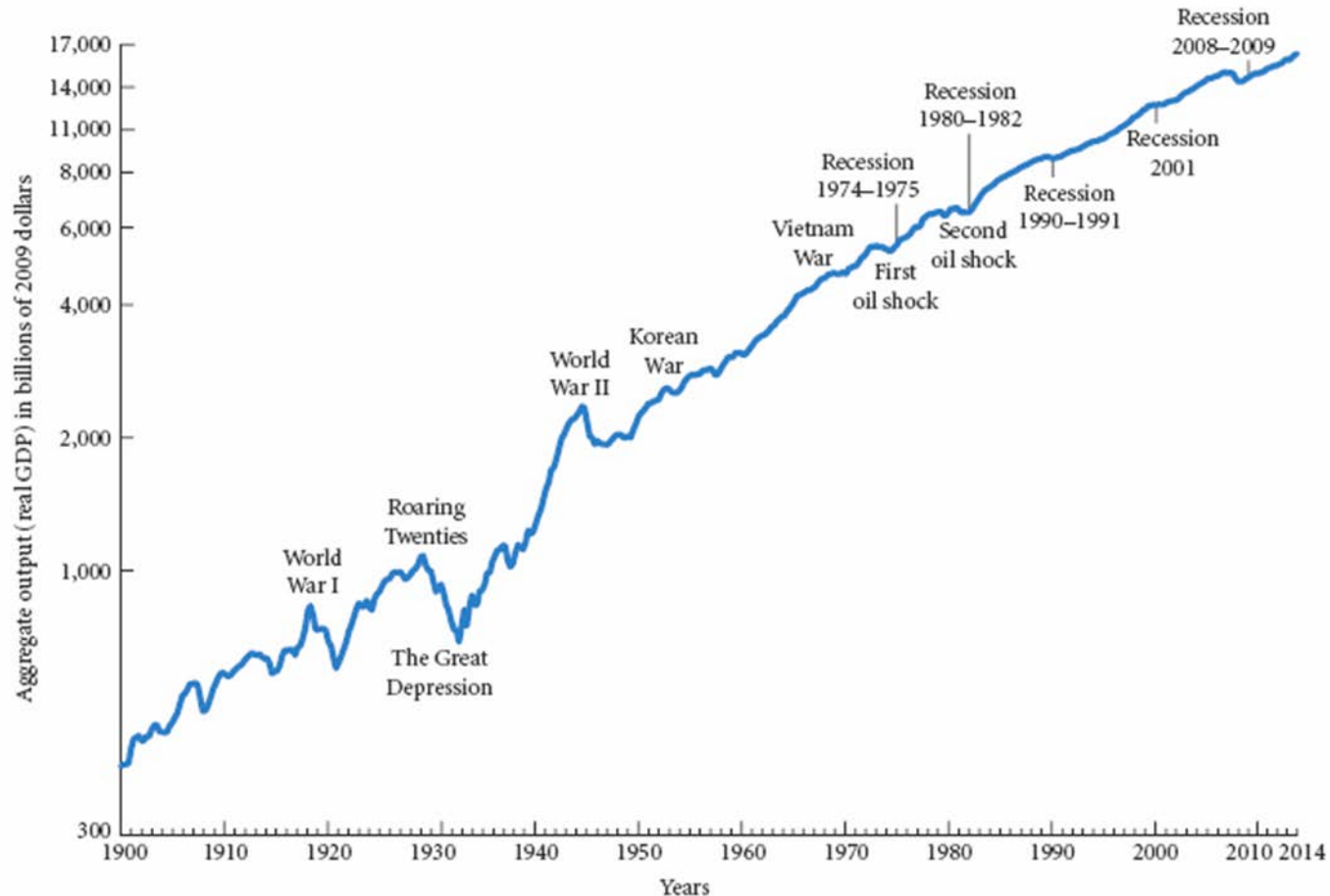
In this business cycle, the economy is expanding as it moves through point A from the trough to the peak.

When the *economy* moves from a peak down to a trough, through point B, the economy is in recession



U.S. Aggregate Output (Real GDP), 1900–2014

MyEconLab Real-time data



The periods of the Great Depression and World Wars I and II show the largest fluctuations in aggregate output.

Great Depression 1929-1939

After a period of boom, Wall Street was filled with “reckless speculation”. Everyone from millionaires to janitors invests their savings in stocks. This raised stock prices to be higher than the actual values.

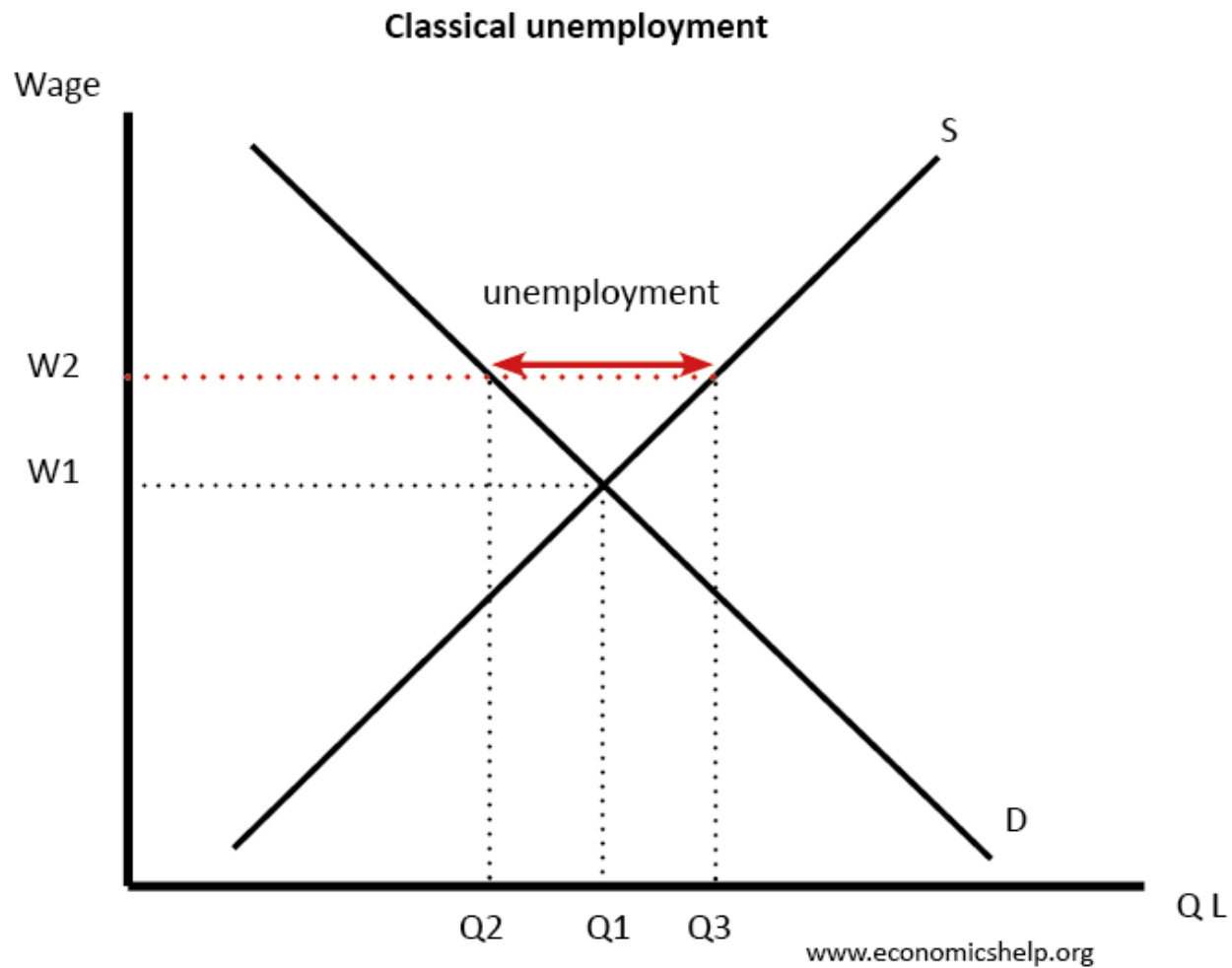
When the economy slowed down, production declined and unemployment rose. Nervous investors now began to sell their stocks. This caused the market to crash due to bank runs. Many stockholders went bankrupt.

A bank run occurs when people withdraw money from a bank, because they believe the bank may cease to function in the near future.

Unemployment

- **unemployment rate** The percentage of the labor force that is unemployed.
- Unemployment seems to imply that the labor market is not in equilibrium.
- That is, supply of labor $>$ demand for labor.
- This is often because the “market wage” is above the “equilibrium wage” and the wage is “sticky” so it takes time to adjust.

Unemployment



Unemployment

Measuring Unemployment (for people 16 y.o.+)

- **employed** Any person who works for pay, or works without pay in a family enterprise, or has a job but has been temporarily absent.
- **unemployed** A person who is not working, is available for work, and has made specific efforts to find work

Measuring Unemployment *(1 of 2)*

- **not in the labor force** A person who is not looking for work

- **labor force**

labor force = employed + unemployed

population = labor force + not in labor force

Measuring Unemployment *(2 of 2)*

- **unemployment rate**

$$= \frac{\text{unemployed}}{\text{employed} + \text{unemployed}} = \frac{\text{unemployed}}{\text{labor force}}$$

- **labor force participation rate**

$$= \frac{\text{labor force}}{\text{population}}$$

Discouraged-Worker Effects

Unemployment Rate falls because people give up finding jobs, so these people are not regarded as “unemployed” anymore and are not included in the unemployment rate.

Thus, discouraged-worker effects can mislead us into thinking that more people have got their jobs.

Some economists argue that discouraged workers should be regarded as “unemployed”.

Categories of Unemployment *(1 of 3)*

Three categories of unemployment:

- Frictional unemployment
- Structural unemployment
- Cyclical unemployment

Categories of Unemployment *(2 of 3)*

- **frictional unemployment** is a normal turnover in the labor market, and is used to denote short-run matching problems.
- **structural unemployment** is a loss of jobs due changes in the structure of the economy, and thus is a long-run problem.
- **cyclical unemployment** is a loss of jobs due to business cycles

Categories of Unemployment *(3 of 3)*

natural rate of unemployment

- The unemployment rate that occurs as a normal part of the economy.
- Sometimes taken as the sum of the frictional unemployment rate and the structural unemployment rate.

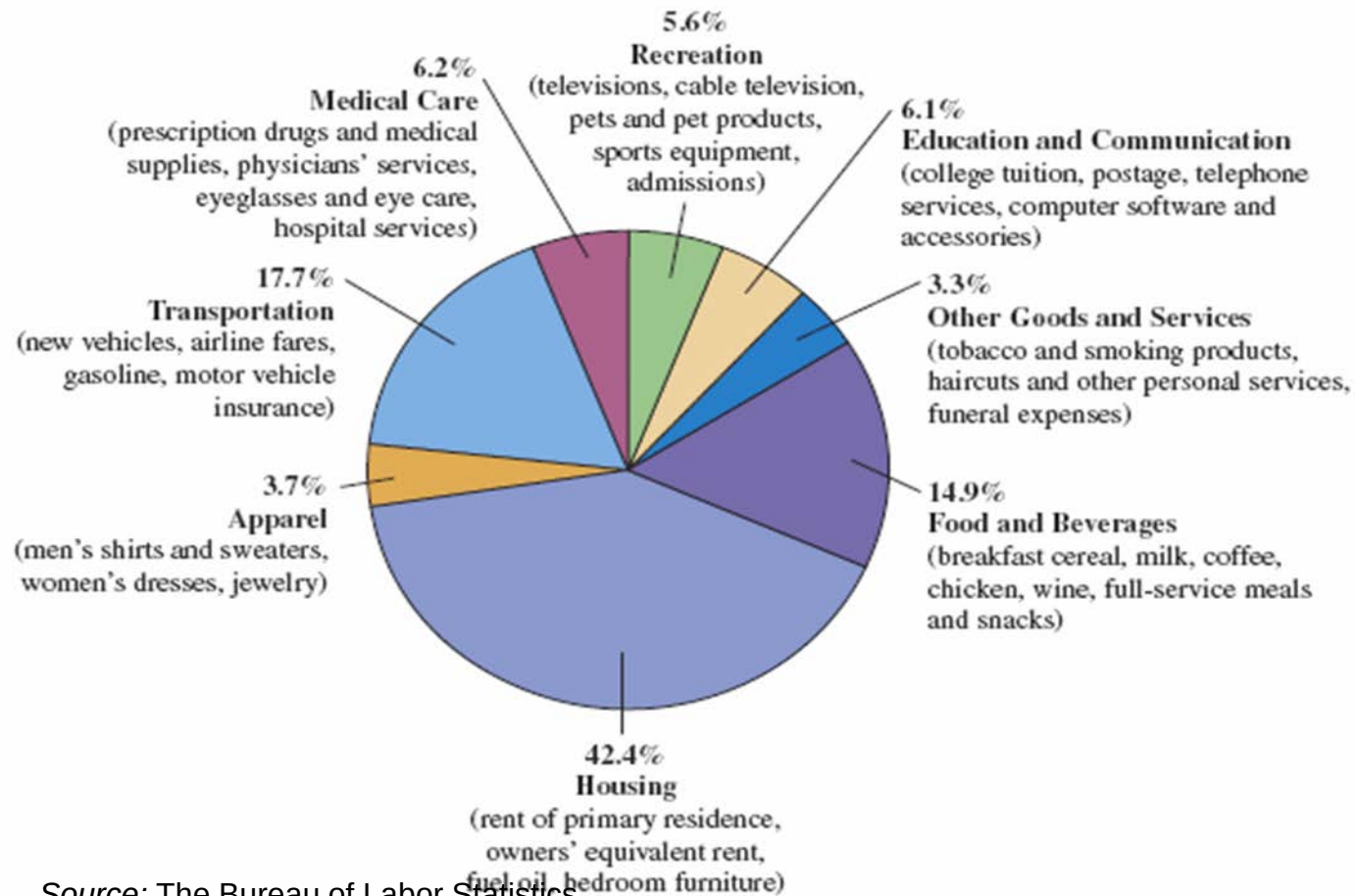
Inflation and Deflation

- **inflation** An increase in the overall price level.
- **hyperinflation** A period of very rapid increases in the overall price level.
- **deflation** A decrease in the overall price level.
- Overall price level = prices of some set of commodities

Measuring Inflation

- **consumer price index (CPI)** A price index computed by using a bundle or the “market basket” that is purchased monthly by a typical urban consumer.
- **GDP deflator** A measure of the level of prices of all new, domestically produced, final goods and services in an economy in a year.

FIGURE 7.1 The CPI Market Basket



Source: The Bureau of Labor Statistics

The CPI market basket shows how a typical consumer divides his or her money among various goods and services. Most of a consumer's money goes toward housing, transportation, and food and beverages.

Real and Nominal Value

- Nominal value refers to the value in monetary terms, i.e. in a currency unit.
- Real value refers to the value that is adjusted for inflation.
- $$\text{Real Value} = \frac{\text{Nominal Value}}{\text{Price Index}} \times 100$$

The Costs of Inflation *(1 of 3)*

- During inflations, most prices—including input prices like wages—tend to rise together, and input prices determine both the incomes of workers and the incomes of owners of capital and land.
- In short, inflation raises both wage and prices of goods.
- So inflation by itself does not necessarily reduce one's purchasing power.

The Costs of Inflation *(2 of 3)*

Inflation May Change the Distribution of Income

- The effects of anticipated inflation on the distribution of income are likely to be small, since people will adjust to the anticipated inflation.
- Unanticipated inflation may have large effects.
- **real interest rate** The difference between the interest rate on a loan and the inflation rate.
- Actual inflation that is higher than anticipated benefits debtors/borrowers. See example.

Example

You borrow 100\$ from your friend in 2018 and promise to return 100\$ in 2019.

Assume that 100\$ can buy 5 apples in 2018.

Then, there is unanticipated inflation; in 2019, 100\$ can buy 4 apples.

Now, your friend is worse off, but you are better off.

This is why Banks will charge higher interest rate when they anticipate inflation.

The Costs of Inflation *(3 of 3)*

Administrative Costs and Inefficiencies

- There may be costs associated even with anticipated inflation, such as costs from changing menus / price lists frequently. (menu cost)
- Interest rates tend to rise with anticipated inflation. When interest rates are high, the opportunity costs of holding cash outside banks is high. (shoe leather cost)
- Therefore, there is a need for price stability.

Main Cause of Inflation

Printing money (increasing money supply) often causes inflation, but this is necessary.

Yet, printing too much money is dangerous, as it causes hyperinflation.

As economy grows (and population grows), more and more people will need money for their transactions.

Thus, with FIXED money supply, there will NOT be enough cash for everyone.

Main Cause of Inflation

When money becomes scarce, people will hoard money, knowing that its purchasing power will increase in the future.

This is the case of BitCoin where its supply is fixed.

But we do not want such situation because we want money to function as the mean of exchange.

Goals of Macroeconomics

- Macroeconomics seeks to ensure better life for everyone.
1. Raising standard of living (consumption, education, healthcare, etc.)
 2. Ensuring stability, i.e. inflation
 3. Ensuring sustainability, i.e. long-run growth

Trade-offs in Macroeconomics

- Unemployment vs Inflation
 - Phillips Curve
- Efficiency vs Equity
 - Laffer Curve
- Environment vs Growth
 - (Environmental) Kuznet Curve

Phillips Curve



Copyright: www.economicsonline.co.uk

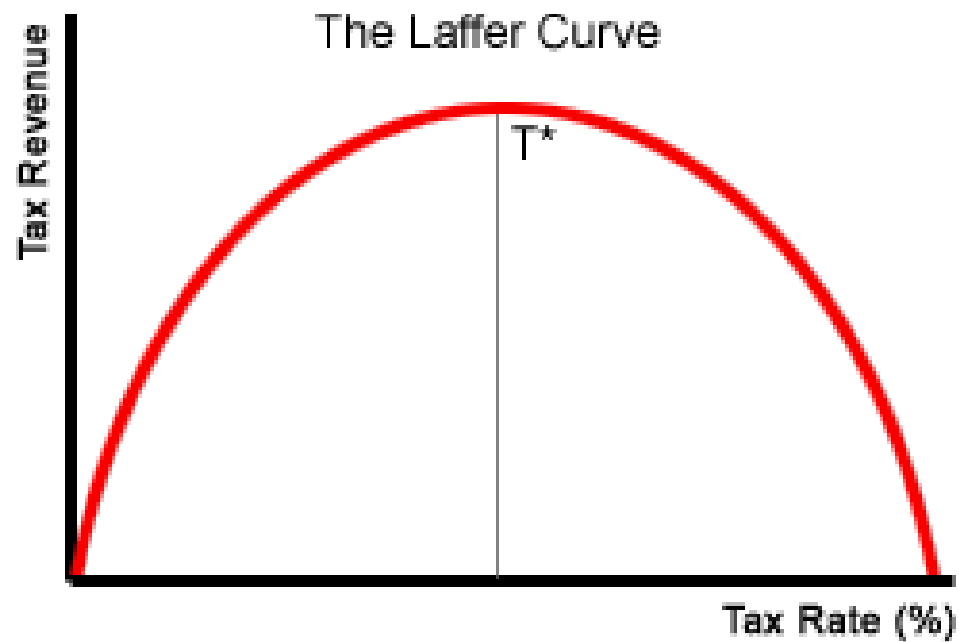
Phillips Curve

It shows a observed historical trade-off between unemployment and inflation.

Higher inflation corresponds to lower unemployment.

BUT during 1970s, we observed “Stagflation” (high unemployment and high inflation).

Laffer Curve



Copyright 2003 - Investopedia.com



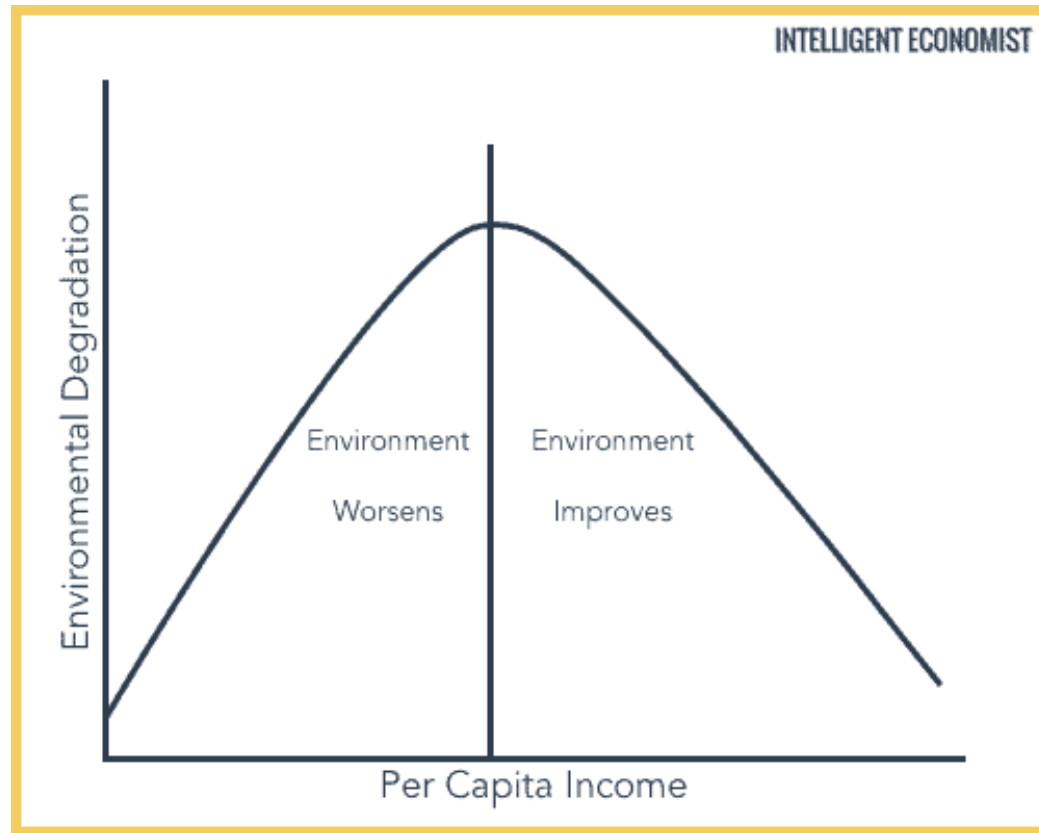
Laffer Curve

It illustrates a theoretical relationship between rates of taxation and the resulting levels of government revenue.

It shows that taxation can be “distortive”, i.e. it affects incentives of people.

Higher tax discourages people from working, so the government gets less revenue from taxation.

Environmental Kuznet Curve



Environmental Kuznet Curve

It illustrates a hypothesized relationship between environmental quality and economic development.

Environmental degradation tend to get worse as modern economic growth occurs until average income reaches a certain point over the course of development.

Correlation and Causation

- Correlation: the relationship between two or more things
- Causation: the relationship between cause and effect
- Correlation does not imply Causation

Spurious (false/fake) Correlation



History of Macroeconomics

Adam Smith (classical economist)

- Division of labor: specialization makes production become more efficient and hence productive.
- Invisible hand: an economy can work well in a free market scenario where everyone will work for his/her own interest.

Karl Marx (Marxian economist)

- Exploitation from capitalism
- Conflict between capitalists and the working class

History of Macroeconomics

Alfred Marshall and others (neoclassical economist)

- Supply and Demand
- Marginal Utility
- Market is self-regulating and efficient

John Maynard Keynes (Keynesian economist)

- Market needs intervention
- Roles of government, esp. fiscal policy
- Demand-side economics

History of Macroeconomics

Milton Friedman (monetarist)

- Roles of central bank, esp. monetary policy and inflation

Neo-Keynesian Economists

- Keynesian + Neoclassical
- IS-LM Model

New Keynesian Economists

- Keynesian + microeconomic foundations
- New Keynesian Phillips Curve