Money and Banking is an exciting subfield of economics. It is an important subject because we will discuss topics such as interest rates, bonds, stocks, banks and monetary policy. These economic phenomena are of great importance since it affects our everyday lives.

The course can be broken down into three main components:
(1) Study of the Financial Markets.
(2) Study of Financial Intermediation (Banking)
(3) Study of Money and Monetary Policy

I. Financial Markets

Definition: Financial markets are markets in which savers (those individuals with excess funds are willing to lend) transfer funds **directly** to borrowers (those individuals with a shortage of funds).

Financial markets are critical to functioning of the economy since oftentimes firms and individuals lack the necessary funds to undertake investment project. Only through financial markets are individuals able to raise funds to undertake investments.

In macroeconomics it has been shown that greater stock of physical capital (machinery, tools, factories, etc…) generally leads to higher economic growth and improvement in the standard of living.

It is perhaps not surprising that the richest nations in the world such as the United States, Canada, Japan and Western Europe have well functioning financial markets where borrowers can obtain funds relatively easily. These well functioning financial markets can partially explain the high rate of economic growth in these regions. Conversely, poorer nations do not have as well as developed financial markets. In these countries, borrowers cannot obtain funds even if they have a profitable idea or project. Countries with poorly developed financial markets have less investment and thus results in slower economic growth.

Within financial markets the usual means by which borrowers obtain funds is through a process known as direct finance.

A. Direct Finance

Definition: Direct Finance occurs when the borrowers obtain funds directly from lenders usually in exchange for an asset.

The two typical assets that are exchanged in direct finance are stocks and bonds.

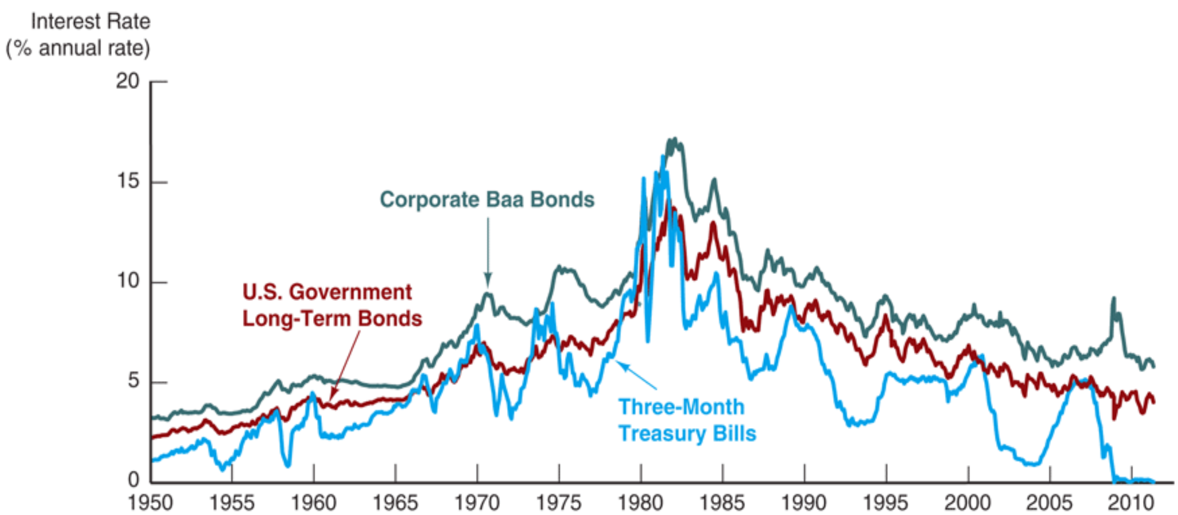
Definition: A bond is a promise to make periodic payments until a specified point in time (maturity date).

The cost to the borrower of issuing a bond in exchange for funds will depend on the **interest rate.** The interest rate is the cost of borrowing.

The interest rate is one of the key variables in macroeconomics because it has an important effect on the overall economy. For example, if interest rates are very high then it will negatively affect purchases made by consumers. High interest rates means consumers will be less likely to borrow funds to purchase big ticket items such as appliances, cars and most importantly housing. The fall in consumption could slow down the economy. Likewise, high interest rates would also imply that the cost of borrowing will be higher for firms. Firms will be less likely to invest, which will also slow the economy. On the other hand, a high interest rate would encourage savings. Higher savings may have long-run benefits for an economy as capital accumulates.

Figure 1 shows interest rates in the United States between 1950-2010

Figure 1



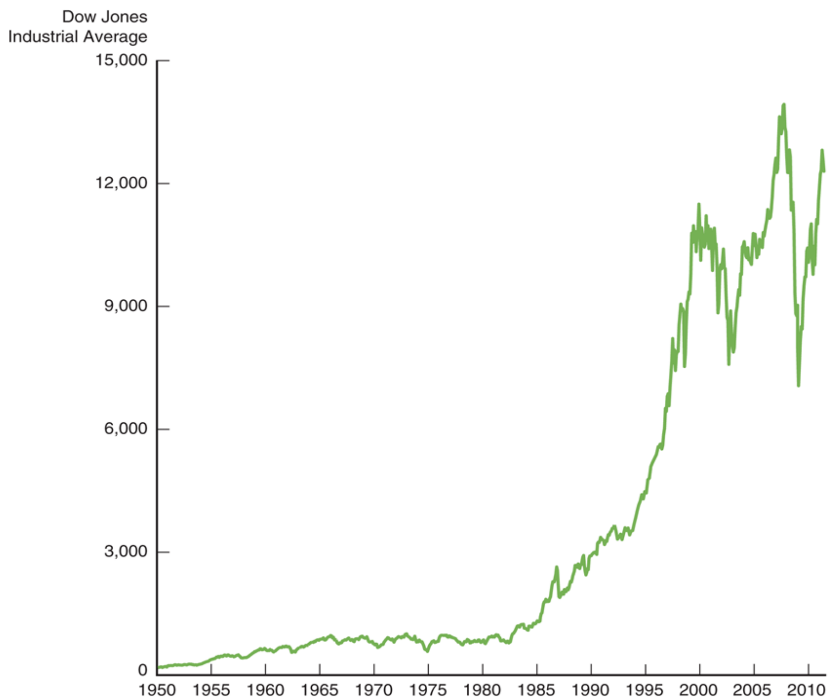
Although we may speak as if there is just a single interest rate in the economy, keep in mind that there are many interest rates at any given point in time. From Figure 1, we can see that interest rates do fluctuate over time and they tend to move together. In Chapters 4-6 we will embark on a detailed examination of interest rates and seek to understand why interest rates vary across bonds. In addition we will develop a theory concerning the relationship between bond prices and interest rates.

The second example of direct finance is the stock market.

Definition: A **stock** represent a share of ownership of a firm. A shareholder is entitled to a share of the earnings of the corporation.

Firms who wish to raise funds can do so by issuing stock and selling it to the public. The stock market also has an important effect on the overall economy. Over half of Americans have some money in the stock market, and thus changes in stock prices can have a significant affect on household wealth (or perceived wealth). If the stock market were to plunge, this would lower the wealth of households which would affect the household wiliness to spend. Additionally, a fall in stock prices will make it harder for firms to raise funds to finance investment spending, which may result in a drop in investment.

Figure 2: Dow Jones Industrial Average (1950-2011)



<u>II. Financial Intermediaries</u>

Another way to transfer funds from borrowers to savers is through **financial intermediation.** Under financial intermediation, lenders deposit funds into a third party (such as a bank or a mutual fund). The borrowers borrow the funds from the third party, thus the lenders are *indirectly* lending to the borrowers.

Banks are the most common example of a financial intermediary and we will focus a significant portion of the course to understanding how banks operate (Chapter 10). In addition, we will extend our analysis to see how banks may have led contributed to the recent financial crises (Chapter 9) and the need for regulatory oversight (Chapter 11).

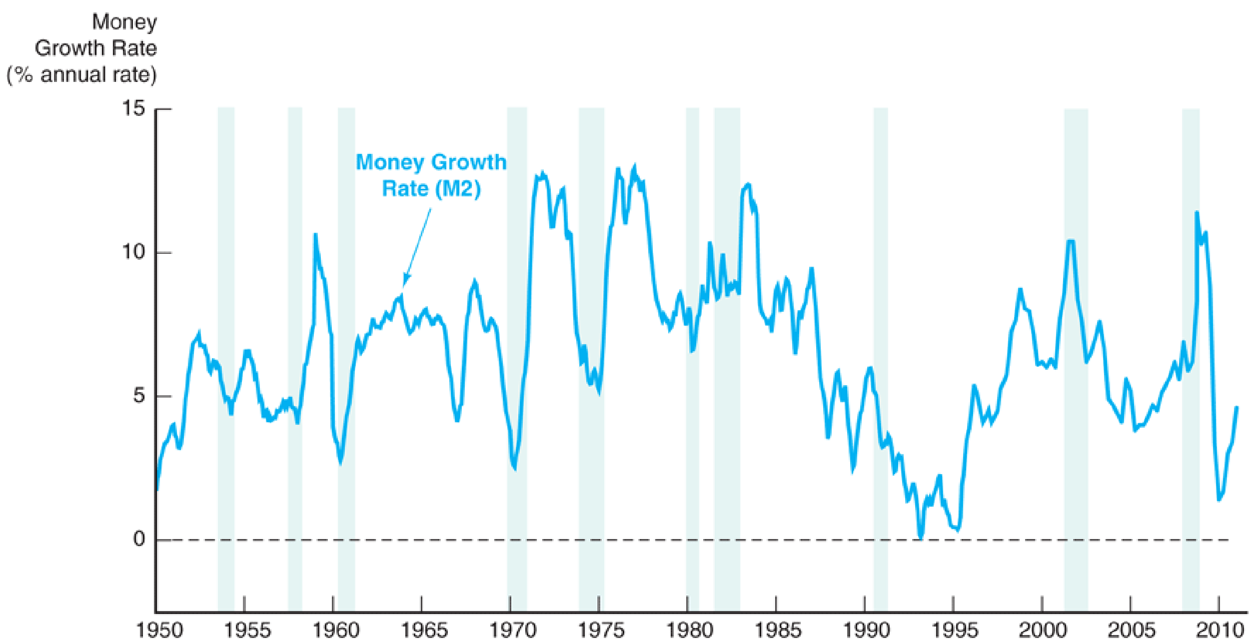
III. Money and Monetary Policy

The final portion of the course will examine the role that money plays in the economy. Money is a key macroeconomic variable since it potentially can affect business cycles, price levels and interest rates.

A. Money and Business Cycle

One of the key questions in macroeconomics is trying to understand short-run fluctuations. Why do we have **recessions** (formally defined as two consecutive quarters of negative economic growth)? Some economists have suggested that the growth rate of money maybe a factor in explaining recessions. Figure 3 illustrates the growth rate of the money supply in the United States since 1950 as well as periods of recessions (shown in shaded regions).

Figure 3: Money Growth Rate and the Business Cycle



What can be deduced from Figure 3, is that in general prior to each recession, the growth rate of money supply had fallen. It should be noted, however, that not all declines in the money supply was followed immediately by a recession. One of the key topics to be addressed in this course is how money and **monetary policy** (the policy that determines the amount of money in the economy) can affect overall output in the economy.

B. Money and Inflation

Definition: **Inflation is the overall increase in the price level.**

Another key question in macroeconomics is trying to explain why the price level (the average level of prices in an economy) changes over time. The prices of all goods were cheaper 50 years ago than they are today. Why has that occurred?

Additionally, policymakers are generally concerned about prices increasing too fast since inflation has significant costs to an economy. Thus in most countries, policymakers make combating inflation a top economic priority. In order to determine an effective policy to combat inflation, policymakers must understand the root cause of higher prices.

Many economists argue that it is the growth rate of the money supply that explains the rise in prices in an economy. Evidence for this view can be seen in Figures 4 and 5. Figure 4 shows the growth rate of money and the GDP deflator (a measure of the price-level in an economy) since 1950 while Figure 5 displays a cross-country comparison of growth rates of money supply and inflation.

Figure 4

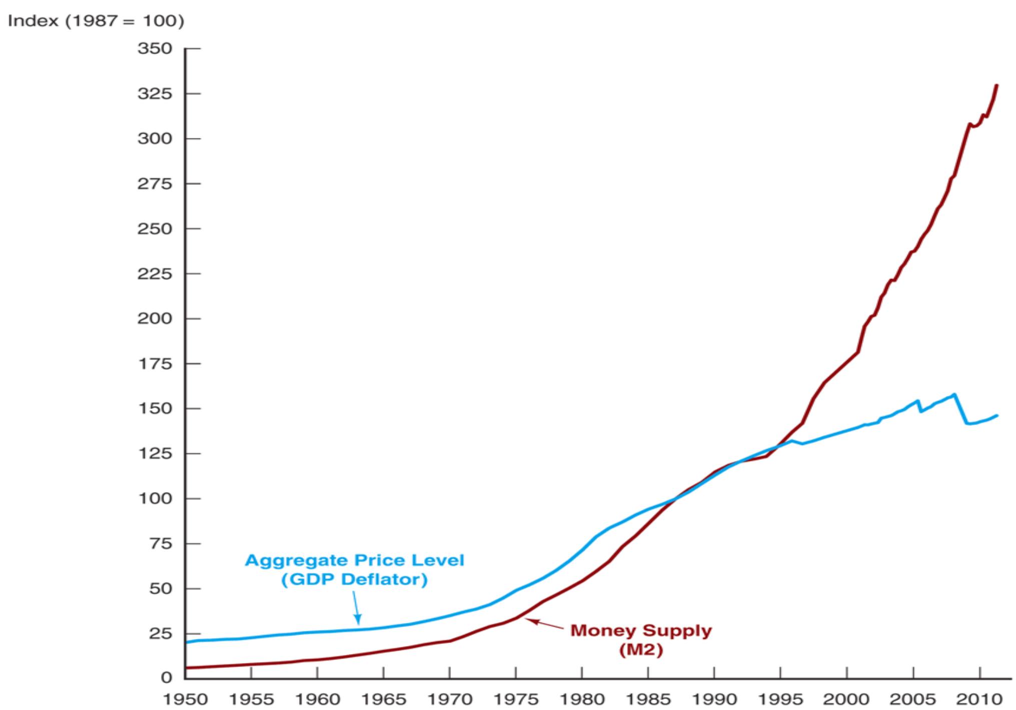
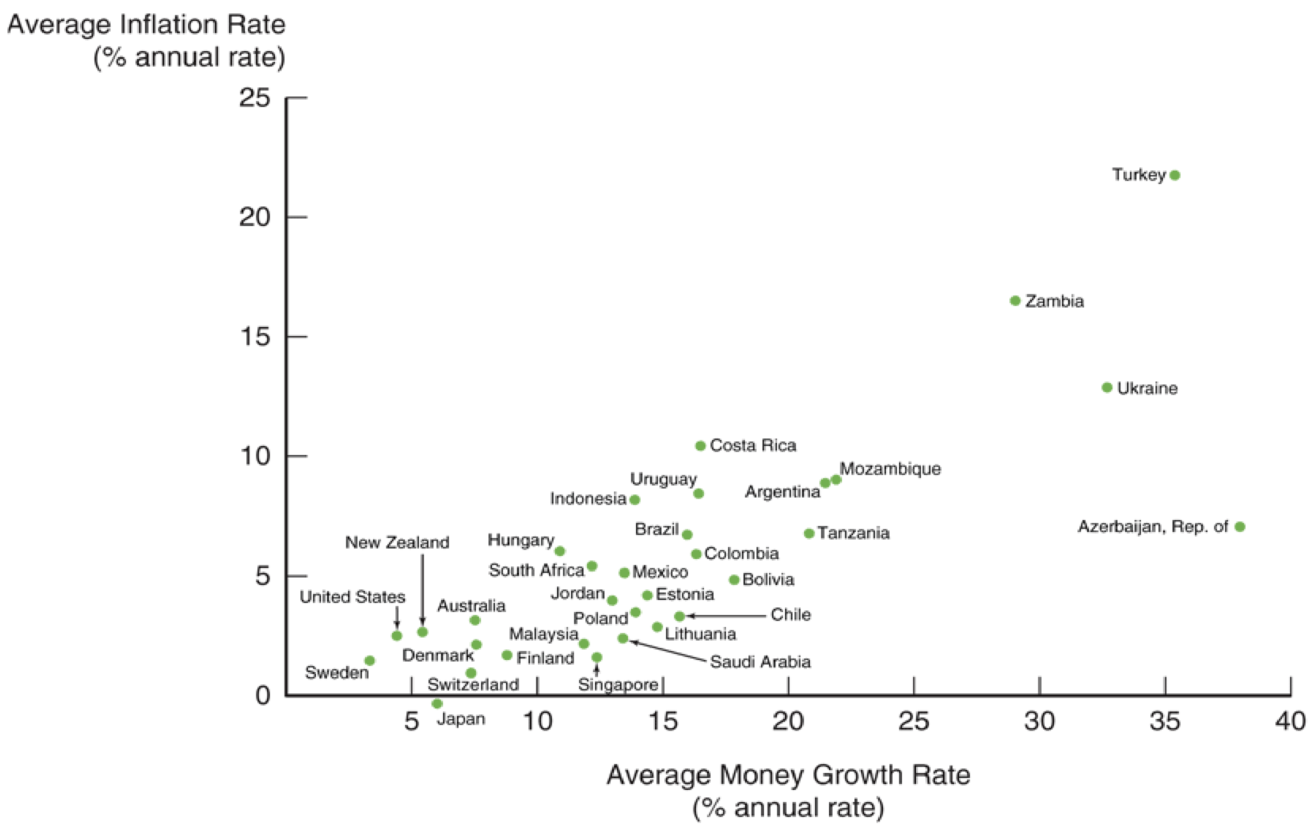


Figure 4 shows that the growth rate of money supply has generally moved in the same direction as the aggregate price level. Thus in the United States, one reason prices have increased since 1950 could be the fact that money supply has increased over that same time period.

In Figure 5, the cross-country analysis provides further proof of the link between inflation and money supply. Countries with low growth rates of money supply (such as the United States, Japan and Sweden) tend to have relatively low inflation rates. Countries with high growth rates in the money supply (such as Ukraine and Turkey) tend to have relatively high inflation rates.

Figure 5

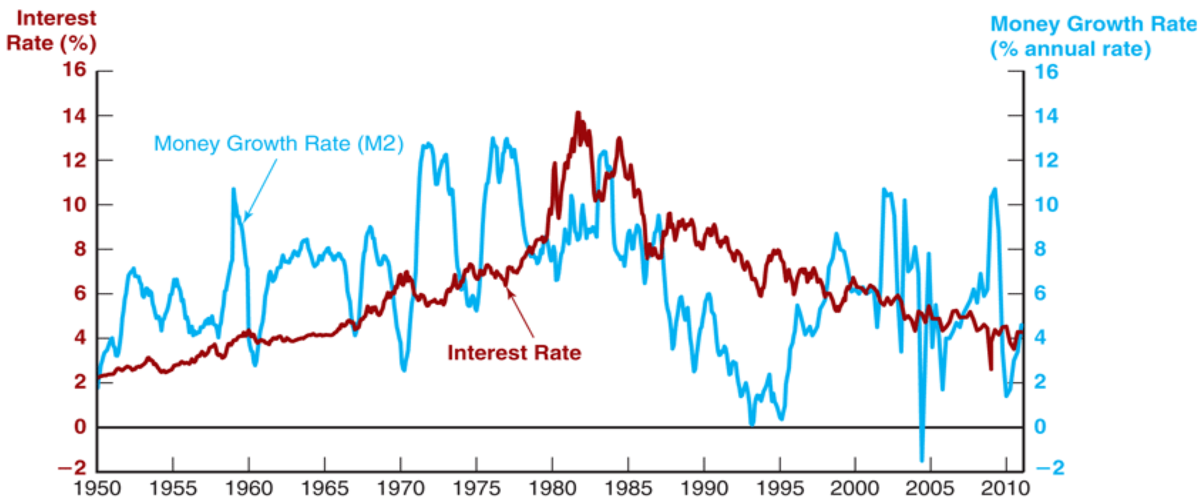


C. Money and Interest Rates

We have already discussed the importance of interest rates on an economy. High interest rates can hurt the economy by reducing consumption and investment. Understanding what causes interest rates to fluctuate is of great interest to macroeconomists. One explanation for the fluctuation in interest rates is changes in the money supply.

The relationship between money growth rate and interest rates is illustrated in Figure 6. During the decades of the 1960s and 1970s there appears to be a positive relationship between interest rates and money. During periods when the money growth rate increased, interest rates generally have gone up. However since the 1980s, this relationship between money and interest rates have been less clear. There have been periods in more recent years in which the growth rate of money supply had increased, yet interest rates have stayed stable or have even decreased.

Figure 6



D. Money and Monetary Policy

The final relationship that we will examine is the management of money. Who makes the decisions about the amount of money that is available in the economy? As we have already seen such decisions carry important implications for the business cycle, inflation and interest rates. We will find that it is the central banks (the central bank in the United States is the Federal Reserve) who ultimately make the decision on money supply. The decision making process is known as monetary policy. We will study in great detail how central banks affect the quantity of money in an economy.