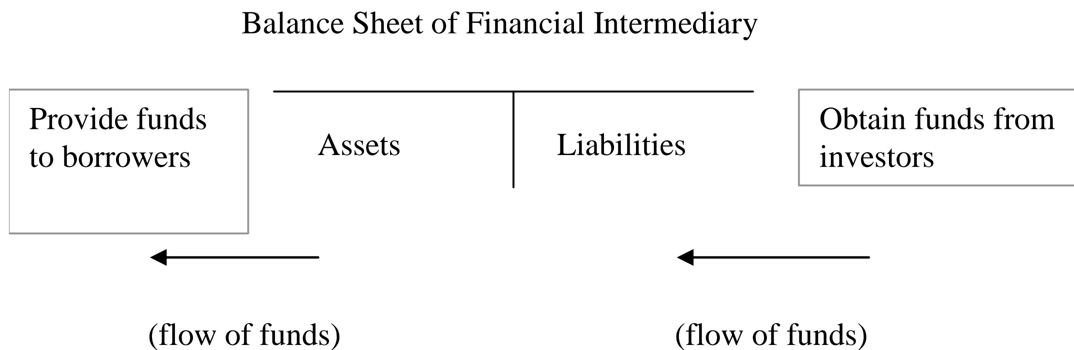
Part 3. Financial Institutions

This section will introduce you to the major kinds of financial institutions.

What is a Financial Intermediary?

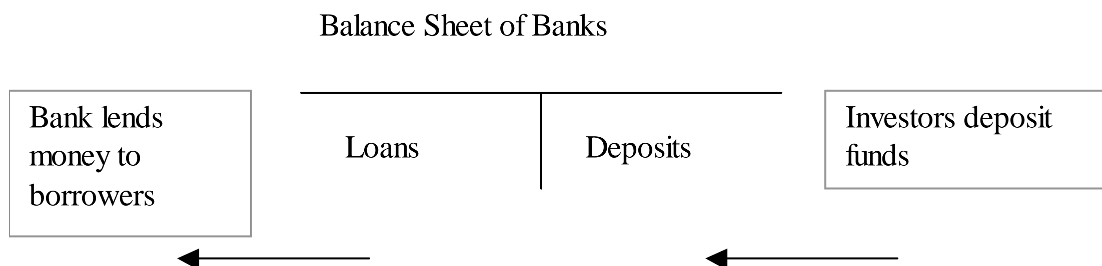
Many financial institutions play the role of a financial intermediary. That is, they help connect borrowers and lenders of funds. We can think of the activities of a financial intermediary in terms of its balance sheet.



Banks and Other Lending Institutions

Banks are financial intermediaries that accept deposits and make loans. Banks offer several advantages in connecting borrows and lenders. By pooling the funds of thousands of different depositors they are able to make large loans beyond the means of any individual investor. In addition, because they deal in such a large volume of loans, their costs to making a loan are smaller than for a single investor.

One special kind of cost is information cost. When you make a loan, you want to know the likelihood that the loan will be repaid. This information is difficult to determine for a part-time investor. But banks specialize in making loans and so are better at assessing risk. An additional advantage of banks is that they can make small loans. If you run a small business that needed to borrow $50,000 it would be too costly to issue bonds to raise that small amount. Rather, you would go to a financial intermediary to obtain the funds.



Banks make a variety of different kinds of loans. They lend money to businesses for capital improvement projects, called commercial and industrial loans. They lend money to consumers for projects such as auto and college loans, called consumer loans, and also to purchase a house, called a real estate loan, or a mortgage.

Banks make profits by the spread between the interest rate on the loan that they make and on the deposits that they take. For example, you might have the choice between getting a direct loan at 6% interest or going to a bank. If you went through a bank it might charge 8% for the loan and only pay 5% to the depositors. But because of the services and convenience of going through the bank, borrowers and lenders are willing to do it. The 3% goes to the bank as payment for the services it provides.

The banking system in the US has undergone a substantial evolution over the last 50 years. Historically, there has been a distrust of large financial institutions in the US, particularly after the collapse of the banking system during the Great Depression. This resulted in a strict regulation of banking practice. Commercial banks were forced to keep out of other business such as insurance or investment banking (the business of assisting firms issuing new securities). Commercial banks were also restricted to having branches in only one state. This resulted in a very fractured banking and financial system.

In recent years this legislation has been repealed, producing a flurry of mergers and expansions. A number of middle and large-sized banks merged to become mega-banks. The banking landscaped has turned to a mix of a large number of very small local banks and a few extremely large banks. The banks also expanded the services they offered to include mutual funds, insurance and investment banking.

Credit Unions and Savings Banks

Savings banks, savings and loans and credit unions are just other kinds of banks. Their primary business is to take in deposits and make loans. They differ somewhat from standard commercial banks in how they are regulated and their tax treatment.

Credit Scoring and Risk Management

One of the important decisions made by bank managers is whether or not someone should be offered a loan. The primary consideration is whether the borrower will pay the money bank – higher interest rates are of no value to the bank if the loan is not repaid.

In the past, loan evaluations were performed by managers at the bank. They would look at a number of different factors that might predict whether the borrower would repay the loan: the borrower's income, their assets, the amount of debt they have, if they have defaulted on a loan before, and so on. This process posed several problems for the bank. It left open the issue of how important was income relative to assets, or other variables; and it was a costly process as it required experienced and skilled bank managers to make each decision.

The use of a statistical technique, called credit scoring, combined with computer technology has significantly changed this process. The first step in the credit scoring process is to look at thousands and thousands of previous loans. Statistically, the bank determined which factors

predict the probability of defaulting on a loan. Each factor is assigned points, the more important it is in predicting repayment, the more points it gets. Then, for each individual applying for a loan, each factor is assessed. A total score is assigned, and is used to make a decision on the loan. If a person has a high enough score, they get the loan, otherwise they do not, or they will be hand-screened or offered a different loan.

Credit scoring offers several advantages to banks. The first is that by looking at thousands and thousands of past loans, they are able to incorporate knowledge that only an experienced manager would have. Second, once the initial statistical study is done, this is a very low-cost way of evaluating loans; it does not require much human time and does not require specialized managers. Finally, it is very fast. When you apply for a loan, once the information is entered, the bank can make a quick decision, without waiting for a human to go over the files.

The cost of this approach is that even a good computer program is not as flexible as a well-trained, experienced manager. There may be cases where an individual is a good credit risk, but will get a low credit score (or visa versa) and the manager would make the correct decision where the computer would not. However, this cost of the credit scoring approach seems to be smaller than the benefits it brings to the banks. Because of this, most large financial intermediaries incorporate credit scoring, and are quite secretive of their exact program. If they have a better program than others they will have a competitive advantage in the marketplace.

Other Financial Intermediaries

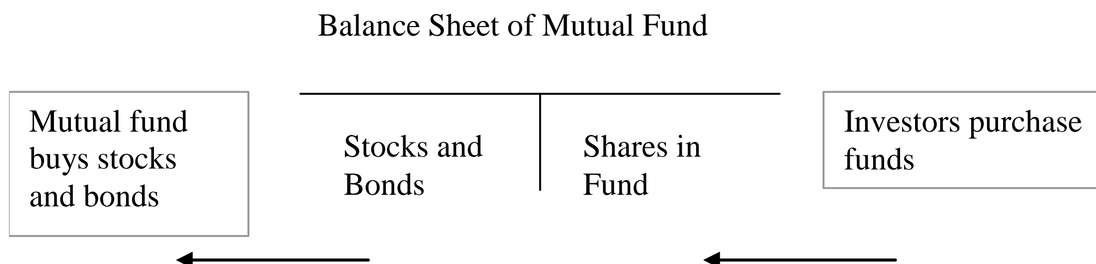
Mutual Funds

One of the difficulties that small investors face is that it can be expensive to construct a well-diversified portfolio. Most brokerages require you to make purchases of a minimum size (although this size limit has fallen dramatically with the advent of internet brokerages). If you only had $1,000 to invest, and you wanted to buy shares in 20 different companies, it would be difficult to do. Also, the cost per share, when buying this number of shares, is much higher than if you could make an order for 10,000 shares. One way to get around these problems is to pool your money with other investors and together buy large chunks of shares.

Mutual funds do exactly that. Investors buy shares in the fund and the mutual fund uses the proceeds to buy securities such as stocks and bonds. Because the mutual fund is dealing with thousands of investors, they have millions of dollars to invest, and so pay low transactions fees on their purchases and can hold a large number of different stocks and bonds. Most mutual fund companies offer a wide variety of funds to reflect the different interests of the investors.

The balance sheet of a mutual fund would look something like,

Balance Sheet of Mutual Fund



Mutual funds companies earn income in two ways. The first is that the managers are paid fees by the investors based on the value of the assets in the firm. Numbers around 0.5% are typical. Some mutual funds also charge a fee when the funds are first purchased, called a "load". For example, if you invest $10,000, 3% of that might go to the mutual fund while the rest would be invested in stocks and bonds (so you have really just invested $9,700 through the mutual fund). Funds that do not charge this initial fee are called no-load funds.

Another advantage that mutual funds might offer to small investors is that by using full-time financial analysts they can do better in choosing the types of investments to make. We will take a skeptical look at that idea when we look at portfolio theory and the efficient market hypothesis.

The typical way mutual funds are structured is that the shares can be redeemed at any time at the value of the underlying assets. Since the value of these assets will change from day to day, the value of the shares will change at the same time. These funds are called open-end mutual funds. In contrast, closed-end mutual funds issue a fixed number of shares. The value of these shares, and so the price, still reflect the value of the underlying assets, but may also reflect other issues (such as liquidity). These shares are purchased from other investors and not from the fund.

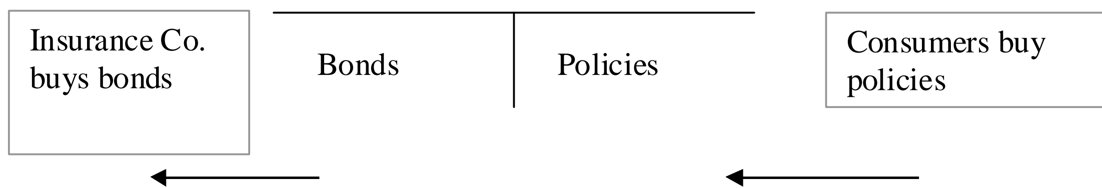
Money market mutual funds are a special kind of mutual fund that only invests in financial instruments from the money market, such as Treasury Bills, commercial paper, or short-term agency securities. These assets are all short-term and have very low risk. Because of this low risk, the principle invested in a money market mutual fund is treated as fixed. The interest rate paid will fluctuate with changes in interest rates.

Money market mutual funds are very similar to bank accounts. While they are not insured, they are very low risk and they generally offer some kind of checking, although they usually require any check to be above a set minimum. These funds are often used as temporary accounts for investors, as a safe way to keep money or reserves.

Insurance Companies

Most people are familiar with insurance companies through the services they offer consumers: car insurance, life insurance, homeowners' insurance. What people are less familiar with is that insurance companies hold much of the premiums they get as bonds and other securities, making them an important institutional investor. These investments provide a stream of revenue that is used to pay off on policies and to provide the profits for the firm.

Balance Sheet of Insurance Company



The kinds of assets held by the insurance company will depend on the characteristics of its liabilities. Life insurance companies hold long-term assets that they can match to the life expectancy of their policy holders. Property and casualty insurers may need more liquid and risk-free assets.

Life insurers also offer a financial security called an annuity. An annuity offers the holder a fixed payment until they die. These are useful for retired individuals as it guarantees them an income for as long as they need it. Life insurers typically offer these products as they are experts in determining life expectancies and making the appropriate investments.

Pension Funds

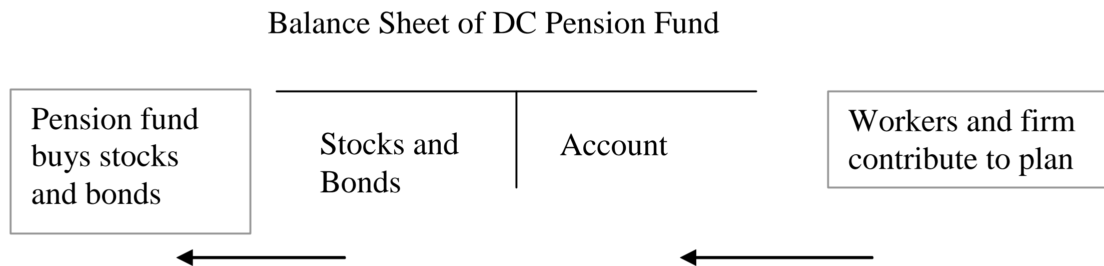
Planning for retirement is one of the most important financial activities that individuals make. In addition to saving for their own retirement, companies often offer retirement plans for their employees. Pension funds are financial intermediaries that handle the financial activity behind retirement plans. The standard company pension fund invests current funds (recorded as contributions by the company, the employee, or some mix) and uses the proceeds from the investments to pay the pension in the future.

Pension funds come in two different types: Defined Benefit and Defined Contribution. Defined benefit plans offer a fixed payout upon retirement. An example of this kind of plan is where you work for a company for 30 years. Upon retirement, you are paid a pension of 70% of your average salary for the last three years you worked at the company. This kind of plan has the benefit of letting you know exactly how much you will be paid when you retire, but generally it forces you to stay with the same company a large part of your working career.

A defined contribution program fixes the amount that you pay into the program, which is invested in stocks and bonds. However, the amount that you have when you retire depends on the returns you get on the assets you invested in. An example of a defined contribution program is a 401(k) plan. In this plan, an amount is taken out of your check each pay period before you have to pay taxes on it. It may be invested in various assets through the company or through a mutual fund or other investment company. You do not pay taxes on any earnings until you pull the money out of the plan when you retire. Companies like this plan because it reduces the risk to them of managing the pension plan. Employees like it because it gives them control over their investing, because of the tax advantages and because the funds stay with you even if you move jobs. However, there is a down side to the defined contribution plans since the value when you retire is not guaranteed. If the assets you invest in do not perform as well as you expect, then you will find yourself with less money to retire on.

Balance Sheet of DB Pension Fund

Pension fund buys stocks and bonds	Stocks and Bonds	Pension	Workers and firm contribute to plan



There are a number of other kinds of financial institutions

Brokerages

Are companies that specialize in buying and selling securities such as stocks and bonds. They also provide financial advice to investors.

Investment Banks

Investment banks are companies that engage in a wide variety of financial transactions such as buying and selling assets and acting as financial consultants to companies. They are not banks in the traditional sense as they do not accept deposits or make loans.

Finance Companies

Finance companies are like banks in that they make loans, but they are unlike banks in that they do not accept deposits. Finance companies raise money by issuing debt (along with some equity).

The Federal Reserve

You probably were introduced to the Federal Reserve in your "Introduction to Economics" course. The Federal Reserve is the central bank of the United States. A central bank has three primary roles. First, the central bank plays an important part in the payments system by distributing cash, clearing checks and handling electronic payments of funds. Second, the central bank is actively involved in bank regulation and other activities promoting the stability of the financial system. Finally, the central bank influences output growth and inflation through monetary policy.

Monetary Policy: What you hear in the news

The basic story that you hear in the news is that the Federal Reserve raises or lowers interest rates to control the growth rate of the economy. If the economy is growing too slowly and unemployment is too high it lowers interest rates to give it a boost. If inflation is too high, or there is concern that the fast growth of the economy will lead to higher inflation, then the Federal Reserve will raise interest rates to cool the economy off. This kind of policy is called "leaning against the wind" whereby the Federal Reserve tries to keep the economy on a path of steady and moderate growth.

Monetary Policy: What goes on behind the scenes

The actual situation is more complicated. The Federal Reserve does not literally set interest rates in the sense of telling anyone that they must borrow or lend at a particular number. If fact, the Federal Reserve intervenes in a rather small market: the market for overnight lending between banks.

Banks have accounts at the Federal Reserve that they use to transfers funds to other banks. For example, if Bank A needed to send money to Bank B to clear a check, the Federal Reserve would transfer the funds from Bank A's account at the Federal Reserve to Bank B's account. In some ways, the banks' accounts at the Federal Reserve are kind of like an individual's checking account at a bank. By Federal Reserve rules, banks are required to keep a certain amount of money in these accounts, the amount depending on a variety of factors including the amount of checking deposits at the bank. Sometimes a bank will find that it doesn't have enough money in this account and so will need to borrow funds from another bank. The market where banks borrow and lend these funds is called the federal funds market and the associated interest rate is the federal funds rate.

The Federal Reserve can change the amount of funds that banks have in their accounts. If they reduce the amount of funds, banks will try to borrow more from each other and this will bid up the federal funds rate. If the Federal Reserve increased the amount of funds, this would reduce the desire to borrow and result in a lower federal funds rate. In this way, the Federal Reserve can change the federal funds rate to a level it desires.

When you hear about the Federal Reserve choosing interest rates, what is really happening is that it is targeting a specific value for the federal funds rate. Doing this, the Federal Reserve can influence the behavior of the economy. A lower federal funds rate may translate into lower interest rates in general. Also, the addition of funds to the banks' accounts at the Federal Reserve will produce an increase in the money supply.

The effect of changes in interest rates and the money supply on inflation and output is something you should remember from your "Introduction to Economics" class.