LECTURE 9 NOTES

The first half of slides that accompany lecture 9 contain continuing discussion of potential output and output gaps, unemployment and inflation.

The second half contains discussion of national savings, the market for savings funds, first with no foreign sector (zero net capital inflow) and then with the foreign sector added. Note that although sections of Chapter 24 that deal with international capital flows is not part of required reading, the related material covered in lecture, section or problem sets is required. The rest of this note provides further background for the second half of lecture 9.

I.   Savings and wealth

Savings is what is left over from current income after part of income has been used for current spending. Savings adds to wealth. Savings is a flow (defined per unit of time) and wealth is a stock (defined at a point in time). Wealth is the value of assets (eg cash, checking account, stocks, bonds, physical assets) less liabilities (ie debt). Savings adds to wealth by either being added to assets or by reducing liabilities at each point in time. In addition capital gains (losses), which are increases (decreases) in the value of assets, can add to (reduce) wealth.

II.   Motives for Saving

People save for life-cycle, precautionary and bequest purposes. Life-cycle motives are things like saving for college, retirement and buying a house. Precautionary motives are rainy-day funds for emergencies, like job loss or medical reasons. Bequest motives are for leaving inheritances, to next of kin or charity.

One theory for why people don't save is the self-control hypothesis which simply states that people lack self-control. Innovations such as

payroll savings plans and retirement accounts with limited withdrawals help those with who lack self-control. Credit innovations such as home equity loans and high credit card limits work against self control. A second reason for low reason is that there may be demonstration effects if relative living standards matter for people.

Traditionally Japanese households have been notorious for having high saving rates. (Recently, there is some evidence that this behavior has been changing.) However, in the past at any rate, they have had a high saving rate due to life cycle and bequest motives. For instance, purchasing a home requires much larger down payments than in the US and early retirement with long lives require large savings. And, parents by custom bequeath wealth to children in return for care in old age. In the past, as well, job security has meant that the precautionary motive was not so strong in Japan.

The US on the other hand is known for having a low household saving rate. Some reasons are that the life cycle motive (contrary to the case of Japan) is low with institutions such as Social Security and Medicare and with low home purchase down payments. The precautionary motive is low due to a stable economy and (at least through the 1990s) high capital gains from a boom stock market. Certainly financial innovations such as home equity have made self control hard. Demonstration effects may be at work as well, but this probably is a universal phenomenon that may be exacerbated by wage inequality.

However, is the low household saving rate a problem? What really matter is that national savings be sufficient. That is the focus of slides for second half of lecture 9.

III. Financial Institutions to Allocate Savings Funds

Financial institutions play a vital role in sharing and diversification of risk, and in gathering information so that savings funds can be used for most productive purposes. Well functioning financial institutions are key to capital formation that can bring forth increased standards of living.

Banks are financial institutions that mobilize the savings of many small borrowers, who individually could not find the most productive use

for their funds and could not assess risk of borrower default. Banks can do this information gathering well. And the pooling of savings funds from many sources allows borrowers to share risk. Pooled funds can then be used to lend to small borrowers and to lend for relatively large projects as well. Small businesses borrow primarily from banks for their capital goods purchases.

Firms and governments can also borrow by issuing bonds. A bond is a legal promise to repay debt, usually the principal amount plus regular interest payments. Principal is amount lent. Coupon rate is interest rate promised when bond issued. Coupon payments are regular payments made to bondholder. The coupon rate will tend to be higher for longer term bonds and riskier bonds. Municipal bonds are attractive even at their usually lower coupon rates since they are tax exempt. There is a bond market where bonds are bought and sold when the holder of a bond does not wish to keep it until maturity. There is an inverse relationship between bond prices and interest rates. When interest rates rise, existing bonds with their coupon rate are worth less than their original face value since the necessary return has risen with the increase in interest rates. Bond prices fall. In this way a buyer of an existing bond can get at least the necessary return.

Firms can also issue stock. A stock is a claim to partial ownership of a firm. Stocks can benefit stockholders via dividends (regular payment out of firm profits) and capital gains (from a high selling price). An increase in future dividends and prices can increase stock prices today. An increase in interest rates raises the required rate of return and will tend to lower stock prices today. Uncertainty about a firm's earning and profits and therefore dividends increases risk and firms will require higher return for holding stock.

The 1990s stock market boom was cause by expectations of high earnings and dividends. When information was slowly revealed that these expectations were unfounded there was massive unloading of stocks and prices fell. Furthermore the risk premium rose with recession, terror attacks and corporate scandals.

IV.   **Examples of Bond and Stock Prices**

From text chapter 24. Examples 24.1 & 24.2.