Money Market

The *money market* is the market for low-risk, short-term debt.

Substitution

Different money-market assets are *close substitutes*. Since an investor in the money market can choose which asset to buy, the investor buys an asset with a high interest rate and avoids an asset with a low interest rate.

In market equilibrium, the interest rates on different money-market assets rise and fall together.

Treasury Debt

The United States Treasury borrows on behalf of the federal government.

The Treasury issues debt of different maturities:

- Bills (short-term);
- Notes (medium-term);
- Bonds (long-term).

The Treasury debt is large, the result of past federal deficits. There are many issues outstanding. New debt replaces issues that reach maturity.

Auction of Treasury Bills

A component of the money market, Treasury bills are issued with three, six, or twelve months to maturity.

The Treasury auctions a new issue each week, via a sealed-bid, competitive auction. The highest bidders pay what they bid.

In addition, one can make a non-competitive bid for a small dollar amount. These bidders pay the average of the winning bids in the competitive auction.

Discount

Treasury bills are sold at a *discount*.

Consider a Treasury bill worth \$10,000 at maturity. It pays no interest, and one earns “interest” by paying less than the maturity value.

For example, if the price of the bill with three months to maturity is \$9,850, then one will earn \$150 by holding the bill to maturity. The rate of return is

$$\frac{150}{9850} \times 4 \approx .06.$$

Typically a Treasury bill rises slightly in price each day.

Secondary Market

There is a large secondary market for Treasury debt. Dealers (perhaps twenty large banks and stock brokers) hold an inventory of each issue and make a market, offering to buy and sell at the bid and ask prices.

Open-Market Operation

An *open-market operation* is a purchase or sale of a security in the open market by the Federal Reserve.

The Federal Reserve carries out many open market operations in Treasury bills. Because the secondary market is big, its large purchases and sales do not swamp the market.

When the Federal Reserve buys Treasury bills, it pushes up the price, so the yield to maturity falls.

Since the different money-market assets are close substitutes, their interest rates also fall.

Certificate of Deposit

A *certificate of deposit* is a bank deposit, promising to pay a certain interest rate until the maturity date.

A certificate of deposit for \$100,000 or more is *negotiable* and can be sold.

A certificate of deposit for less than \$100,000 is not negotiable and must be held by the owner to maturity.

Commercial Paper

Commercial paper is unsecured borrowing by a corporation.

Bankers' Acceptance

A *bankers' acceptance* is short-term debt financing an import.

The exporter wants payment, so the importer pays by borrowing until the goods are sold. A bankers' acceptance finances this payment. Since the importer may be a small business unknown to investors, a bank guarantees payment of the loan and receives a fee for this service. The goods are security.

Federal Funds

A bank is required by the Federal Reserve to keep reserves against checking deposits. The current requirement is 10% of deposits. The reserves are mostly kept in the account of the bank at the regional Federal Reserve Bank, and these reserves are called *federal funds*.

There exists an active market in federal funds, in which a bank with excess reserves loans to a bank with insufficient reserves.

Repurchase Agreement

A dealer in Treasury debt may hold an inventory of several billion dollars of the various issues. To finance this inventory, the dealer may employ a *repurchase agreement*, on a day-to-day basis. Each night, the dealer agrees to "sell" securities to an investor and to "buy" the same securities back the next day, at a negotiated price.

Although the transaction is like a loan, the purpose of the sale and purchase is to give the lender legal possession of the assets for security.

Repurchase agreements have become central to leveraged speculations by investment banks and hedge funds. When the short-term interest rate is low, the investor finances his speculations very cheaply, via repurchase agreements. During the housing boom, commonly the repurchase agreement would fund the entire value of the investment, even though this situation exposes the lender to some risk.