

Lecture Notes on

**MONEY, BANKING,
AND FINANCIAL MARKETS**

Peter N. Ireland
Department of Economics
Boston College

irelandp@bc.edu

<http://www2.bc.edu/~irelandp/ec261.html>

Chapter 15a: Introduction to the Money Supply Process

1. Deposits and the Money Supply
2. Four Players in the Money Supply Process
3. Overview of the Federal Reserve System
4. A Simplified Balance Sheet for the Fed

Liabilities

Assets

Mishkin's Chapter 15 covers quite a bit of material, making it useful and convenient to break it down into three parts. Part one will serve as our introduction to the money supply process.

Earlier, we learned quite a bit about how banks operate. But, as we will see, we are by no means done with our analysis of banks, since they play a major role in the money supply process.

In fact, we'll begin our introduction with a simple calculation that highlights the importance of banks in the money supply process.

After that, we'll identify three other sets of major players in the money supply process.

Banks, in turns out, are one set of players in the money supply process. But another important institution is the Federal Reserve System. Thus, we'll finish this introduction with a quick overview of the Federal Reserve System and by taking a look at a simplified version of its balance sheet.

1 Deposits and the Money Supply

Before we jump into the details of the money supply process, let's recall that we've already considered various measures of the money supply as part of our analysis of Mishkin's Chapter 3, on "What is Money?"

In Chapter 3, we learned about the Federal Reserve's three monetary aggregates: M1, M2, and M3. These are the Fed's official measures of the money supply.

So let's begin on familiar ground, and think back to the definition of M1, which is the Fed's narrowest measure of money—and one that is most closely related to the theoretical concept of money as a medium of exchange.

Mishkin's Chapter 3, Table 1 (p.53) lists the value of M1 and its components as of December 2002.

Component	Value (\$ billions)	Percent of Total
Currency	626.5	51.9
Traveler's Checks	7.7	0.6
Demand Deposits	290.7	24.1
Other Checkable Deposits	281.2	23.3
Total M1	1206.1	100

Bank deposits account for 47.4%—or almost one-half—of total M1!

Evidently, to understand the money supply process, we need to begin by understanding how bank deposits are created.

2 Four Players in the Money Supply Process

There are four types of individuals and institutions that are involved in the process of creating deposits and hence in the money supply process more generally.

1. Central Bank = The government agency that oversees the banking system and is responsible for the conduct of monetary policy. The central bank in the US is the Federal Reserve System.
2. Banks (depository institutions) = The financial institutions that accept deposits from individuals and corporations and make loans. In the US, these include commercial banks, savings and loan associations, mutual savings banks, and credit unions.

3. Depositors = The individuals and corporations that hold deposits in banks.
4. Borrowers from banks = Individuals and corporations that borrow from banks, along with Federal, State, and Local governments that issue bonds that are purchased by banks.

Of these four players, the central bank—the Federal Reserve System—is the most important. And since it’s also the one that we really haven’t considered yet, it will be helpful to turn next to a description of the Fed and its balance sheet.

3 Overview of the Federal Reserve System

Later in this course, we’ll look in more detail at the Federal Reserve System and its structure.

For now, a few key facts about the Fed will suffice.

The Federal Reserve System (Fed) is the central bank of the United States.

The Federal Reserve System consists of:

Federal Reserve Banks in 12 major cities: Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco.

The Board of Governors of the Federal Reserve System—also known as the Federal Reserve Board—in Washington DC.

The Fed performs a number of functions, including:

It conducts monetary policy.

It clears checks = transfers funds from banks on which checks have been written to banks in which checks have been deposited.

It regulates banks.

4 A Simplified Balance Sheet for the Fed

Like a commercial bank, the Federal Reserve has a balance sheet, with liabilities (sources of funds) listed on one side and assets (uses of funds) listed on the other.

Overall, the Fed’s balance sheet is quite complicated.

But to understand the money supply process, we can confine our attention to a couple of key items on each side of the Fed's balance sheet.

FEDERAL RESERVE

<u>Assets</u>	<u>Liabilities</u>
US Government Securities	Currency in Circulation
Discount Loans	Reserves

4.1 Liabilities

The two liabilities listed on our simplified balance sheet are called the Fed's "monetary liabilities."

Together, they define the monetary base:

$$\text{Monetary Base} = \text{Currency in Circulation} + \text{Reserves.}$$

An increase in either currency in circulation or reserves will lead immediately to an increase in the monetary base and eventually to an increase in the total money supply.

Currency in Circulation:

The Fed issues currency in the form of Federal Reserve notes.

Since currency held by banks (vault cash) is included in reserves, currency in circulation is defined as the amount of currency circulating outside of banks.

Currency does not pay interest.

Strictly speaking, currency in circulation includes not only Federal Reserve notes, which are liabilities of the Fed, but also coins, which are liabilities of the US Treasury and are therefore referred to as "Treasury currency."

But the total value of Treasury currency outstanding is quite small relative to the total value of Federal Reserve notes outstanding, so there is not much harm in treating currency as if it consists entirely of Federal Reserve notes.

Reserves:

Include currency held by banks (vault cash) and deposits held by banks at the Fed.

Can be broken down into required reserves, with the law requires banks to hold, and excess reserves.

Required reserve ratio = fraction (10%) of the value of a bank's checkable deposits (demand deposits and NOW accounts) that must be held as required reserves.

Reserves do not pay interest.

4.2 Assets

US Government Securities:

The Fed buys and sells US Treasury securities.

These pay interest.

Discount Loans:

The Fed makes discount loans to banks.

The interest rate charged on these loans is called the discount rate.

Note that the Fed holds assets that pay interest, while issuing liabilities that do not pay interest.

Hence, the Fed typically makes a large profit!

Of course, the costs of running the Federal Reserve System, including the cost of paying the salaries of policymakers and bank examiners and the cost of running check clearing operations, must be subtracted from this profit.

Nevertheless, the Fed is able to pass sizeable profits along to the US government each year.

5 Conclusion

We have now identified the four major players in the money supply process.

We've seen that banks play an important role, since deposits make up almost one-half of the M1 money supply.

And we've also considered the Federal Reserve System, which also plays an important role.

Next, we'll begin to build up a model of the money supply process.

We'll start with the simplest case first.

And then we'll gradually add in other features that complicate the analysis, but at the same time make it more realistic.