The Role of Commercial Banks

- A commercial bank’s objective is to make a profit by intermediating between depositors (savers) and borrowers (investors), and this requires management of their different liquidity, maturity, and risk preferences.
- Commercial banks must be able to evaluate a borrower’s creditworthiness and monitor performance.
- Commercial banks are fundamental to a developed economy, and are unintentional agents of monetary policy.
- Because of moral hazard and the risk of contagion, banks also exist in a very regulated environment.
- Banks must be able to forecast the effects of government policy on overall economic activity, interest rates, and risk in order to best manage their depositors’ money.
Types of Risk to Evaluate

- Credit risk -> NPLs
- Liquidity risk -> Cash flow
- Market risk (external environment):
  - Interest rate fluctuations
  - Asset price fluctuations
  - Exchange rate risk (foreign currencies)
- Operations risk (internal environment):
  - Transaction problems, strategic errors
- Compliance and Reputation risks
  (regulatory environment, public opinion)

Focus

In this lecture, I will focus on how government policy – fiscal, monetary, and regulatory – affects the level of economic activity.

I will leave the loan evaluation process and internal environment issues for other instructors.

I am also going to focus on a general “big picture” introduction, and not try to explain the historical process or how to forecast changes in the external environment (e.g., recession, deflation, inflation, exchange rates, or interest rates).

Because my lecture notes do not match your readings on the external environment, I will put the lecture notes online.
The U.S. Economy

- Gross Domestic Product is the standard measure of economic activity: the gross market value of all final goods produced in the United States within a given year. "Real GDP" adjusts for changes in prices over time.
  - Roughly 11 trillion dollars in 2004, almost $40,000 per capita, $80,000 per worker, or $45 per labor hour.
  - final expenditures (by type) = incomes (by recipient) = value-added (by sector) [see handout for 2001]
- Savings = Investment (equal, but not identical)
  - Savings is the act of not spending income on consumption by households, firms, government, and foreigners. These are held as financial assets.
  - Investment is the purchase of real assets to produce future income (e.g., plant and equipment, inventory). Investment increases the nation's capital stock, while depreciation (capital consumption) decreases it.
  - To a macroeconomist, buying stocks or bonds is savings, not investment.

Managing the Economy

- Bathtub model:
  - Leakages: private savings (PS), taxes (TX), imports (Im)
  - Injections: private investment (I), government purchases (GP), exports (Ex)
  - Leakages = injections,
    so I = PS + (TX - GP) + (Im - Ex)
    or I = PS + GS + FS,
  - where GS = government savings and FS = foreign savings
- Aggregate Demand vs. Aggregate Supply
- Expectations, Information, and Incentive
Fiscal Policy

Use of the government’s purse to affect aggregate demand (i.e., spending on final domestically-produced goods).

- Federal vs. State & Local Government (see handout, and graph)
- Government expenditures must come from either taxes or borrowing (deficit vs. debt):
  - More taxes reduce consumption, may affect incentive and income distribution.
  - More government borrowing may mean less savings available for productive investment, unless government makes public investments (e.g., roads, bridges, ports, education, etc.).
  - This may be offset by increased domestic private savings (but that also reduces consumption) or increased foreign savings (but that increases value of the dollar and hurts exporters).
  - The obligation to repay debt in future may require either future tax increases or expenditure cuts, which may affect expectations now.
- Many macroeconomists have come to believe that fiscal policy is not very effective anymore in affecting aggregate demand.
Money

- The basic theory of trade:
  - Everybody is relatively better at some activity. If people specialize according to their "comparative advantage," then more is produced overall.
  - If people specialize, then they must trade. Barter requires a double coincidence of wants.
  - Money makes trade much easier, and thus is necessary for specialization in any but the most simple economy.
- Money serves as a medium of exchange, a unit of account, and a store of value.
- Money includes currency, coins, traveler’s checks, and demand deposits which can be used to facilitate trade in goods (and services).
- The availability of money affects prices and interest rates, which in turn can affect consumption and investment spending.

The Deposit Expansion Process

- Specie money
- Fractional Reserve Banking (i.e., the Goldsmith and specie-backed notes)
- Deposit Expansion Multiplier approximately equal to inverse of reserve ratio
  - Deposits → Loans → more deposits
  - For example, if banks keep 10% in reserve and depositors keep 1/9 of their money in cash, then every deposit of $100 leads to another deposit of $80. So $100 in initial new money leads to $80, then $64, then $51, $41, $33, $26, ...
  - 1/20% = 5
  - 100+80+64+51+41+33+26+... = 500 in new deposits (50 held as bank reserves) + 50 held in cash
- Fiat money and the importance of trust
Control of the Money Supply

- The U.S. Federal Reserve Bank was created by the Federal Reserve Act, 1913.
- The FR (Fed) is organized as a quasi-public institution. All outstanding shares are held by member (commercial) banks. All national banks have to purchase FR shares, which cannot be traded and have a fixed return.
- In addition, all member banks must keep a required reserve ratio of their deposits on reserve with their regional FRB.
- The Fed is the chief regulator, and the lender of last resort.
- State banks have the option of becoming members or not. State regulators usually follow the Fed’s guidance in setting their own policies.

The 12 Regional FR Banks

- The Fed is a regionalized central bank composed of a Board of Governors located in Washington DC, 12 regional FR banks, and the Federal Open Market Committee (FOMC).
- The 12 regional FRBs are located in Boston, New York, Philadelphia, Chicago, Cleveland, St. Louis, Richmond, Atlanta, Dallas, Kansas City, Minneapolis, and San Francisco.
- There are 9 directors in every regional FRB: 6 appointed by member (commercial) banks and 3 by the Board of Governors.
- The Directors of each FRB elect the FRB’s president.
- Main responsibility: to administer the discount window, manage check processing, oversee member banks, and to study economic conditions in the region.
The Board of Governors

- Board is a 7 member unit, with 14-year terms. Every member is called a governor and they are appointed by the President and confirmed by the Senate. In principle, the term is not renewable. In practice, the governors resign before their terms expire and get reappointed for new terms.
- Chairman is one of the seven governors, and serves for a 4 year renewable term. The President nominates and the Senate confirms. If the Chairman is not reappointed after his term expires, he can still continue serving his term as governor (but this is rare).
- **Main responsibilities:** To set Reserve Requirements and to overview the operation of the discount window.

The FOMC

- 12 members: Board of Governors plus President of NY FRB plus four other FRB Presidents on rotating schedule.
- The FOMC usually meets every six weeks.
- **Main responsibility:** to conduct so-called “Open Market Operations”, by which the money supply is either expanded or contracted.
- Open market operations are the least reported-on but most important tool of monetary policy.
- The FOMC now usually announces a target for the Federal Funds Rate, where banks can trade their excess reserves without borrowing directly from the Fed. The Fed then engages in open market operations to meet that target.
Monetary Policy

- Commercial Banks, not the Fed, determine interest rates.
- The Fed’s monetary policy tools are:
  - Setting Reserve Requirements (fraction of deposits that banks cannot lend to their customers),
  - Setting the Discount Rate (interest rate that the Fed charges when it gives reserve loans to commercial banks), and:
  - Open Market Operations (e.g., putting more money in circulation through an open market purchase of government bonds).
- The Fed changes these tools, or its Federal Funds Rate target, based on what it thinks will happen to price inflation and the overall condition of the economy.

Expansionary Monetary Policy

- The Fed can increase the money supply by increasing reserves (buying gold, government bonds, or foreign currency assets with new money) and/or encouraging banks to lend more of their deposits (through lower discount rates or lower reserve requirements).
- If banks are concerned about economic conditions, or if deflation has created very low interest rates, banks may choose to hold more reserves and not lend them.
- More lending leads to lower interest rates, which encourages firms to borrow and spend more and consumers to purchase more housing and durable goods.
- If spending grows too fast, then the economy can boom in the short run but price inflation results in the long run.
- Most macroeconomists believe that monetary policy is very effective, especially in slowing economic growth.
The further effects of Monetary Policy

- **Effect of long-term rates on stocks and bonds:**
  - Bonds: \( PB = \frac{FV}{(1+ir)^n} \)
  - Stocks: \( PS = \frac{CE}{ir+rp-gr} \)

- **Effect on housing markets:**

- **Effect on exchange rates and exports:**
  - Low ir leads to falling demand for dollar, which leads to falling dollar and increased exports.
  - Demand for the dollar is also determined by relative safety of U.S. assets and expectations for the future.

An example of a speculative bubble

Many assets (like stocks) are based on expectations of future events, which are very uncertain. For example:

- Suppose \( ir=8\% \), \( rp=5\% \), and \( gr=2\% \):
  - \( \frac{P}{E} = 1/0.11 = 9.1 \)
  - Then deficit reduction reduces ir to 5%:
    - \( \frac{P}{E} = 1/0.08 = 12.5 (+37.5\%) \).
  - Then mutual funds reduce rp to 3%:
    - \( \frac{P}{E} = 1/0.06 = 16.7 (+33.3\%) \).
  - Then increased productivity increases gr to 3%:
    - \( \frac{P}{E} = 1/0.05 = 20 (+20\%) \).
  - Then long-term interest rates fall again...
  - Since stock prices have been rising faster than expected, many begin to believe that it will continue. They buy stock and prices begin to rise faster and faster. Even if initial rise was caused by real change in fundamentals, and a self-fulfilling prophecy is born (for a while).
- Biggest Fool Theory
Banking Regulation

Main rationale for why financial markets should be regulated involve different market failures. Most Important is:

- **Negative Externalities** associated with bank runs when fractional reserve deposit system exists. Solvent banks could fail during a liquidity crisis. We would like to prevent solvent banks from failing, and especially contagion: a loss of faith and a collapse of interlinked credit that may affect other solvent institutions, and a decrease in the money supply that may have real affects on the rest of the economy.

Practical reasons for the existence of banking regulation

In practice, as often happens with legislation in general, regulation serves the interest of:

(i) governments  
(ii) legislators  
(iii) regulated financial firms

Political Economy of financial regulation:

According to Benston, “the benefit to financial services producers from reduced competition is one of the most important reasons why governments have imposed regulations on financial services”
Why does regulation usually lead to a reduction in competition?

**A:** Because it is very frequently taken for granted that financial markets are unstable *as a consequence of too much competition* among market participants.

This, the story goes, leads them to take too much risk in, say, their lending decisions. Eventually, everything ends with a financial crash.

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Types of financial regulation

(i) **conduct of business regulation**: related to issues like the honesty and integrity of the firm and their employees. It is designed to establish rules and guidelines about appropriate behavior. Issues: disclosure of information, fair business practices, fraud, etc.

(ii) **prudential regulation**: oriented to the prevention of “too much” risk-taking on the part of firms (the so-called *moral hazard* problem, or excessive risk-taking by banks in their lending decisions).
Costs imposed by financial regulation

- **compliance costs**: the costs that will have to be added to the price of financial services simply because the suppliers of financial services now have to comply with a set of rules and guidelines.
- **institutional costs**: institutions will have to be created to enforce the rules imposed on the suppliers of financial services (the consumer of financial services eventually pays for this).
- **structural costs**: the conduct of business takes place in a more complex environment than before regulation took place. This adds to the cost of providing financial services.

Financial regulation: specialized or integrated?

- The USA is the main leading case of what’s called the **specialized approach** of financial regulation. The regulator of banks is not the same as the regulator of pensions, who in turn is different from the regulator of securities, et cetera.
- Britain, the member countries of the EU, and Japan, among other prominent cases, have adopted a different method of financial regulation: the so-called **integrated approach**.
Comparison

**Advantages of Specialized Approach:**
- No bureaucratic Leviathan (very American!). Power is not centralized in a single entity.
- Regulation of banks is kept within the orbit of the central bank. Alleged informational advantage for the conduct of monetary policy.
- The “capture” of the regulator by vested interests is supposed to be harder (there are too many regulators to be bribed!).

**Advantages of the Integrated Approach:**
- Economies of scale and scope in supervision.
- Consistency and coherence in the design and enforcement of the regulatory framework (avoidance of duplications, contradictions, holes, overlaps, etc.).

Fed’s Policy Objectives

Taking the 1913 Federal Reserve Act, the 1946 Employment Act, and the 1978 Full Employment and Balanced Growth Act together, the official **policy goals** of the Fed are:
- **price stability** -- “to promote maximum purchasing power”
  - Low enough inflation that the difference between real and nominal values does not affect decision-making.
  - Avoiding price deflation.
  - In effect, an inflation rate of 2-3%.
- **adequate liquidity** during times of distress. Lender of Last Resort.
- **financial stability** (Fed is main banking regulator and supervisor)
- **economic growth/high employment**
- **Low (4%) unemployment rate**

Too many targets, but really only one tool.
What is the Fed’s main objective?

- Prior to 1979, the Fed primarily accommodated fiscal policy, which meant targeting stable interest rates. This was consistent with both the prewar Gold Standard and the postwar Bretton Woods system of fixed exchange rates, but it set off an inflationary spiral, especially after Bretton Woods collapsed in 1971.
- Under Paul Volcker, the Fed began to target the growth rate of the money supply, and while this brought inflation down it also caused a major recession. Velocity was found to be very unstable.
- Under Greenspan, the Fed has followed a more eclectic approach, but is primarily focused on the future inflation rate. Predicting future inflation is tricky, however.
- The Fed is unwilling to lock in what many economists recommend as “price path targeting” because they want to flexibility to respond to other events.

How independent is the Fed?

- Independence is important because short-term and long-term objectives may be very different (low interest rates versus future inflation).
- Governors are appointed for long, staggered terms, so are not under direct authority of President or Congress. Fed is not subject to the usual appropriations process controlled by Congress, and it is not audited by the Government Accountability Office (formerly, the General Accounting Office) either.
- But:
  - Chairman is required to testify regularly before Congress.
  - Congress can credibly threaten to get budgetary authority over the non-monetary activities of the FR (case of the BOJ). Ex. 1996 call by Senators Dorgan and Reid.
  - Congress can pass legislation modifying its powers at any time (Ex. 1975).
  - Influence of Presidents through appointments.
- More independent than BOJ, less than ECB (ECB’s charter cannot be modified by legislation, only by a revision of the Maastricht treaty).