Chapter 2: The Financial System

What it is:

A network of **financial intermediaries** (banks, S&Ls, credit unions, etc.), **facilitators** (credit rating agencies, appraisers, etc.), and **markets** (stock market, bond market, mortgage market)

What it does:

1. Allocates scarce capital among competing uses
2. Spreads/shares risk
3. Facilitates inter-temporal trade

*Ask class to provide examples*

Internal vs. External Finance

Bill Gates could provide his own capital for a new idea.

Internal Finance; doesn’t require the financial system at all

Most of us don’t have that luxury, thus:

External Finance: Those undertaking the project are using the capital of others

Types of External Finance

Debt: An “IOU” promising to make fixed payments in the future, in exchange for a lump-sum today

Equity: A “piece of the action”: If a firm’s equity is divided into “N” shares, each share is entitled to (1/N)*(Profits)
Key Feature of External Finance: **Asymmetric Information**

The borrower knows his/her own *true nature & intentions*, but the lender does not

Two facets of asymmetric information

1. **Adverse selection** (pre-contract badness)
2. **Moral hazard** (post-contract badness)

Example of Adverse Selection:

1. Health premiums are costly. Therefore people with health problems are most likely to want to buy health insurance. Therefore the “pool” of buyers is bad, which raises the costs to insurers
2. Borrowed money is expensive. Only people with high-risk gambles may apply for loans. Therefore the “pool” of loan applicants is bad, which raises the true costs to the lenders

Examples of Moral Hazard

1. Once I have health insurance, my risky behavior raises the costs for my insurer, but not for me. So I’ll take up smoking and riding motorcycles

2. Once I have borrowed the money, maybe I’ll use it to go gambling in Las Vegas. If I win: I’m rich! If I lose, the bank won’t get re-paid!
An Overview of the Financial System

I. The Structure of Financial Markets

A. Debt and Equity Markets: How firms raise capital

Debt: holder receives fixed $ amount at periodic intervals

“maturity”: length of time until instrument's expiration date

  maturity <1 year: “short-term” instrument
  1< maturity <10 years: intermediate-term
  10< maturity: long-term instrument

Equity (e.g. “common stock”): holder entitled to a fixed proportion of business net revenues (after taxes, expenses, etc.)

Note: equity holder is the “residual claimant”

⇒ Paid last (i.e. after expenses including fixed debt obligations) but paid remainder (unlimited upside)

B. Exchanges and Over-the-Counter (OTC) Markets

Exchanges: physical locations for securities traders to meet

AMEX, NASDAQ, NYSE, CBOT, ...

OTC Markets: Dealers at different locations have an inventory of stocks &/or bonds. Stand ready to buy or sell at a "posted" price.

NOTE: These guys are in contact w/one another, so prices equate by arbitrage

C. Primary and Secondary Markets

Primary Market: where initial debt or equity offerings are sold

Often behind closed doors
Underwriter (investment bank) guarantees a price to issuer, later re-sells to the public

Secondary Markets: where liquidity is provided to investors

Ex.: all the "exchanges" (NASDAQ, NYSE, CBOT, AMEX, FFX) AND all the OTC markets

Note: Resale of a stock or bond yields nothing to the issuer. They capture only at the initial offering.

D. Money Markets & Capital Markets

Money Markets - short term debt instruments
Capital Markets - long-term debt & equity
II. Financial Market Instruments

A. Money Market Instruments (low risk b/c short-term)

US Treasury Bills (3-6-12-month maturities)
   pay no "interest" but sell at a "discount"

Commercial Paper
   (short-term direct debt placement with other corporations or financial intermediaries)

Negotiable Bank Certificates of Deposit
   (fixed interest, fixed term bank note)

Banker's Acceptances (useful in international transactions)

Repurchase Agreements (short-term loans w/t-bill collateral)

Federal Funds (overnight borrowers cover shortage in reserves)

B. Capital Market Instruments

Stocks

Mortgages
   Mortgage-backed securities
      Federal National Mortgage Association ("Fannie Mae")
      Government National Mortgage Association ("Ginnie Mae")
      Federal Home Loan Mortgage Association "Freddie Mac"
      Private Bank MBS's

Corporate Bonds

U.S. Government Securities (finance federal government deficit)

State & Local Government Bonds ("Munis") -- tax exempt

Consumer & Bank Commercial Loans -- illiquid 2ndary mkt
III. Financial Intermediaries

A. Depository Institutions ("Banks")

Assets: loans (interest bearing debt)
Liabilities: "money"

Commercial Banks
Liabilities: CDs, checkable deposits, savings deposits
Assets: Commercial, consumer, & mortgage loans;
Govt. securities

Savings & Loans
Liabilities: CDs, checkable deposits, savings deposits
Assets: Mortgage loans (traditionally); other loans

Mutual Savings Banks
Assets/liabilities Like S&Ls
Corporate structure: depositors own the bank

Credit Unions
Cooperative corporate structure
Liabilities (deposits)
Assets: consumer & small business loans (traditionally)

B. Contractual Savings Institutions
Acquire and disburse funds at periodic intervals on contractual basis, ergo cash flow predictable, liquidity not so crucial,
free to invest in capital market securities

Life Insurance Companies
liabilities: death benefits
primary assets: mortgages, corporate bonds

Fire and Casualty Insurance Co's.
liabilities: losses from theft, fire, weather
primary assets: munis, government securities

NOTE: higher risk requires more liquidity

Pension Funds & Gov't. Retirement Funds
liabilities: annuities to pensioners
primary assets: corporate bonds, stocks

C. Investment Intermediaries

Finance Companies
Assets: consumer & small business loans
Liabilities: commercial paper, stock, bonds

Mutual Funds
Assets: stocks & bonds
Liabilities: shares

**Money Market Mutual Funds**

Assets: money market instruments
Liabilities: shares ("deposits")
The Financial System: Channeling $$ from Savers to Borrowers

Financial Markets

Savers

S1

S2

S3

S4

S5

S6

Borrowers

B1

B2

B3

B4

Financial intermediary 1

Financial intermediary 2
Total: $54.1 trillion

Equity
$17.2 trillion
32%

Debt
$36.9 trillion
68%
Who Issues Securities?
Debt & Equity by Issuer, 2004:4

**Debt Securities**
- Financial intermediaries: $12.0 trillion (33%)
- Governments: $6.1 trillion (16%)
- Businesses: $7.8 trillion (21%)
- Foreigners: $0.7 trillion (2%)
- Households: $10.3 trillion (28%)

**Equity Securities**
- Financial intermediaries: $3.9 trillion (23%)
- Foreigners: $2.4 trillion (14%)
- Business firms: $10.8 trillion (63%)

*Note: Percentages may not add up to exactly 100% because of rounding.*
Who Holds Securities?
Debt & Equity by Holder

**Debt Securities**
- Financial intermediaries: $27.4 trillion (74%)
- Households: $2.3 trillion (6%)
- Government: $2.1 trillion (6%)
- Foreigners: $4.7 trillion (13%)
- Business firms: $0.4 trillion (1%)

**Equity Securities**
- Financial intermediaries: $7.4 trillion (43%)
- Foreigners: $1.9 trillion (11%)
- Governments: $1.4 trillion (8%)
- Households: $6.5 trillion (38%)
Primary vs. Secondary Markets

First, a saver (S1) lends to a borrower (B1) in the primary market. B1 issues a security that S1 purchases, so money flows from S1 to B1.

Later, saver S1 decides to sell the security on the secondary financial market; saver S2 decides to purchase the security.