An Introduction to Financial Markets

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July 22, 2025

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1 The Role and Function of Financial Markets

Financial markets are the nexus of an economy, facilitating the transfer of funds between those who have an excess of capital (savers and investors) and those who are in need of capital (borrowers and businesses). They are the mechanisms through which wealth is created and transferred, playing a pivotal role in economic growth and stability.

1.1 Core Functions

The primary functions of financial markets can be summarized as follows:

- **Price Discovery:** Financial markets determine the price of financial assets through the interaction of buyers and sellers. The price reflects the collective assessment of all market participants regarding the asset's risk and return prospects.
- **Liquidity:** They provide a mechanism for investors to sell their financial assets and convert them into cash with relative ease. A liquid market is one where transactions can be completed quickly and at a price close to the last traded price.
- **Capital Allocation:** By directing savings into investments, financial markets ensure that capital is allocated to its most productive uses. Companies with promising projects can raise funds to innovate, expand, and create jobs.
- **Risk Sharing:** Markets allow for the transfer of risk from those who are unwilling to bear it to those who are. This is achieved through instruments like derivatives (options, futures) and insurance products.
- **Reduction of Transaction Costs:** Centralized markets reduce the search and information costs for participants. Instead of seeking out individual counterparts, buyers and sellers can meet in one organized place, whether physical or electronic.

1.2 The Flow of Funds

The flow of capital in an economy can be visualized as a cycle. Households, corporations, and governments with surplus funds can place them in financial markets. These funds are then channeled through financial intermediaries (like banks or funds) or directly to entities that require capital for investment or consumption. In return for the use of their capital, savers receive a return, such as interest, dividends, or capital gains. This process is fundamental to economic activity, funding everything from a new factory to government infrastructure projects.

Savers / Lenders
(Households, Companies)
↓
Financial Markets & Intermediaries
(Stock Market, Banks, Funds)
↓
Borrowers / Spenders
(Companies, Governments, Households)

2 Types of Financial Markets

Financial markets are not a single entity but a complex network of different market types, each with its own purpose, instruments, and participants. The primary distinction is often made based on the maturity of the securities traded and whether they are new issues or existing assets.

2.1 Capital Markets vs. Money Markets

Capital Markets are for long-term finance. They trade in securities with maturities of more than one year. These markets are crucial for businesses and governments to raise long-term funds for projects like building infrastructure or expanding operations.

- **Stock Market:** The market for trading equity securities (shares or stocks) of public companies. A stock represents ownership in a corporation and is a claim on part of the corporation's assets and earnings.
- **Bond Market:** The market for trading debt securities. When an investor buys a bond, they are lending money to the issuer (a corporation or government). The issuer promises to pay periodic interest (coupons) and repay the principal amount at a future date (maturity). The yield to maturity (YTM) on a bond can be found by solving for YTM in the following equation, where P is the price, C is the coupon payment, F is the face value, and n is the number of periods:

$$P = \sum_{t=1}^{n} \frac{C}{(1+YTM)^t} + \frac{F}{(1+YTM)^n}$$

Money Markets are for short-term borrowing and lending, with maturities typically ranging from overnight to one year. These markets are characterized by high liquidity and low risk. They are used by banks, corporations, and governments to manage their short-term cash needs.

- **Treasury Bills (T-bills):** Short-term debt issued by governments.
- **Commercial Paper:** Unsecured, short-term debt issued by corporations.
- **Certificates of Deposit (CDs):** Time deposits with a specific maturity date sold by banks.

2.2 Primary vs. Secondary Markets

Primary Market This is where new securities are created and sold for the first time. It's how companies and governments raise new capital. An Initial Public Offering (IPO) is a classic example of a primary market transaction, where a private company first offers its shares to the public.

Secondary Market This is where previously issued securities are traded among investors. It is the "used" or "second-hand" market. The existence of a vibrant secondary market, like the New York Stock Exchange (NYSE) or NASDAQ, is crucial as it provides liquidity for investors, making them more willing to purchase securities in the primary market. The company whose stock is being traded is not directly involved in the transaction.

3 Key Instruments and Asset Classes

Financial instruments are the tradable assets that are bought and sold in financial markets. They can be broadly categorized into asset classes based on their financial structure and risk-return characteristics.

3.1 Equity

Equity represents an ownership interest in a company.

- **Common Stock:** Holders have voting rights and are entitled to a share of the company's profits (dividends) and any residual value if the company is liquidated.
- **Preferred Stock:** Holders typically have no voting rights but have a higher claim on assets and earnings. They receive fixed dividends before common stockholders.

The value of a stock is often estimated using the Dividend Discount Model (DDM), where the price (P_0) is the present value of all future dividends (D_t) discounted at a required rate of return (r):

$$P_0 = \sum_{t=1}^{\infty} \frac{D_t}{(1+r)^t}$$

3.2 Debt

Debt instruments represent a loan made by an investor to a borrower.

- **Bonds:** Long-term debt issued by governments (sovereign bonds) or corporations (corporate bonds). They can be fixed-rate or floating-rate.
- **Notes:** Medium-term debt instruments.
- **Bills:** Short-term debt instruments, usually issued at a discount to face value.

3.3 Derivatives

A derivative is a contract whose value is derived from an underlying asset, such as a stock, bond, commodity, or currency. They are primarily used for hedging risk or for speculation.

- **Futures & Forwards:** Contracts to buy or sell an asset at a predetermined price at a specified time in the future. Futures are standardized and traded on exchanges, while forwards are customized over-the-counter (OTC) contracts.
- **Options:** Give the holder the *right*, but not the obligation, to buy (call option) or sell (put option) an asset at a set price (the strike price) on or before a specific date. The price of a European option can be modeled using the famous Black-Scholes formula. For a call option (C), the formula is:

  $$C(S,t) = N(d_1)S - N(d_2)Ke^{-r(T-t)}$$

  where S is the spot price, K is the strike price, r is the risk-free rate, $T-t$ is the time to maturity, and $N(d_1), N(d_2)$ are cumulative distribution functions for a standard normal distribution.

3.4 Commodities and Currencies

- **Commodities Market:** Involves trading raw materials like oil, gold, silver, wheat, and coffee.
- **Foreign Exchange (Forex) Market:** The global marketplace for exchanging national currencies. It is the largest and most liquid market in the world.

4 Market Participants and Intermediaries

A diverse range of participants interact within financial markets, each with different objectives and roles. Financial intermediaries are crucial institutions that facilitate the flow of funds.

4.1 Key Participants

Retail Investors: Individuals who buy and sell securities for their personal accounts. Their activity has grown significantly with the advent of online trading platforms.

Institutional Investors: Large organizations that invest on behalf of their members or clients. Examples include:

- **Pension Funds:** Invest to provide retirement income for employees.
- **Mutual Funds & ETFs:** Pool money from many investors to purchase a diversified portfolio of securities.
- **Insurance Companies:** Invest premiums received from policyholders to cover future claims.
- **Hedge Funds:** Private investment funds that use a wide range of complex strategies to generate high returns.

Corporations: Participate in markets to raise capital (by issuing stocks or bonds) or to invest their surplus cash.

Governments and Central Banks: Governments issue bonds to finance public spending. Central banks (like the European Central Bank or the U.S. Federal Reserve) intervene in markets to implement monetary policy, manage currency reserves, and maintain financial stability.

4.2 Financial Intermediaries

These entities act as middlemen, connecting savers and borrowers more efficiently than if they had to find each other directly.

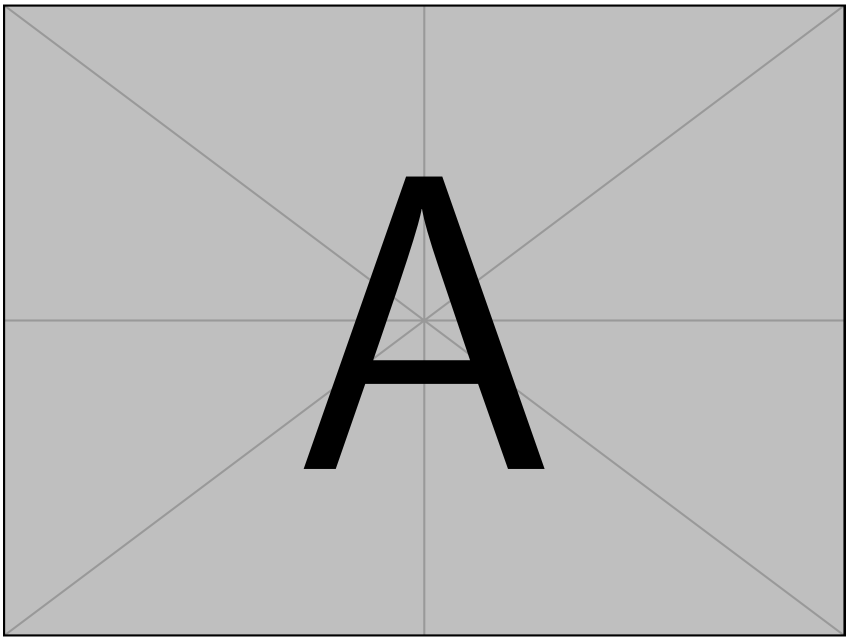
Commercial Banks: Accept deposits and make loans. They are the cornerstone of the financial system for most individuals and small businesses.

Investment Banks: Specialize in services for corporations and governments. They help with raising capital through underwriting new security issues (IPOs, bond offerings) and provide advisory services for mergers and acquisitions (M&A).

Brokers: Execute trade orders on behalf of clients. A broker acts as an agent for the client.

Dealers: Buy and sell securities for their own account, acting as a principal in the transaction. They make a market in a security by quoting a bid price (to buy) and an ask price (to sell), profiting from the bid-ask spread.

Exchanges: Provide the physical or electronic venue where securities are traded in a regulated and orderly manner (e.g., London Stock Exchange, Euronext).



The trading floor of a stock exchange, a physical representation of a market.

5 Regulation, Risk, and Modern Trends

Financial markets are inherently risky and complex. To protect investors, ensure fairness, and maintain economic stability, they are subject to extensive regulation. At the same time, they are constantly evolving due to technology and globalization.

5.1 Market Regulation

The primary goals of financial regulation are to prevent fraud, ensure transparency, and mitigate systemic risk—the risk of a collapse of the entire financial system. Regulatory bodies are responsible for creating and enforcing the rules.

- **Investor Protection:** Rules ensuring that investors receive accurate and timely information (e.g., corporate financial disclosures).
- **Market Integrity:** Laws against insider trading, market manipulation, and other fraudulent activities.
- **Prudential Regulation:** Rules for financial institutions requiring them to hold sufficient capital and liquidity to absorb potential losses, preventing bank runs and failures.

Key regulatory bodies include the Securities and Exchange Commission (SEC) in the United States, the European Securities and Markets Authority (ESMA) in the EU, and the Financial Conduct Authority (FCA) in the UK.

5.2 Types of Financial Risk

Participants in financial markets face various types of risk:

Market Risk: The risk of losses due to factors that affect the overall performance of financial markets, such as changes in interest rates, currency exchange rates, or equity prices. This is also known as systematic risk.

Credit Risk (or Default Risk): The risk that a borrower will be unable to make promised payments on a debt obligation.

Liquidity Risk: The risk of not being able to sell an asset quickly at a fair market price.

Operational Risk: The risk of loss resulting from inadequate or failed internal processes, people, and systems, or from external events.