Dauphine | PSL
UNIVERSITÉ PARIS

CHAPTER 1: INTRODUCTION AND KEY DEFINITIONS

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Financial Markets

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OUTLINE

- What are financial Markets
- Defining key terms
- Classification of financial markets
- How do financial markets differ from other markets
- Major roles of the financial system

WHAT ARE FINANCIAL MARKETS?

- **Financial markets** perform the essential function of channeling funds from economic players that have saved surplus funds to those with a shortage of funds.

- Exchange between these two groups of agents is settled in financial markets.

- The first group is commonly referred to as **lenders**, the second group is commonly referred to as the **borrowers** of funds.

FEATURES OF AN EFFECTIVE FINANCIAL SYSTEM

- Financial transactions are based on trust
- Strong legal infrastructure
- Safe, reliable and efficient payment system

DEFINING KEY TERMS

- There exist two different forms of exchange in financial markets. The first one is **direct finance**, in which lenders and borrowers meet directly to exchange securities.

Securities are claims on the borrower's future income or assets. Common examples are stock, bonds or foreign exchange

- The second type of financial trade occurs with the help of financial intermediaries and is known as **indirect finance**. In this scenario borrowers and lenders never meet directly, but lenders provide funds to a **financial intermediary** such as a bank and those intermediaries independently pass these funds on to borrowers

AN OVERVIEW OF THE FINANCIAL SYSTEM

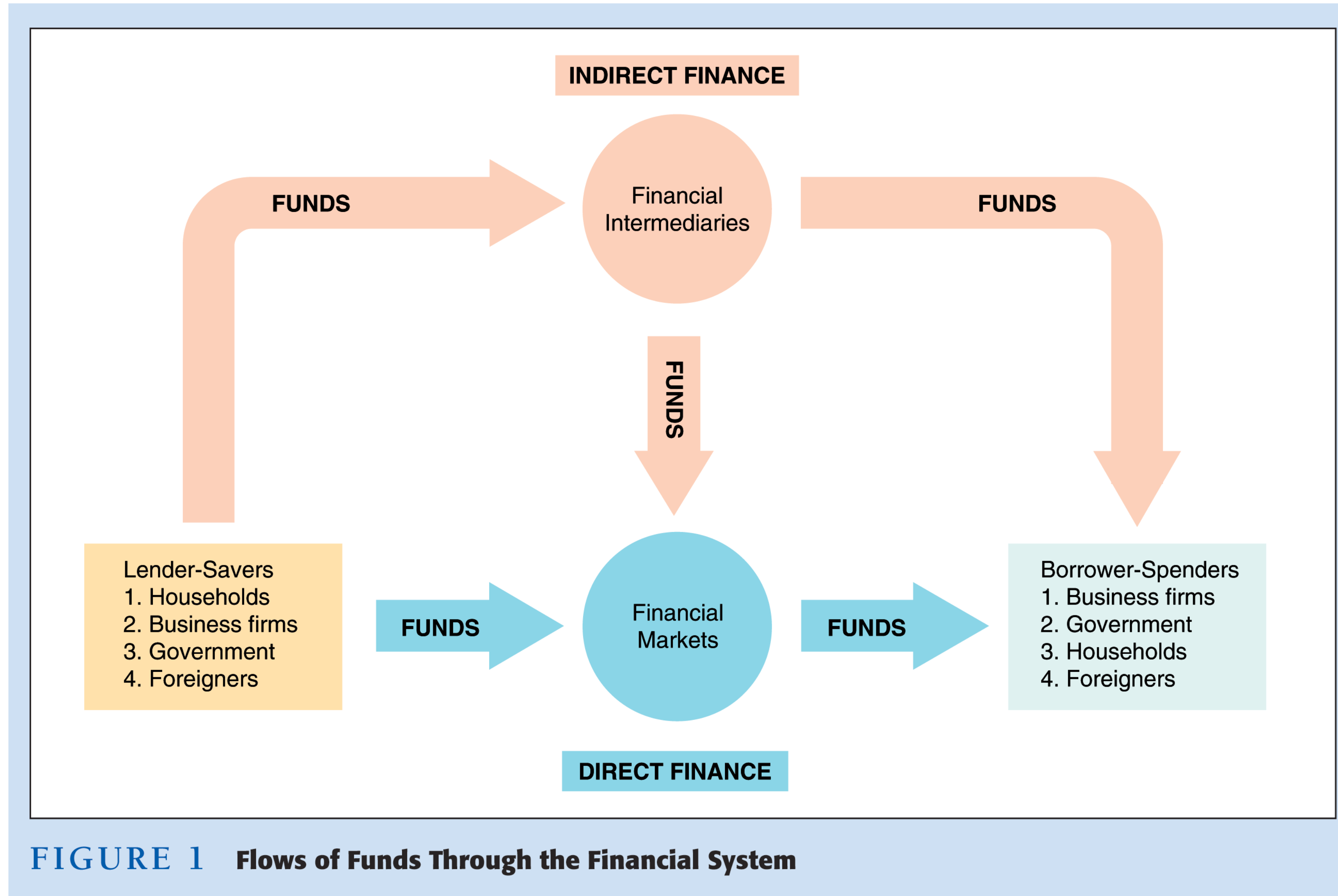


FIGURE 1 **Flows of Funds Through the Financial System**

Source: Mishkin & Eakins (2015)

DEFINING KEY TERMS (CONT.)

- **Asset**: Any possession that has value in an exchange.
  - **Tangible assets**: Its value depends on particular physical properties: Ex. buildings, land, machinery,…
  - **Intangible assets**: Legal claims to some future benefit (its value bares no relation to the form, physical or otherwise, in which these claims are recorded):

    Financial assets / instruments

- **Issuer** (of the financial instrument): Entity that has agreed to make future cash payments.

- **Investor**: Owner of the financial instrument.

EXAMPLES OF FINANCIAL INSTRUMENTS

Context	Issuer	Investor	Terms of the loan
A loan by BNP	The individual who buys a car	Commercial bank	Specified payments over time= repayment of the loan+ interest
A bond issued by the French government	French government	Buyer of the bond	Interest payments every six month till maturity date -> amount borrowed
A bond issued by Total Inc.	Corporation		Same as above!
A bond issued by the government of Australia	A central government		Same as above!
A share of common stock issued by L’Oréal	Corporation		Receive dividends + a claim to a pro rata share of the net asset value in case of liquidation
A share of common stock issued by Toyota Motor Corporation	The Japanese Corporation		Same as above!

DEFINING KEY TERMS (CONT.)

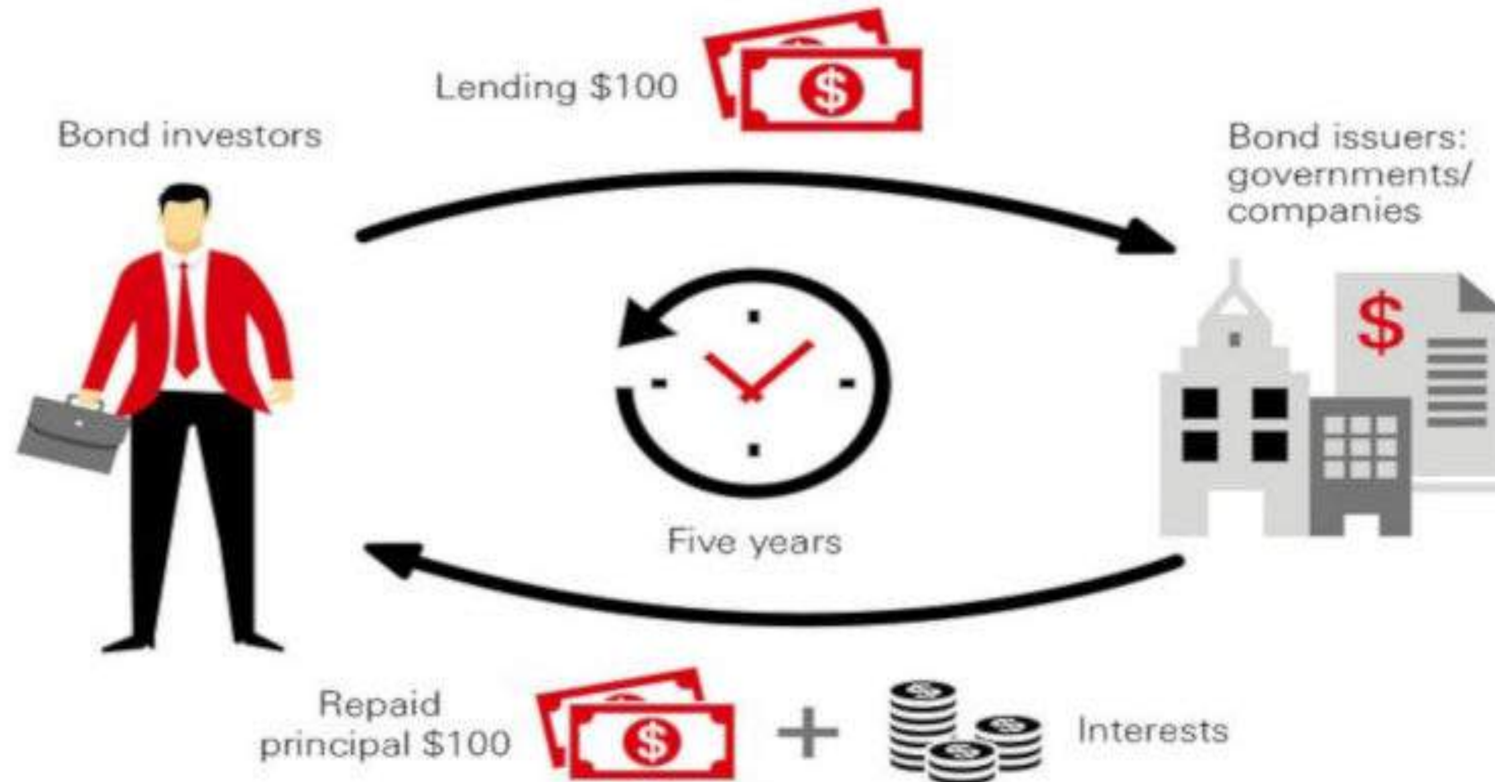
- Globally we can identify 2 types of Financial instruments (identified by type of claim that the holder has on the issuer):

1. **Debt instrument**: The issuer agrees to pay interest and repay the amount borrowed

2. **Equity instrument**: Obligates the issuer of the financial instrument to pay the holder an amount based on earnings, if any, after the holders of the debt instruments have been paid.

   Ex: common stock, a partnership share in a business

DEBT INSTRUMENTS



Source: https://taptoprosperity.com/asset-class-part-iii-introduction-to-fixed-income-or-debt-instruments/

CHARACTERISTICS OF DEBT INSTRUMENTS

- Debt instruments include: loans, money market instruments, bonds, mortgage-backed securities and asset-backed securities.
- **Maturity**: The number of years over which the issuer has promised to meet the conditions of the obligation
  - Money market instrument → Maturity < 1 year
  - Capital market debt instrument → Maturity > 1 year
- **Par value/ principal/ face value/ maturity value**: The amount that the issuer agrees to pay by the maturity date.
- **Coupon rate/ nominal rate/ contract rate:** The interest rate the issuer agrees to pay each year. The frequency of interest payments varies by the type of the debt instrument.
  - Zero-coupon bonds: debt instruments that are not contracted to make periodic coupon payments
  - Floating rate securities: coupon payments reset periodically according to some reference rate

DEBT

DEFINING KEY TERMS (CONT.)

- **Financial markets**: Where financial instruments are exchanged

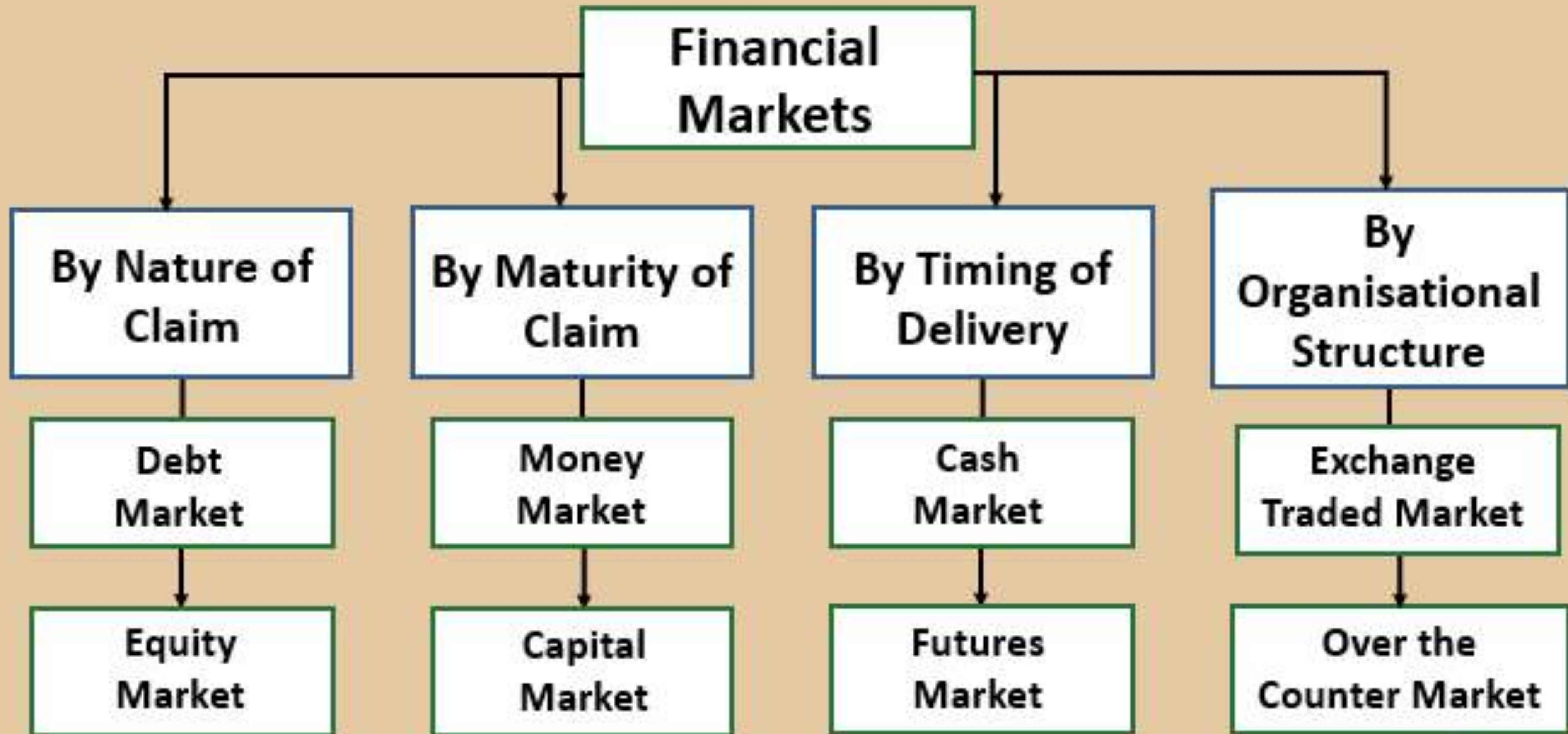
3 major economic functions:

- Interaction of buyer and sellers determine the price of traded asset (*price discovery process*)
- A mechanism for an investor to sell a financial instrument (*offering liquidity*)
- Reducing the *transaction costs*
  - Search cost : Ex. advertising
  - Information cost: to calculate the merits of a financial instrument

Source: https://theinvestorsbook.com/financial-market.html

CLASSIFICATION OF FINANCIAL MARKETS

1. **Type** of financial claim
   - Debt markets
   - Equity markets
2. **Maturity** of the claim
   - Money market
   - Capital markets
3. **Issuance**:
   - Primary market (newly issued)
   - Secondary market (previously issued)
4. **Time** of the transaction:
   - Cash market
   - Derivatives market (The contract holder buys or sells a financial instrument at some future time)
5. Organizational **structure**:
   - Auction market /organized Exchange
   - Over-the-counter market


Classification of Financial Markets
Financial Markets
By Nature of Claim
By Maturity of Claim
By Timing of Delivery
By Organisational Structure
Debt Market
Money Market
Cash Market
Exchange Traded Market
Equity Market
Capital Market
Futures Market
Over the Counter Market
WallStreetMojo

DEBT VS. EQUITY

- Debt titles are the most commonly traded security. In these arrangements, the issuer of the title (borrower) earns some initial amount of money (such as the price of a bond) and the holder (lender) subsequently receives a fixed amount of payments over a specified period of time, known as the maturity of a debt title
- Debt titles can be issued on:
  - **short term** (maturity < 1 yr.)
  - **long term** (maturity >10 yrs.)
  - **intermediate terms** (1 yr. < maturity < 10 yrs.)
- The holder of a debt title does not achieve ownership of the borrower's enterprise
- Common debt titles are **bonds** or **mortgages**

DEBT VS. EQUITY (CONT.)

- The most common equity title is (common) **stock**
- An equity instruments makes its buyer (lender) an owner of the borrower's enterprise
- Formally this entitles the holder of an equity instrument to earn a share of the borrower's enterprise's income, but only some firms actually pay (more or less) periodic payments to their equity holders known as **dividends**. Often these titles, thus, are held primarily to be sold and resold
- Equity titles do not expire and their maturity is, thus, infinite. Hence they are considered **long term** securities

DEBT VS. EQUITY (CONT.)

Two forms of equity market:

1) *Public equity market* (share markets/ stock exchanges): Where companies **list** their shares for trading purposes. Total value of the company's outstanding shares → **Market Capitalization** (Ex: a company with 100 million shares & each share has a market value of 10$→cap.=?)
Investors receive **dividends**

2) *Private equity* : Shares are not listed on a public market, they are sold directly to the investors

Source: https://www.credibly.com/incredibly/trending/debt-vs-equity-financing/

Advantages of debt financing	Disadvantages of debt financing
• It does not dilute ownership. • Since you repay the principal of the loan plus interest, there is no direct claim on future profits. In most cases principal and interest are pre-determined amounts so there's a higher degree of certainty. • Interest on debt can be deducted on your company's tax return. • It's less complicated in the eyes of state and federal securities laws. • It's typically a much quicker time to funding.	• The loan must be repaid, even if you default. • Interest is a fixed cost, ultimately raising the break-even point. • You'll need to budget for repayments so that you have ample working capital to continue operations. • There's often a restriction on which activities the loan can be used for, and it may prevent you from pursuing other financing options. • You're typically required to pledge assets as collateral, and in some cases, you'll need a personal guarantee.

Advantages of equity financing	Disadvantages of equity financing
• There is no interest, and investors are only paid if things are going well. If the company dissolves, you don't need to go into your pockets to repay your investors. • Because you won't need to keep up with repayments, there's more money available to fund business activites and growth opportunities. • Investors have a vested interest in the business's success and can bring valuable skills, resources, and networks to the table. • It's easier to acquire follow-up funding from your investors or outside lenders.	• You will have a smaller share in the business. With each share, you're also giving up a portion of your decision making power. • Raising equity financing can be demanding, costly, and time-consuming. It takes away time that could be spent growing the business. • Investors often want comprehensive background information on you and your business. • Reporting to stakeholders can be daunting and tiresome. • There's a lot of legal and regulatory compliance to manage on an ongoing basis.

MONEY MARKETS VS. CAPITAL MARKETS

- Money markets are markets in which only **short term debt titles** are traded

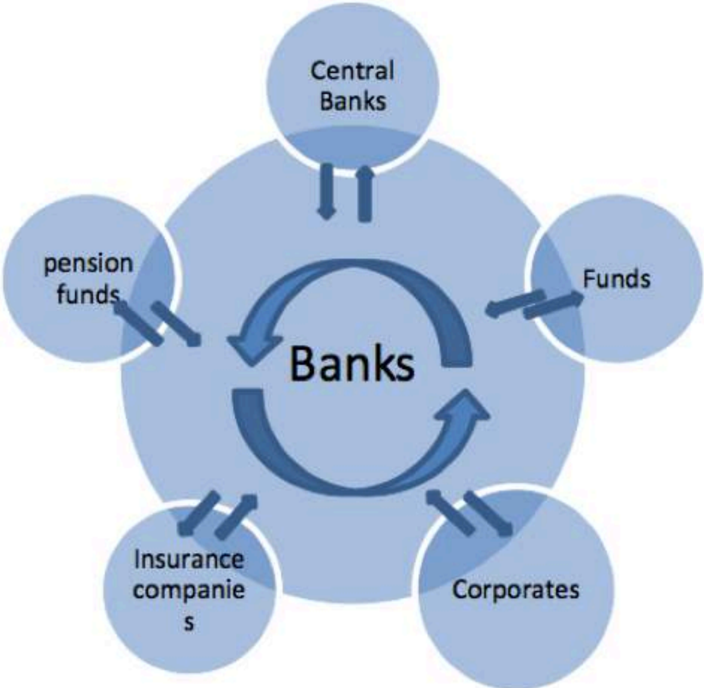
  Ex: Banker's acceptances, commercial paper, government bills with short maturities

- Capital markets are markets in which **longer term** debt and equity instruments are traded:

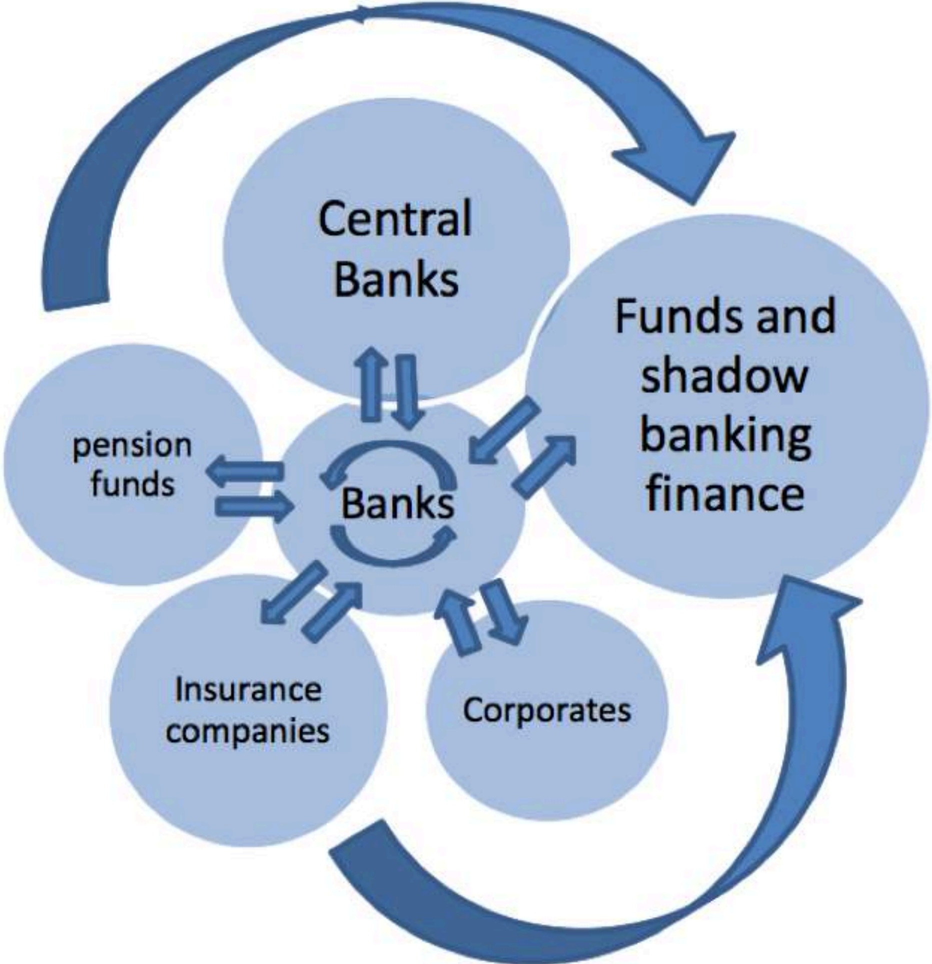
  Bond markets:

  - Enable Inc. or gov. to borrow directly from investors in the capital markets)
  - Regular stream of income payments through coupons. (interest payments)
  - Payment of the debt's **principal** upon maturity

The Money Market: 1980–1999



2000 to present



Source: "Fixing the Fixings: What Road to a More Representative Money Market Benchmark" IMF2013

PRIMARY MARKET VS. SECONDARY MARKETS

- Primary markets are markets in which financial instruments are **newly issued** by borrowers
  - They are not very known to the public (selling behind closed doors)
  - An important institution: investment banks

- Secondary markets are markets in which financial instruments **already in existence** are traded among lenders
  - Ex: The New York Stock Exchange
  - Ex: NASDAQ

The magnitude of the coupon is set at the time of issuance → Fixed interest

*In the secondary markets, a fall in the price of the bond results in an increase in the rate of interest, or **yield** paid.*

CASH VS. DERIVATIVES MARKET

Time of the transaction !

Derivatives markets:

2 types of basic instruments:

- Futures/forward contract: transaction of a financial instrument at a predetermined price at a specified future.
- Option contract: Owner of the contract has the right but **not the obligation** to buy/sell a financial instrument at a specific price from another party.

- **Tools for handling of financial risk**: Derivatives can be used for a number of purposes, including insuring against price movements (hedging), increasing exposure to price movements for speculation or getting access to otherwise hard-to-trade assets or markets.

EXCHANGE VS. OVER-THE-COUNTER MARKETS

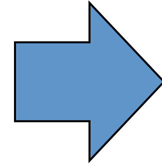
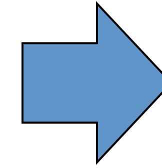
- Secondary markets can be organized as:

  - **Organized Exchange**, in which buyers and sellers of securities meet in one central location, such as a stock exchange (A visible marketplace for secondary market transactions)

  - **Over-the-counter (OTC)** markets in which dealers at different locations who have an inventory of securities stand ready to buy & sell securities to anyone who comes to them. (A telecommunication network)
    - ✓ Titles are sold in several locations
    - ✓ Very competitive since OTC dealer are in computer contact and know the prices set by another

Source: https://www.investopedia.com/terms/o/over-the-countermarket.asp

NATIONAL OR INTERNATIONAL?

- Capital and money markets  National
- Forex and derivatives markets  International

FX markets: (Foreign exchange market/ Forex)
A market for trading currencies internationally

Governments
Market movers that set economic goals & shake the market with political decisions
Commercial Banks
Private credit organizations that do most of the global currency trading through electronic networks
Traders
Risk-taking individuals who come to the FX market to earn money fast.
FOREX
Central Banks
Forex trendsetters that control the money supply in a given economy.
Investment Funds
High-skilled investors who have a broader selection of investment opportunities.
Corporations
Active hedgers seeking to protect their profit through buying/selling currencies.

- Internationalization of the financial markets
  → important trend
- American corporations are now more likely to tap international capital markets to raise funds
- Foreigners become important investors (in US, France, …)

INTERNATIONAL BOND MARKET

- **Foreign bonds**: are sold in a foreign country and denominated in that country's currency
  Ex: if Porsche sells a bond in US denominated in $ → foreign bond

- Foreign bond have been an important instrument for centuries: a large percentage of US railroads built is the 19th century were financed by sales of foreign bonds in Britain

- A recent innovation in the international bond market: Eurobond

- **Eurobonds**: A bond issued in a *currency other than the currency* of the country or market in which it is issued
  Ex: A bond that is denominated in U.S. dollars and issued in Japan by an Australian company

A bond denominated in euros is called a Eurobond only if it is sold outside the countries that have adopted the euro

- A variant of the Eurobond→ Eurocurrencies:
  foreign currencies deposited in banks outside the home country
- The most important Eurocurrencies are **Eurodollars** : US$ deposited in foreign banks outside the US

Source: https://www.contrepoints.org/2011/07/20/35583-son-nom-est-bond-eurobond

COMMERCIAL FINANCIAL INSTITUTIONS

- Commercial banks:
- Investment banks:
- Universal banks:
- Mortgage banks:
- Contractual savings:
- Asset management companies:
- Venture capitalists/ Private equity companies:

COMMERCIAL FINANCIAL INSTITUTIONS

- **Commercial banks**: Take deposit from public and lend to individuals and corporate borrowers.
  - ✓ Difference between the interest rate paid to savers and that charged to borrowers
    Spread
  - ✓ These banks transform short term liabilities into long term assets

- **Investment banks**: Financial services that are generally related to the businesses (finding and structuring various forms of finance, issuance of corporate bonds, arrangement of mergers and acquisitions, …)

- **Universal banks**: Combine functions of commercial and investment banks

- **Mortgage banks**: Provide finance for the purchase of property.

- **Contractual savings**: Institutions such as pension funds and insurance companies.

  Asset management:
    - In-house
    - Out-sourced

- **Asset management companies:** provide "Portfolio management" services by accessing public and private financial markets

- **Venture capitalists/ Private equity companies**: Provide capital for new or expanding business

In the last 2 decades, we have seen a considerable destruction of the 'functional boundaries' between different types of bank and non-bank financial institutions.

QUASI-COMMERCIAL FINANCIAL INSTITUTIONS

- **State development banks**: Owned by governments, direct credit to priorities of the government.
- **Mutual cooperative banks**: Collectively owned by their members. (higher interest, lower charges)
- **Post office savings banks**: Basic financial services (low income)
- **Credit unions**: Owned by their members, credit granted to members on low incomes
- **Microfinance institutions**: Providing the poor with access to financial services, in form of bank, cooperative, credit union etc.

GOVERNMENTAL FINANCIAL INSTITUTIONS

- Central banks: Have the monopoly of **fiat money** issuance.
  - Provide liquidity (control money supply)
  - LOLR: act as a lender-of-last resort to the domestic banking system

Main features:

- National payments and settlement system
- Prudential regulation/ supervision
- Insurance for deposits
- Execute monetary policy → inflation targeting
- Exchange rate policy

TYPES OF FINANCIAL INTERMEDIARIES

1. **Depository institutions**:
   Financial intermediaries that accept deposits from individuals and institutions and make loans.

2. **Contractual savings institutions**:
   Financial intermediaries that acquire funds at periodic intervals on a contractual basis.

3. **Investment intermediaries**

Financial
Intermed
iaries

Depository
Institutions

Commercial Bank

Savings and Loans Associations (S&L)

Mutual Saving Banks

Credit Unions

Specialized Banks

Contractual
savings
Institutions

Insurance Companies

Pension Funds

Investment
Intermedarie
s

Finance Companies

Mutual Funds (Investment Funds)

Money market Mutual Funds

HOW DO FINANCIAL MARKETS DIFFER FROM OTHER MARKETS?

Time and management of risk

- Delivery in future as opposed to the present, future is uncertain → Risky → interest payment (*time value of a money*)

- Transfers across time: smoothing consumption and investment

- Transfer and manage risk
  - Credit risk: danger of default
  - Market risk: loss by sudden changes in asset prices
  - Liquidity risk: unable to sell assets quickly without loss
  - Systemic risk: contagion from another bank

RISKS ASSOCIATED WITH INVESTING

- Definition of risk = hazard, peril, exposure to loss or injury
- Quantifying risk → the variance of an asset's expected return

What is a variance?

- Criticisms of the use of the variance:
  - The possibility of returns above the expected value (favorable outcome viewed as unfavorable)
    - Propositions→ measures of downside risk: risk of loss, value at risk
  - Variance is only one measure of how the returns vary around the expected return → variance + Skewness

Skewness: measures the asymmetry of a distribution

MAIN ROLES OF THE FINANCIAL SYSTEM (LEVINE, 2005)

1. **Producing information and allocating capital:**

- Large costs of: Evaluating firms, managers and market conditions→ High information costs may keep capital from flowing to its highest value use
- Improve resource allocation
- Leads to a more efficient allocation of capital

2. Monitoring firms and exerting corporate governance:

- Shareholders may exert effective governance **directly** by voting on crucial issues (mergers, liquidations, …) or **indirectly** by electing boards of directions.

- Well functioning stock markets: Linking stock performance to manager compensation helps align the interest of managers with those of owners

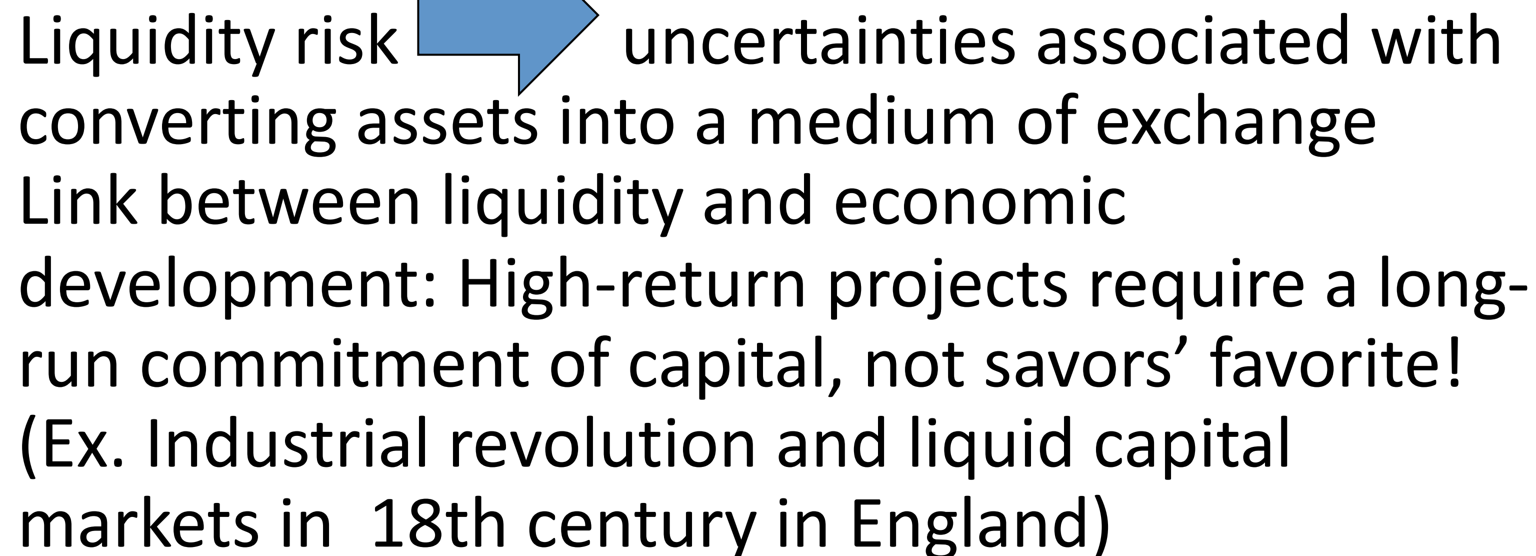
- Debt contracts: reduce the amount of free cash available to firms → reduces managerial slack Accelerates the rate of adoption of new technologies

3. Risk amelioration:

- **Cross-sectional risk diversification**: high-return projects tend to be riskier than low-return projects→ financial markets make it easier for people to diversify risk and shift portfolios towards higher expected returns.

- **Intertemporal risk sharing**: Some risks cannot be diversified at a particular point in time, such as macroeconomic shocks, they can be diversified across generations.
  Long-lived intermediaries can facilitate intergenerational risk sharing by investing with a long-run perspective.

- **Liquidity risk**: *Liquidity reflects the cost and speed with which agents can convert financial instruments into purchasing power at agreed price.*

  Liquidity risk  uncertainties associated with converting assets into a medium of exchange

  Link between liquidity and economic development: High-return projects require a long-run commitment of capital, not savors' favorite! (Ex. Industrial revolution and liquid capital markets in 18th century in England)

Another form of liquidity: access to credit during the production process

4. Mobilize and pool savings:

- The process of agglomerating capital from disparate investors is costly

- Financial arrangements that mobilize savings from many diverse individuals and invest in a diversified portfolio of risky projects facilitate reallocation of investment toward higher return activities with positive effects on economic growth.

5. Ease the exchange of goods and services

- Financial arrangements lower transaction cost
- More specialization requires more transactions, since each transaction is costly → financial development leads to more specialization → positive impact on growth

ROLE OF FINANCIAL MARKETS: A SUMMARY

- Although in a pure neoclassical framework the financial system is irrelevant to economic growth in practice an efficient financial system can:
  - Lower the cost of external borrowing
  - Raise the return to savors
  - Ensure that the savings are allocated to projects that promise highest returns

Source: https://theinvestorsbook.com/financial-market.html

FINANCIAL SECTOR AND THE GOVERNMENT

- Governments **regulate** the activities of the financial system
- Governments borrow from the financial system: issuance of sovereign bonds
- Governments may take more direct role in the system: Intervene directly in the functioning of the system, e.g. directing the allocation of credit through development banks, owning or controlling a section of a commercial bank

FRUIT FOR THOUGHT

- Should governments regulate?
- To what extent?

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