INTRODUCTION TO FINANCIAL MARKETS & INSTRUMENTS

FMI - TOPIC 1

WELCOME TO FINANCIAL MARKETS & INSTRUMENTS (FMI)

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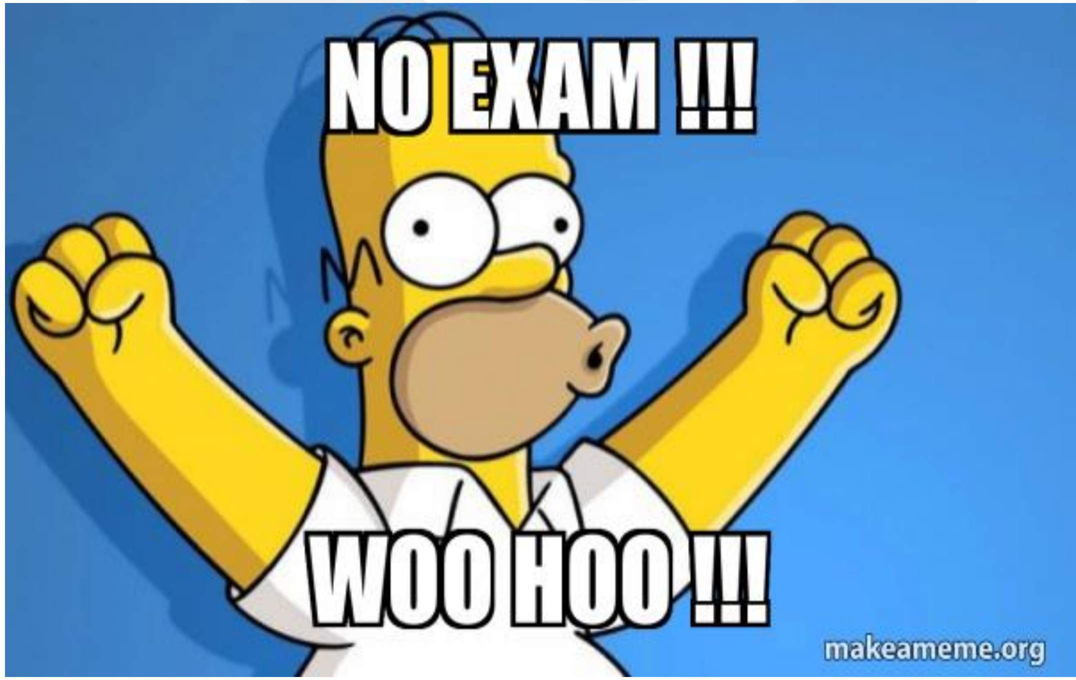
WELCOME TO FINANCIAL MARKETS & INSTRUMENTS (FMI)

Module Assessment

❑ Group Project	30%
❑ Individual Components	35%
▪ Reflections / UN CC:e-Learn Cert	10%
▪ InvestingNote Stock Challenge	15%
▪ Final Quiz	10%
❑ Common Test	25%
❑ Class Participation	10%



FMI LEARNING ROAD MAP

Introduction to FMI (Topic 1)

Financial Markets
Stock Market & Derivatives (Topic 3 & 4)
Foreign Exchange Market (e-Topic 5)
Money Market & Bond Market (Topic 6)

Financial Institutions
Central Banks (Topic 2)
Commercial Banks (Topic 8)

Finance Theory
Interest Rates & Theory (Topic 7)

Current Trend and Issue
Environmental, Social & Governance (Topic 9)

FMI LEARNING ROAD MAP

- ❑ BF modules are **INTERCONNECTED;** do not see them in silo or "repetitive"!
- ❑ Viewing finance from different perspectives: firms', investors', etc.
- ❑ Concepts taught from following modules are related to FMI:
  - Finance & Accounting for Business (FAB)
  - Financial Planning (FP)
  - Corporate Finance (CFIN)
  - Usage of Financial Calculator

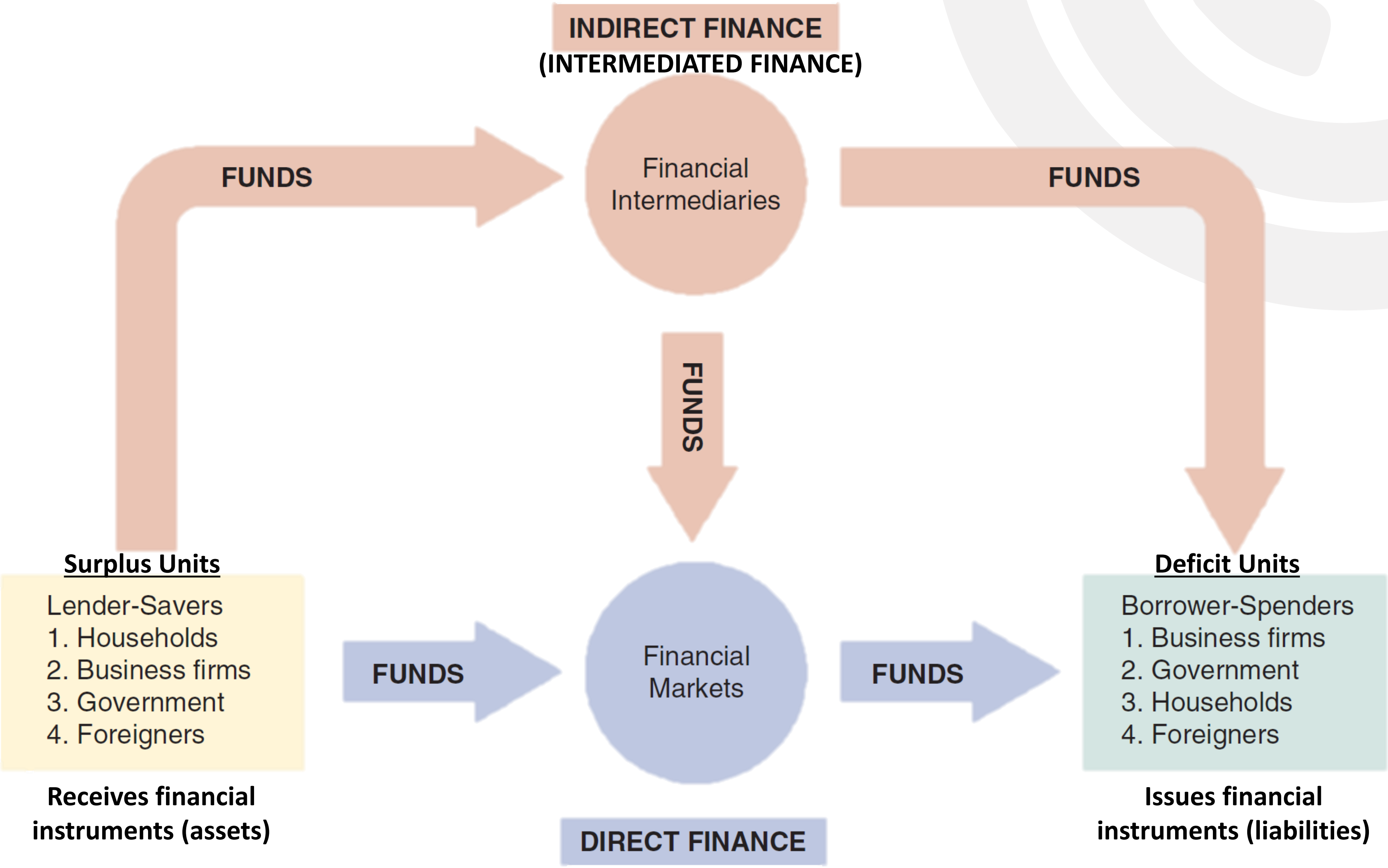
TOPIC OUTLINE

- ❑ Financial System Overview
- ❑ Financial Intermediaries
- ❑ Financial Markets
- ❑ Financial Risks

FINANCIAL SYSTEM OVERVIEW

- A financial system comprises a range of:
  - Financial Markets
  - Financial Institutions
  - Financial Instruments
- Interact to facilitate flow of funds from one party to another
- Encourages savings, provides funds for investment and facilitates transactions for goods and services
- Allows the providers of funds to efficiently lend to borrowers of funds
- A central bank typically oversees the financial system

FINANCIAL SYSTEM OVERVIEW



FINANCIAL SYSTEM OVERVIEW

Surplus Units (SUs)

- ❑ Providers of funds, also known as Lenders, Savers or Investors
- ❑ Have the availability of funds for lending or investment
- ❑ Forego current consumption in order to earn an expected rate of return in the future by investing savings via purchase of financial instruments
- ❑ Forms of returns: interests, dividends, capital gains, rental income
- ❑ When considering the rate of return, SUs also factor in risk they have to bear when they purchase the financial instruments
- ❑ Examples of SUs: Households, Governments, Foreigners, Business Firms

FINANCIAL SYSTEM OVERVIEW

Deficit Units (DUs)

- Borrowers for funds, also known as Borrowers or Spenders
- Need additional funds so as to enjoy current consumption
- Or borrow additional funds to invest for the future to earn higher rate of return over and above the cost of borrowing the additional funds
- Need to make periodic interest payments and repay the principal borrowed (either periodic or lump sum) during a defined period
- Examples of DUs: Households, Governments, Foreigners, Business Firms

FINANCIAL SYSTEM OVERVIEW

Flow of Funds Through the Financial System

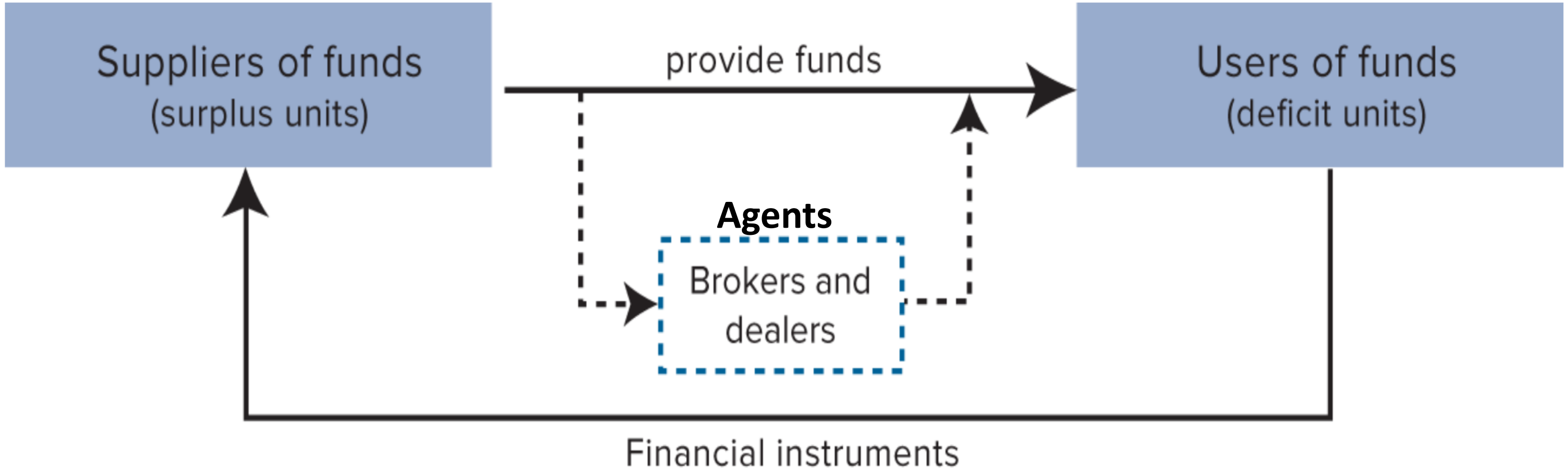
- Funds flow from SUs to DUs via two routes:
  - **Direct Finance:** Funds flow through direct relationship from SUs to DUs
  - **Intermediated Finance (Indirect Finance):** Funds flow through a financial intermediary such as banks

FINANCIAL SYSTEM OVERVIEW

Direct Finance

- "Brokers and dealers" act as agents through instructions by SUs and DUs; "fall out" of the picture once transactions are completed
- Agents don't accept funds from SUs and don't provide funds to DUs
- Receive fees or commissions for arranging transactions between the two parties
- Contractual agreement is between SUs and DUs, hence SUs to bear risk of transactions
- Agents don't have a claim or having to bear the risks on the transactions
- SUs purchase whatever financial instruments offered by DUs (e.g., stocks, bonds); there is no transformation of financial instruments transacted

FINANCIAL SYSTEM OVERVIEW

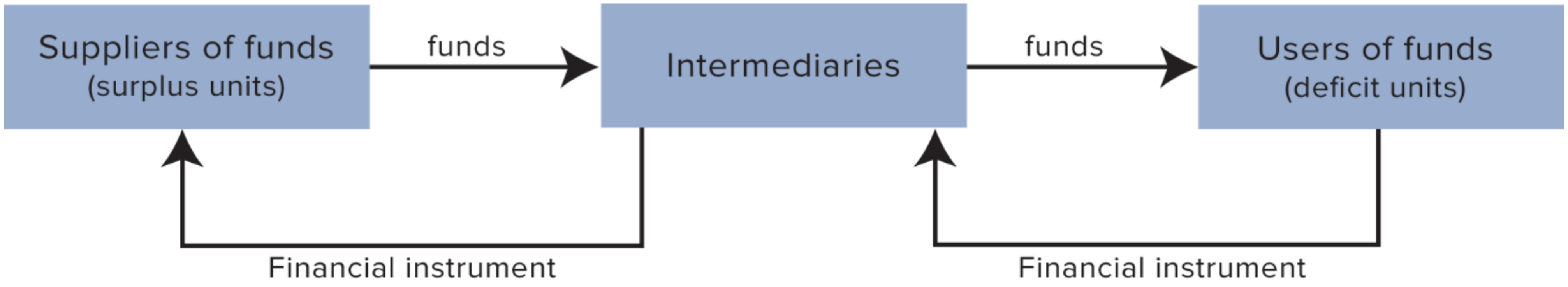


FINANCIAL SYSTEM OVERVIEW

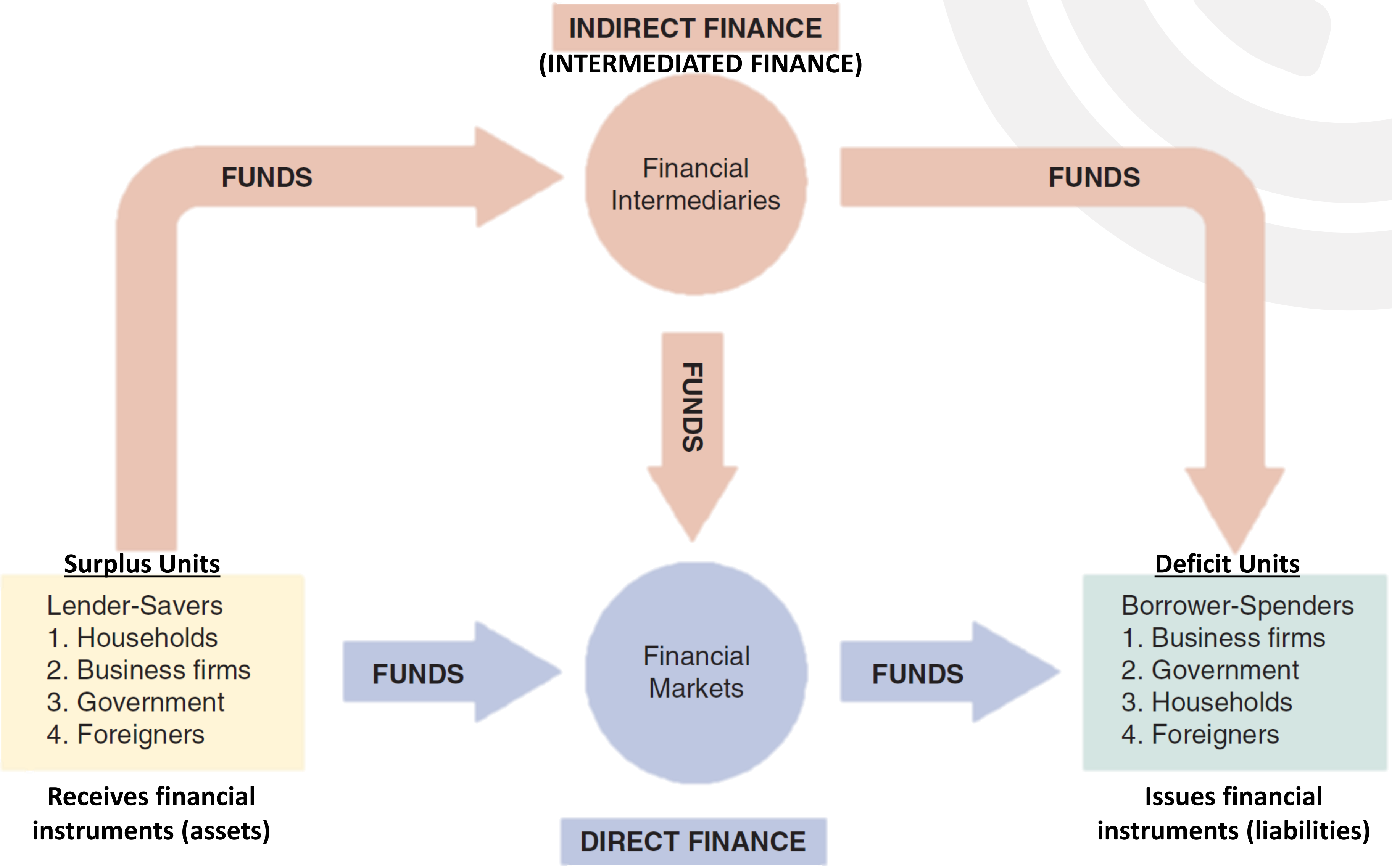
Intermediated Finance (Indirect Finance)

- ❑ Intermediaries plays the role of a principal to both the SUs and DUs and maintain an active relationship throughout
- ❑ Obtain funds from SUs, typically in the forms of savings deposits, hence contractual agreement exists between SUs and intermediaries
- ❑ Provide funds to DUs in forms of loans, hence acquires the ownership of the financial instruments given by DUs and also assume the risks associated with the instruments
- ❑ Create separate contractual agreement with SUs and DUs; SUs have no direct relationships with DUs
- ❑ Pay SUs interests for source of funds (deposits); charge DUs interest for use of funds (loans)
- ❑ Transformation of financial instruments; deposits received from SUs are transformed into loans with intermediaries lend to DUs

FINANCIAL SYSTEM OVERVIEW



FINANCIAL SYSTEM OVERVIEW



FINANCIAL INTERMEDIARIES

- ❑ Financial institutions play an important role of financial intermediaries as they facilitates the flow of funds between SUs and DUs
- ❑ Usually regulated by government authorities like the central banks
- ❑ Can be broadly classified as either banks or non-banks financial institutions
- ❑ Alternatively, they can also be classified into one of the following categories:
  - **Depository Institutions**
  - **Contractual Savings Institutions**
  - **Investment Intermediaries**

Note: the terms “financial institutions” and “financial intermediaries” are used interchangeably

FINANCIAL INTERMEDIARIES

Depository Institutions

- Accept deposits from individuals and firms to make loans
- E.g. Commercial Banks

Contractual Savings Institutions

- Acquire funds periodically on contractual basis
- Invest them in such a way that financial instruments are matured when contractual obligations have to be met
- E.g. Insurance Companies

Investment Intermediaries

- Facilitate investments in financial assets by pooling resources and investing them according to stipulated objectives
- E.g. Investment Banks

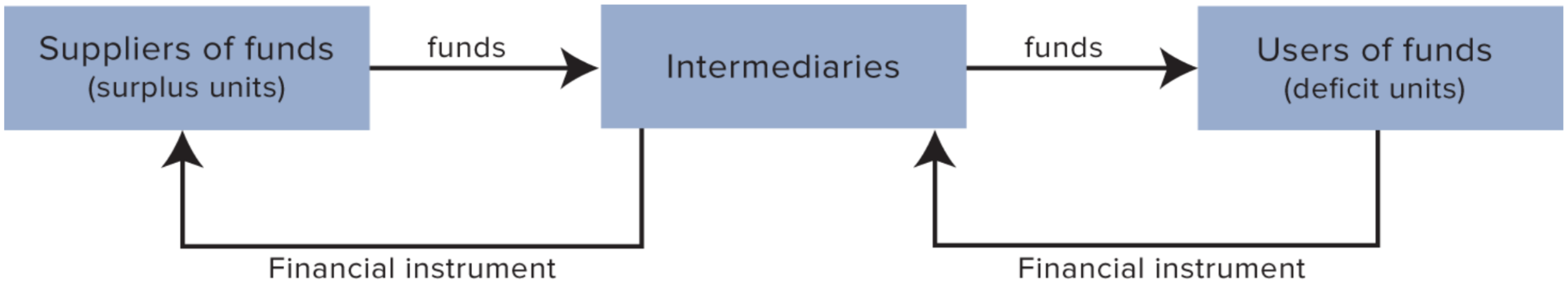
FINANCIAL INTERMEDIARIES

- Financial intermediaries also perform the following four functions that are important to both SUs and DUs:
  - **Asset & Size Transformation**
  - **Maturity Transformation**
  - **Credit Risk Transformation**
  - **Economies of Scale**

FINANCIAL INTERMEDIARIES

<u>**Asset & Size Transformation**</u>

- ❑ Offer customers wide range of financial products to make the needs of SUs and DUs e.g. deposits, investments and loans
- ❑ Without intermediation, SUs that could generate only small levels of savings would not have any incentive to save
- ❑ Likewise, DUs would find cost of obtaining loans to be expensive
- ❑ Financial intermediaries receive small amounts from many SUs, pool them into larger amounts and make them as loans to borrowers



FINANCIAL INTERMEDIARIES

Maturity Transformation

- ❑ SUs and DUs often have varying maturity preferences: SUs may want to invest funds for shorter-term while DUs may need funds for a longer-term
- ❑ By managing deposits they receive, financial intermediaries (e.g. banks) can make loans of longer-term while satisfying SUs preference for shorter-term savings
- ❑ Financial intermediaries can perform such extremes of maturity transformation due to:
  - Unlikely all SUs will withdraw deposits at the same time. Also, withdraws during any period are generally more or less matched by new deposits
  - Rely on liability management e.g. banks may adjust interest rates to attract additional deposits

FINANCIAL INTERMEDIARIES

Credit Risk Transformation

- ❑ Occurs through contractual agreements of intermediation
- ❑ SUs have agreement with financial intermediaries, thus credit risk exposure for SUs is limited to the risk of intermediary defaulting
- ❑ Financial intermediaries have separate loan agreement with DUs and is exposed to the credit risk of DUs
- ❑ Financial intermediaries have advantages over individual SUs:
  - Having the expertise in assessing risk of potential borrowers (DUs)
  - Once loans are granted to DUs, have the technical skills and systems to continuously monitor the creditworthiness i.e. ability to pay
  - Have access to a large pool of DUs to make loans to, thus reducing the risk of non-payment or defaults when relying on a few DUs

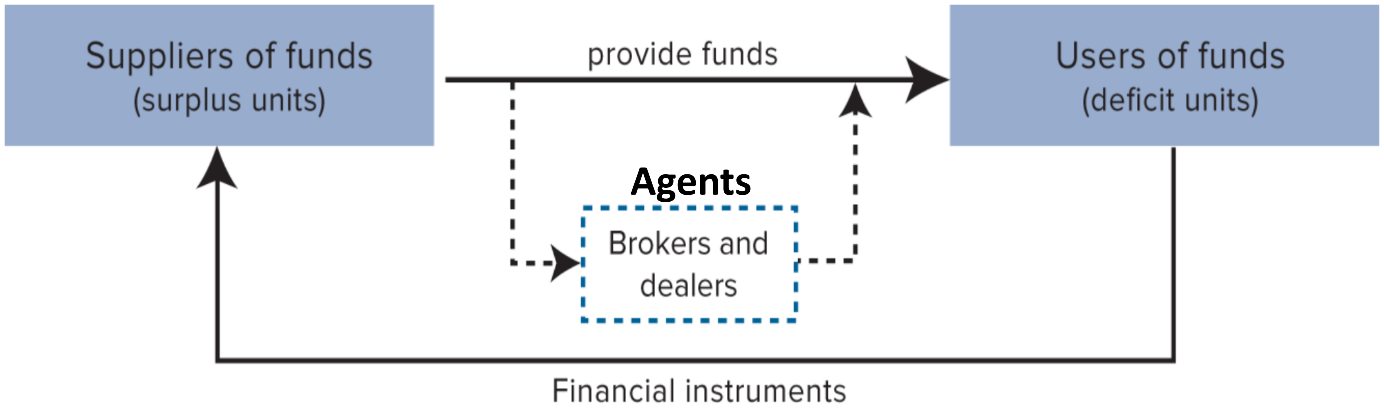
FINANCIAL INTERMEDIARIES

Economies of Scale

- ❑ Able to achieve economies of scale due to their size and volume of business transacted, therefore having the resources to develop cost-efficient operations
- ❑ Modern financial intermediaries, e.g. commercial banks, invest heavily on technology to deliver their services through their distribution networks such as ATMs, NETS, credit cards, online and mobile banking
- ❑ Costs of the sophisticated computer and communication systems required to support the distribution networks is spread over the millions of transactions processed

FINANCIAL MARKETS

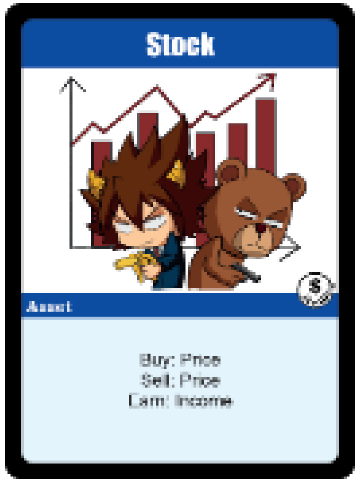
- Refer broadly to any marketplace where trading (buying and selling) of financial instruments occurs
- Examples: stock markets, derivatives markets, money markets, bond markets, foreign exchange (forex) markets, etc
- Flow of funds in financial markets tend to be Direct Financing in nature
- Agents (brokers and dealers) facilitates the trading of financial instruments which provide a return for SUs and also provide the availability of funds to DUs

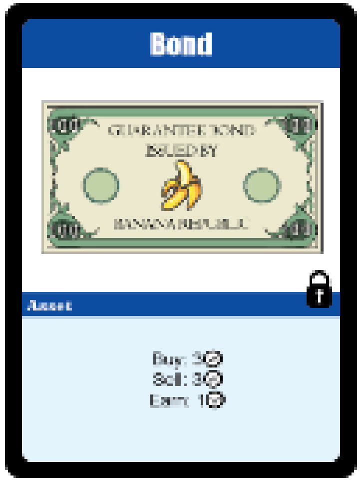


FINANCIAL MARKETS

Financial Instruments

- ❑ Refers to a legal contractual agreement between SUs and DUs
- ❑ DUs borrow funds directly from SUs in financial markets by selling them the financial instruments; SUs have claims on the DUs' future income or assets
- ❑ Financial instruments are assets SUs who buy them but are liabilities for DUs who sell or issue them
- ❑ Two basic types of financial instruments:
  - Equity-based: e.g. Stocks
  - Debt-based: e.g. Bonds



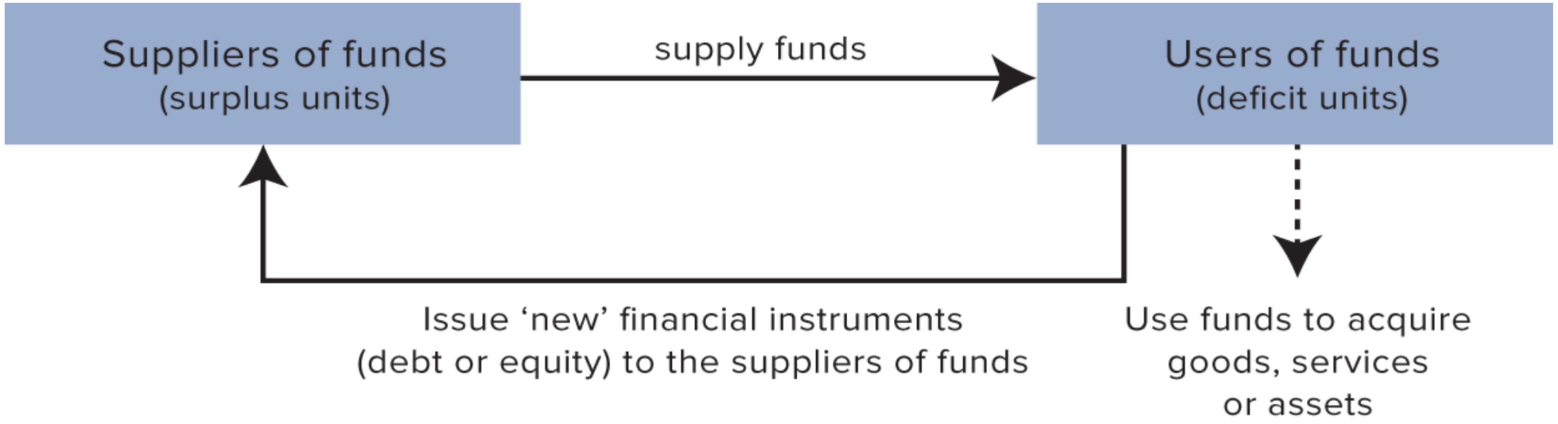


Note: Financial Instruments (e.g. stocks and bonds) that can be traded on secondary markets are also known as securities

FINANCIAL MARKETS

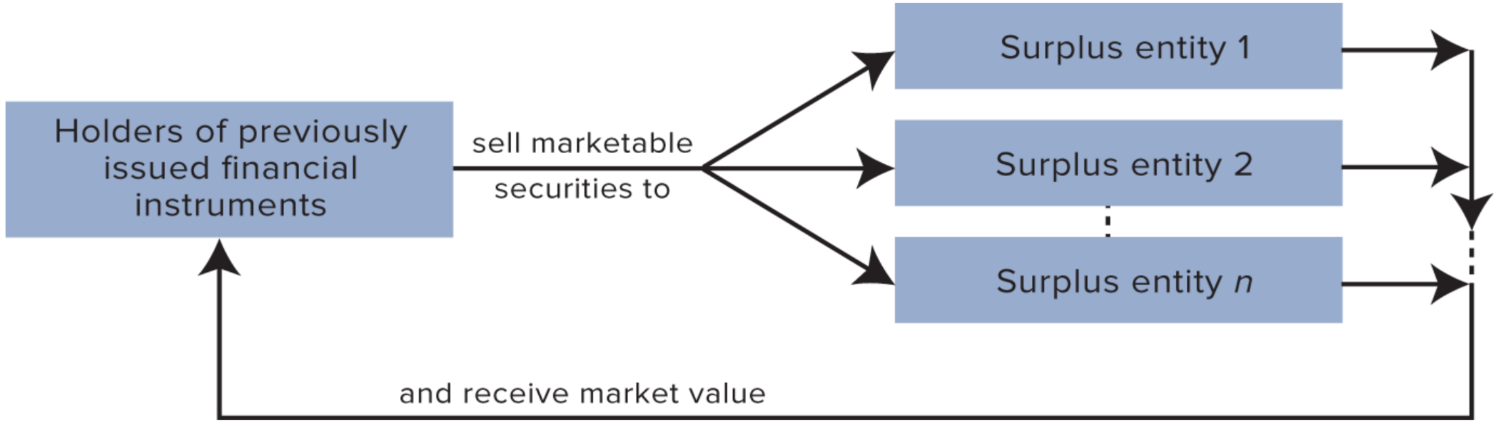
Structure of Financial Markets

❑ **Primary Markets:** The issuance of a new financial instrument and funds are obtained by the issuers or DUs



FINANCIAL MARKETS

- **Secondary Markets:** The buying and selling of existing financial securities which involves the transfer of ownership; no new funds raised by issuers (DUs)



- Secondary markets can be organized in two ways:
  - **Exchanges:** buyers and sellers of securities (or their agents or brokers) meet in one central location to conduct trades e.g. Stock exchanges like SGX, NYSE, NASDAQ
  - **Over-the-Counter (OTC):** dealers at different locations (decentralized place with no physical location), trade "over the counter" with anyone is willing to accept their prices

FINANCIAL MARKETS

- Financial markets can also be classified based on the maturity of the financial instruments traded:

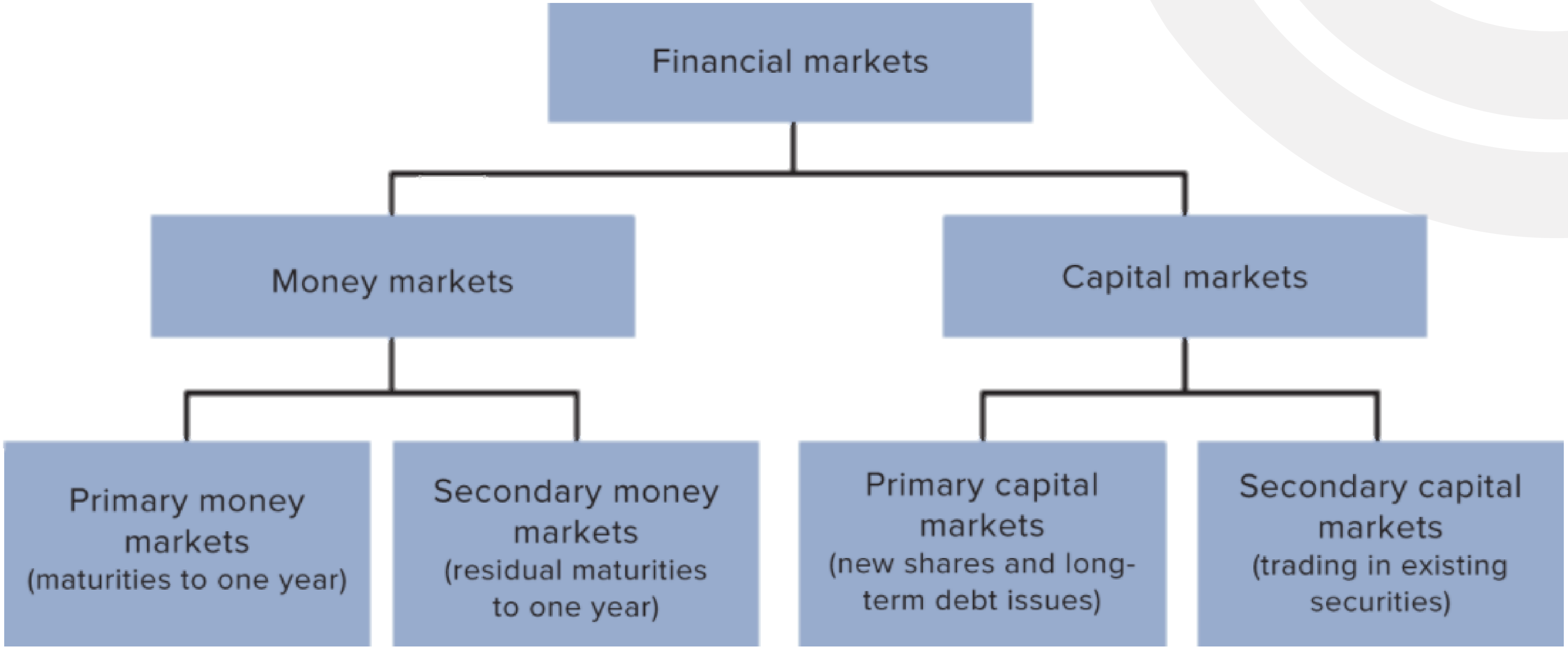
Money Markets

- Trading of only short-term debt instruments, generally those with original maturity of less than one year e.g. Treasury bills (T-bills), commercial papers, etc.

Capital Markets

- Trading of longer-term debt, generally with original maturity of one year or greater e.g. bonds
- Trading of equity instruments e.g. stocks

FINANCIAL MARKETS



FINANCIAL RISKS

- ❑ Chance that an outcome or investment's actual gains will differ from an expected outcome or return
- ❑ Includes the possibility of losing some or all of an original investment
- ❑ Some of the commonly known financial risks are:
  - **Credit Risk (Default Risk)**
  - **Liquidity Risk**
  - **Market Risk**
  - **Interest Rate Risk**
  - **Foreign Exchange Risk**

FINANCIAL RISKS

Credit Risk (Default Risk)

- Risk that issuer of debt securities or a borrower may default on his obligations i.e. fail to repay interest due and/or the principal at maturity
- Financial institutions have formulated guidelines to assess the creditworthiness of potential borrowers
- These guidelines quantify the maximum amount (known as credit limits) that they should lend to

FINANCIAL RISKS

Liquidity Risk

- Liquidity risk has different aspects depending on the context and parties involved
    - Central banks: whether there are enough funds available in the financial system
    - Commercial banks: ensure there available funds to repay deposits and other liabilities when they fall due. Also to ensure there are enough funds to meet its operating expenses in the course of business, as well as liquidity requirements mandated by the central bank
    - Investors: risk arising from a financial instrument that cannot be bought or sold easily. Usually happens when volume of trading is thin i.e. very few buyers and/or sellers
- Central banks and commercial bank manage risk by ensuring there are mechanisms to draw on extra funds when the need arises
- For investors, best way to avoid this risk is not to transact in illiquid instruments

FINANCIAL RISKS

Market Risk

- Refers to the fluctuations (volatility) in the market value of the financial instruments held due to movements in market variables such as interest rate changes, macro economic, political and market sentiment, etc
- Institutions use a daily mark-to-market system to value the profit and loss of the financial instruments held. This will help to quantify the expected losses

FINANCIAL RISKS

Interest Rate Risk

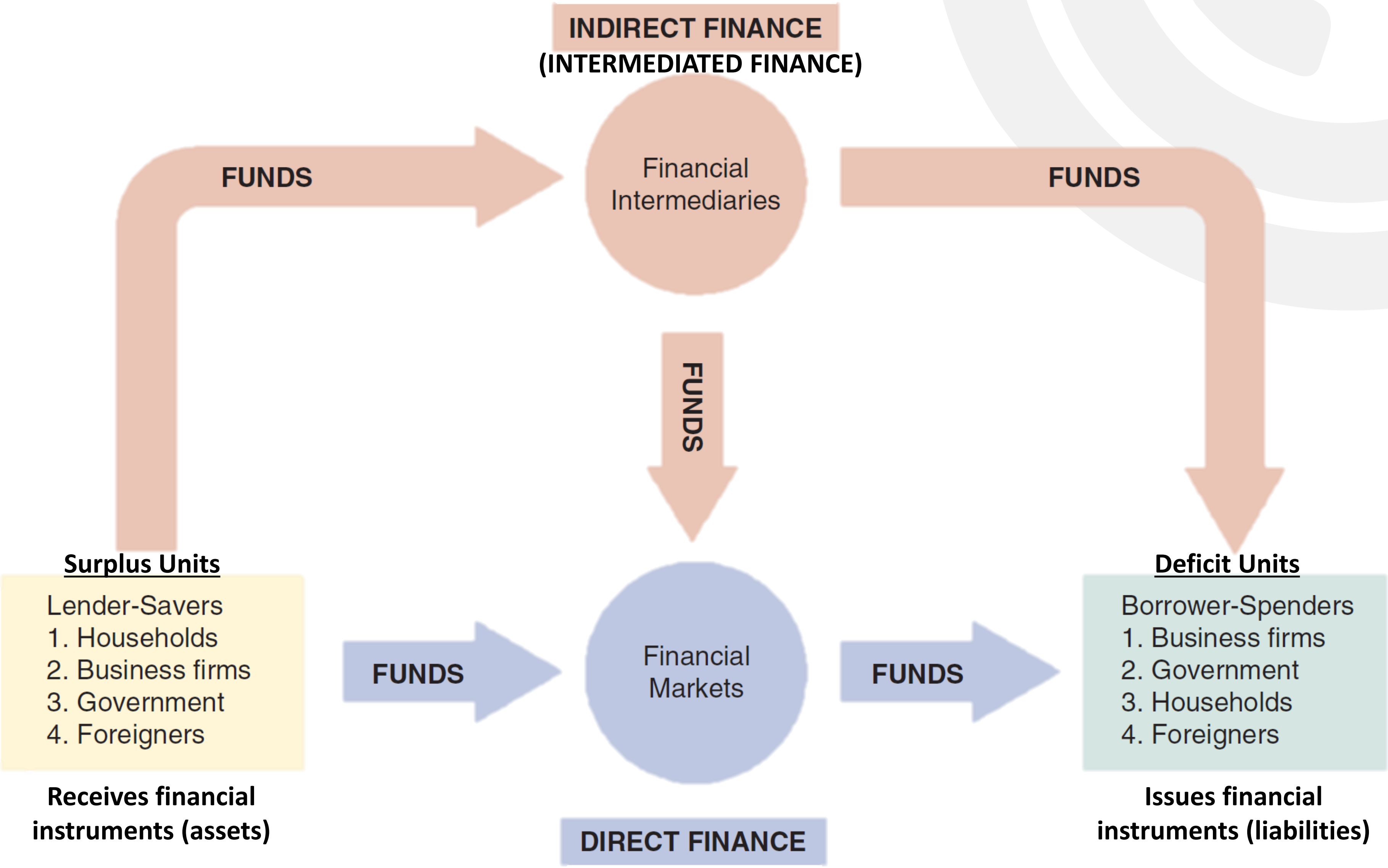
- Change in interest rates will affect borrowers, lenders and investors
- Higher interest rate increases the borrowing cost for businesses thus depressing the profits of the companies
- Lenders may experience surge in loan defaults if borrowers are unable to service their loans
- Investors invested in financial instruments such as bonds, may see price of their bonds falling or may get lower interest from their deposits accounts
- Various parties can make use of the derivative market to hedge their interest rate risk

FINANCIAL RISKS

Foreign Exchange Risk

- ❑ Refers to the losses that an international financial transaction may incur due to currency fluctuations
- ❑ Can affect businesses engaged in the import/export of products or services to multiple countries
- ❑ Can also impact investors who invest in overseas financial markets
- ❑ Various parties can make use of the derivative market to hedge their foreign exchange risk

SUMMARY


INDIRECT FINANCE
(INTERMEDIATED FINANCE)
FUNDS
Financial Intermediaries
FUNDS
FUNDS
Surplus Units
Lender-Savers
1. Households
2. Business firms
3. Government
4. Foreigners
FUNDS
Financial Markets
FUNDS
Deficit Units
Borrower-Spenders
1. Business firms
2. Government
3. Households
4. Foreigners
Receives financial instruments (assets)
DIRECT FINANCE
Issues financial instruments (liabilities)