Bachelor of Economics
THAMMASAT UNIVERSITY

FN 211 Financial Markets

Class 1: Introduction

Win Phromphaet, CFA

Today's Outline

- Introduction
- Overview of Financial System
- Overview of Financial Assets
- Overview of Financial Markets
- Overview of Financial Institutions

Introduction

About Me

- Name: Win Phromphaet, CFA
- Education:
  - B.A. Econ (International Program)
    Thammasat University
  - MBA (Finance), Rotterdam School of Management, Erasmus University, the Netherlands, sponsored by the Royal Thai Government Scholarship
  - Chartered Financial Analyst
- Now:
  - Head of Global and Real Estate Investments,
    Social Security Office
  - Treasurer, CFA Society of Thailand

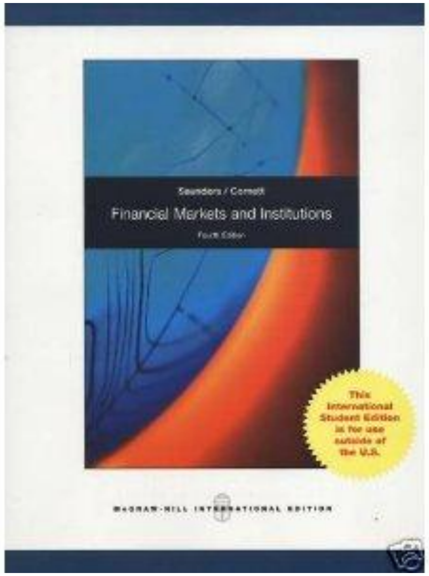
Introduce Yourself

1. Nickname, hometown, high school?
2. Your favorite subject of the BE program and why?
3. What do you enjoy doing in your free time?

Introduction

Grading

• Class Attendance and Participation	15%
• Case Studies	20%
• Midterm Exam	25%
• Final Exam	40%



Textbook: *Saunders and Cornett (2008), Financial Markets and Institutions, 4th Edition, McGraw-Hill: New York: NY.*

Your Financial Calculator

Recommended Calculators:

Texas Instruments BAII Plus *or*

Texas Instruments BAII Plus Professional:

- Highly recommended if you want to pursue your career in business or finance
- These are 2 out of 4 required models to sit for the CFA exam.
- The other 2 are HP12C and HP12C Platinum which are, for many people, more difficult to use.
- Very practical, but quite expensive
(Around 1,700 for ordinary model and 2,500 baht for professional model at B2S)
- The Professional model has 5 more functions.
I personally think that they do not justify a much higher price.

The World of Finance

Banks

Brokers

Dealers

Bond Market

Stock Market

Companies ← $ — Banks / Brokers / Dealers / Bond Market / Stock Market — ← $ *Investors*

FN 311

Tools for CFOs

FN 211

Markets and intermediaries

FN 312

Tools for investors

Today's Outline

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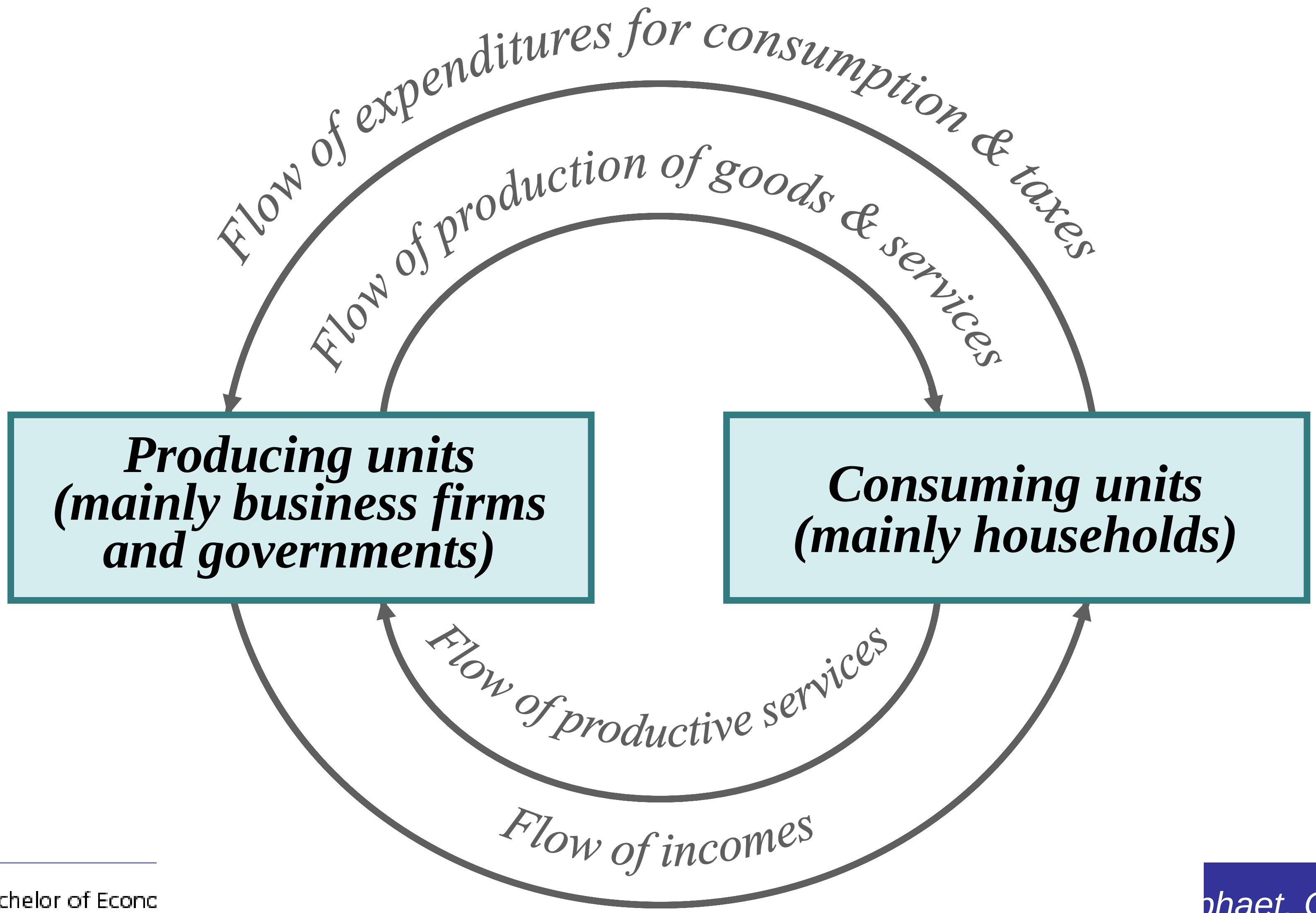
- Overview of Financial System
- Overview of Financial Assets
- Overview of Financial Markets
- Overview of Financial Institutions

Overview of Financial System

- The *financial system* is the collection of markets, institutions, laws, regulations, and techniques through which bonds, stocks, and other securities are traded, interest rates are determined, and financial services are produced and delivered around the world.

- The primary task of the financial system is to move scarce loanable funds from those who save to those who borrow to buy goods and services and to make investments in new equipment and facilities, so that the global economy can grow and the standard of living can increase.

Circular Flow of Income, Payments, and Production in the Global Economic System



Functions Performed by the Financial System

- *Savings function.* (= flow) The global system of financial markets and institutions provides a channel for the public's savings.

- *Wealth function.* The financial instruments sold in the money and capital markets provide an excellent way to store wealth (accumulated savings = stock) until funds are needed for spending.

Functions Performed by the Financial System

Wealth function:

$$W_t = \Sigma_i A_{it}$$

- Wealth is the sum of the values of all individual assets held. Wealth is built up over time by a combination of current savings plus income earned on previously accumulated wealth.

$$\Delta W_t = S_t + (r_t * W_{t-1})$$

- ΔW_t is the change in wealth in the current period
- S_t is the volume of current savings
- r_t is the average rate of return on accumulated assets
- W_{t-1} is the initial value of all accumulated wealth held

Functions Performed by the Financial System

Wealth function (Cont.)

- The portion of wealth held by society in the form of financial wealth (stocks, bonds, deposits, etc.) is substantial.

  Total Financial Assets – Debt = Net Financial Wealth

  US$79 – 19 = 60 trillion

- Wealth holdings represent stored purchasing power that will be used in future periods as income to finance purchases of goods and services and to increase society's standard of living. => *Pension Fund*

Functions Performed by the Financial System

Wealth function (Cont.)

- Income is created by the rate of return (r_t) that current wealth holdings (W_{t-1}) generate for their owners

$$Y_t = r_t * W_{t-1}$$

- In turn, that wealth-created income leads to both increased consumption spending (C_t) and to new savings (S_t);

$$Y_t = C_t + S_t$$

- resulting in a higher standard of living for those who hold wealth in income-generating forms.

Functions Performed by the Financial System

- *Liquidity function.* Financial markets provide liquidity for savers who hold financial instruments but are in need of money.

- *Credit function.* Global financial markets provide credit to finance consumption and investment spending.

- *Payments function.* The global financial system provides a mechanism for making payments for goods and services: checking account, credit cards, electronic payments.

Functions Performed by the Financial System

- *Risk protection function.* The financial markets around the world offer businesses, consumers, and governments protection against life, health, property, and income risks.

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The Creation of Financial Assets

A *financial asset* is …

- a *claim* against the income or wealth of a business firm, household, or unit of government,
- represented usually by a certificate, receipt, computer record file, or other legal document,
- and usually created by or related to the lending of money.

The Creation of Financial Assets


มูลค่าหุ้นละ 10 บาท
Par Value of 10 Baht Each
ชำระค่าหุ้นเต็มมูลค่าแล้ว
Fully Paid Up

บมจ. ธนาคารกสิกรไทย
Thai Farmers Bank
Public Company Limited

ใบหุ้นสามัญ
Ordinary Share

จดทะเบียนเป็นบริษัทมหาชนจำกัด เมื่อวันที่ 13 พฤษภาคม 2536
Registered as a Public Company Limited on May 13, 1993
เลขทะเบียน บมจ. 105
Public Company Limited Registration No. 105

ชำระอากรแล้ว
Stamp Duties Paid

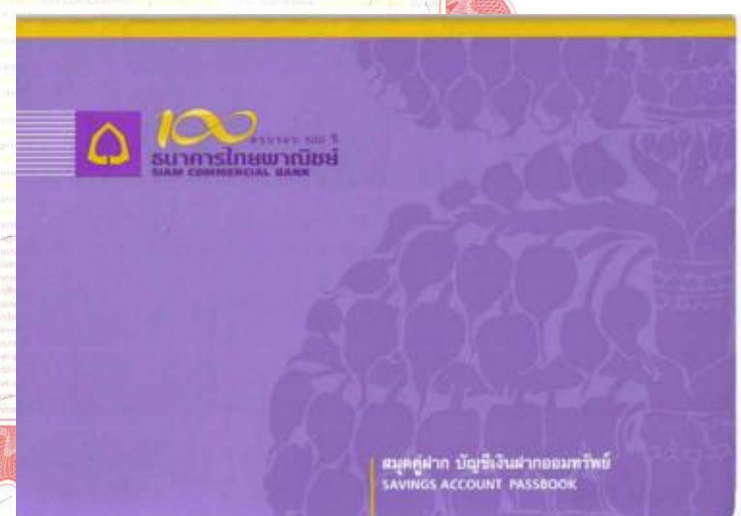
ชื่อผู้ถือหุ้น
Name of the Shareholder

เลขทะเบียนผู้ถือหุ้น 6009383574
Shareholder Registration No.
จำนวนหุ้น -200-
No. of Shares
เลขที่ใบหุ้น 00160100020391
Certificate No.

วันที่ออกใบหุ้น 28 ตุลาคม 2542
Date of Issuance

กรรมการ / นายทะเบียน
Director / Registrar

120391*



Characteristics of Financial Assets

- Financial assets are sought after because they promise *future* returns to their owners and serve as a *store of value* (purchasing power).
- Financial assets do not provide a continuing stream of services to their owners as a home, a car or washing machine would do. Their value rests on *faith* that their issuer will honor his or her contractual promise to pay.

Characteristics of Financial Assets

- They do not *depreciate* like physical goods, and their physical condition or form is usually not relevant in determining their market value.
  - *A stock certificate is not more or less valuable because of the size or quality of paper it is printed on.*
- Their cost of transportation and storage is low, such that they have little or no value as a commodity.
- Financial assets are *fungible* – they can easily be changed in form and substituted for other assets.
  - *A bond or a share of stock can be quickly converted into any other asset the holder desires.*

Different Kinds of Financial Assets

- Any financial asset that is generally accepted in payment for the purchases of goods and services is a form of *money*. Examples include currency and checking accounts.

- *Equities* represent ownership shares in a business firm and are claims against the firm's profits and proceeds from the sale of its assets. *Common stock* and *preferred stock* are equities.

What is Money?

Broad Money

Narrow Money

Currency *(notes and coins)* + ***Transferable deposits*** *in the banking system*

+

Savings and time deposits *in the banking system*

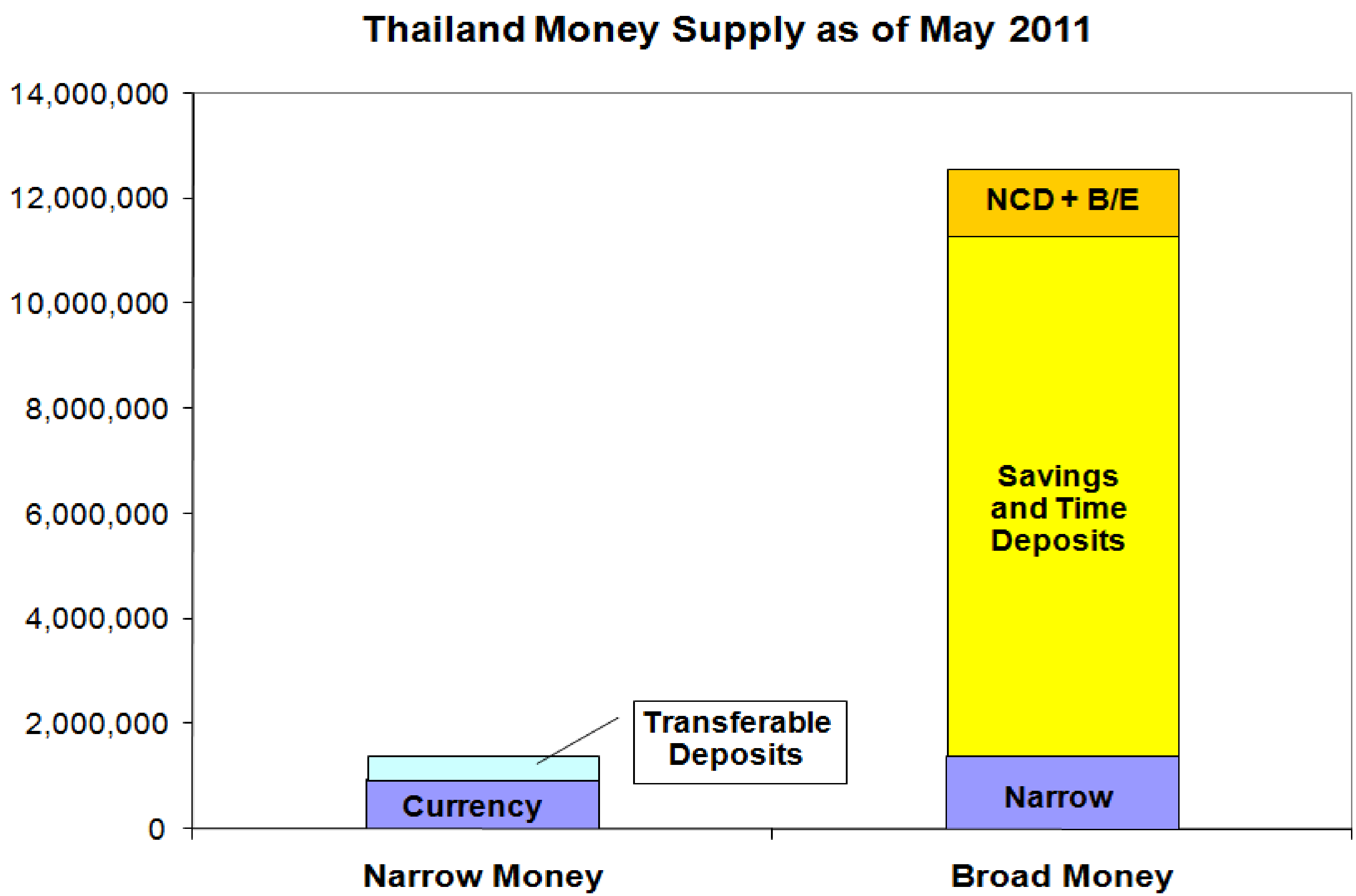
Negotiated Certificate of Deposit (NCD)

Bill of Exchange (B/E) *issued by banks*

Source: Bank of Thailand

**Transferable deposits = เงินฝากกระแสรายวัน*

What is Money?



Source: *http://www2.bot.or.th/statistics/BOTWEBSTAT.aspx?reportID=7&language=ENG*

Different Kinds of Financial Assets

Debt securities entitle their holders to a priority claim over the holders of equities to the assets and income of an economic unit. They are either negotiable or nonnegotiable.

- Examples include bonds, notes, accounts payable, and savings deposits.

Negotiable – can easily be transferred from holder to holder as a marketable security.

- Example: government bonds, corporate bonds.

Nonnegotiable – cannot legally be transferred to another party.

- Example: passbook savings, government savings bonds.

Different Kinds of Financial Assets

Derivative is a financial security whose payoff is linked to another, previously issued security.

- *It generally involves an agreement between two parties to exchange a standard quantity of an asset or cash flow at a predetermined price and a specified date in the future.*

- Futures/Forwards are contracts to buy or sell an asset on or before a future date at a price specified today.
  - *A futures contract is a standardized contract traded in an exchange,*
  - *A forward contract is a non-standardized contract written by the parties themselves.*
- Options are contracts that give the owner the right, but not the obligation, to buy or sell an asset.
- Swaps are contracts to exchange cash (flows) on or before a specified future date based on the underlying value of currencies/exchange rates, bonds/interest rates, commodities, stocks or other assets.

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Overview of Financial Markets

- The financial markets are structures through which funds flow.
  - Financial markets make possible the *exchange of current income for future income* and the *transformation of savings into investment* so that production, employment, and income can grow.
  - The suppliers of funds to the financial system can expect not only to recover their original funds but also to earn additional income as a reward for waiting and for assuming risk.

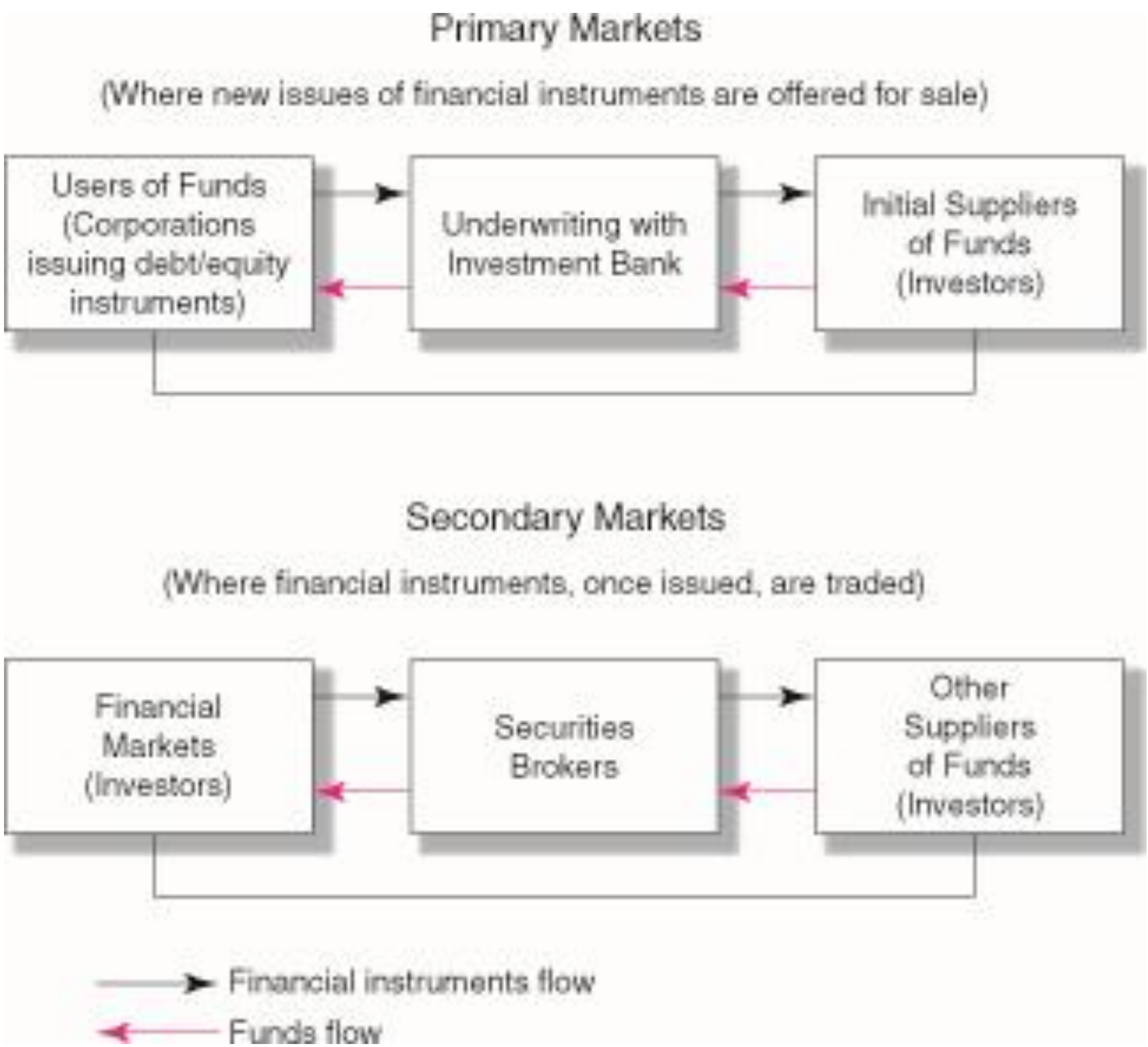
Types of Financial Markets

Primary vs. Secondary

- *Primary markets* are markets in which users of funds (e.g., corporations and governments) raise funds by issuing financial instruments (e.g., stocks and bonds).
  - Most transactions are arranged through investment banks and can be either
    - Public Offering (initial PO or seasoned PO)
    - Private Placement

- *Secondary markets* are markets where financial instruments are traded among investors (e.g., Stock Exchange of Thailand, NYSE and NASDAQ)
  - Provide information about the current market value for the issuers.

Types of Financial Markets



Types of Financial Markets

Money vs. Capital Markets

- *Money markets* are markets that trade instruments with maturities of *one year of less*.
  - where individuals and institutions with temporary surpluses of funds meet the needs of those who have temporary shortages of funds.
  - *Instruments include Treasury bills, repurchase agreements, interbank loans, commercial papers, and bills of exchange.*

- *Capital markets* are markets that trade instruments with maturities of *more than one year*.
  - These securities finance long-term investments (such as factories, highways, schools, homes, etc.) by businesses, governments, and households.
  - *Instruments include mortgage loans, consumer loans, government bonds, corporate bonds and corporate stock.*

Primary or Secondary Market?

Google issues $300 million of new common stock.	
GE issues $500 million of 5-year bonds.	
Mary sells $5,000 of GM stock through her broker.	
Linda buys 10 futures contracts from an exchange.	
ABC Pension Fund sells $10 million of Intel stock.	

Money or Capital Market?

Commercial Paper	
Treasury Bills	
Common Stock	
Government Bonds	
Repurchase Agreements	

Types of Financial Markets

<u>Foreign Exchange Market</u>

- *Foreign Exchange Market* is a worldwide decentralized over-the-counter financial market for the trading of currencies.
  - The primary purpose of the foreign exchange market is to assist international trade and investment, by allowing businesses to convert one currency to another currency.
  - It also helps determine the relative values of different currencies.
  - Average daily turnover in global foreign exchange markets is estimated at $4.0 trillion, as of April 2010.
    - *$1.5 in spot, $0.5 in forwards, $1.8 in swaps, $0.2 in options*
  - Top-3 most traded currencies are USD (86%), EUR (37%), JPY (17%)

Types of Financial Markets

Exchange vs. Over-the-counter

- *Exchange* is an entity which provides trading facilities for investors to trade stocks and other securities through *brokers*.
  - It is also called *Auction Market*.
  - *Example: NYSE, The Stock Exchange of Thailand (SET), Bond Electronic Exchange (BEX)*

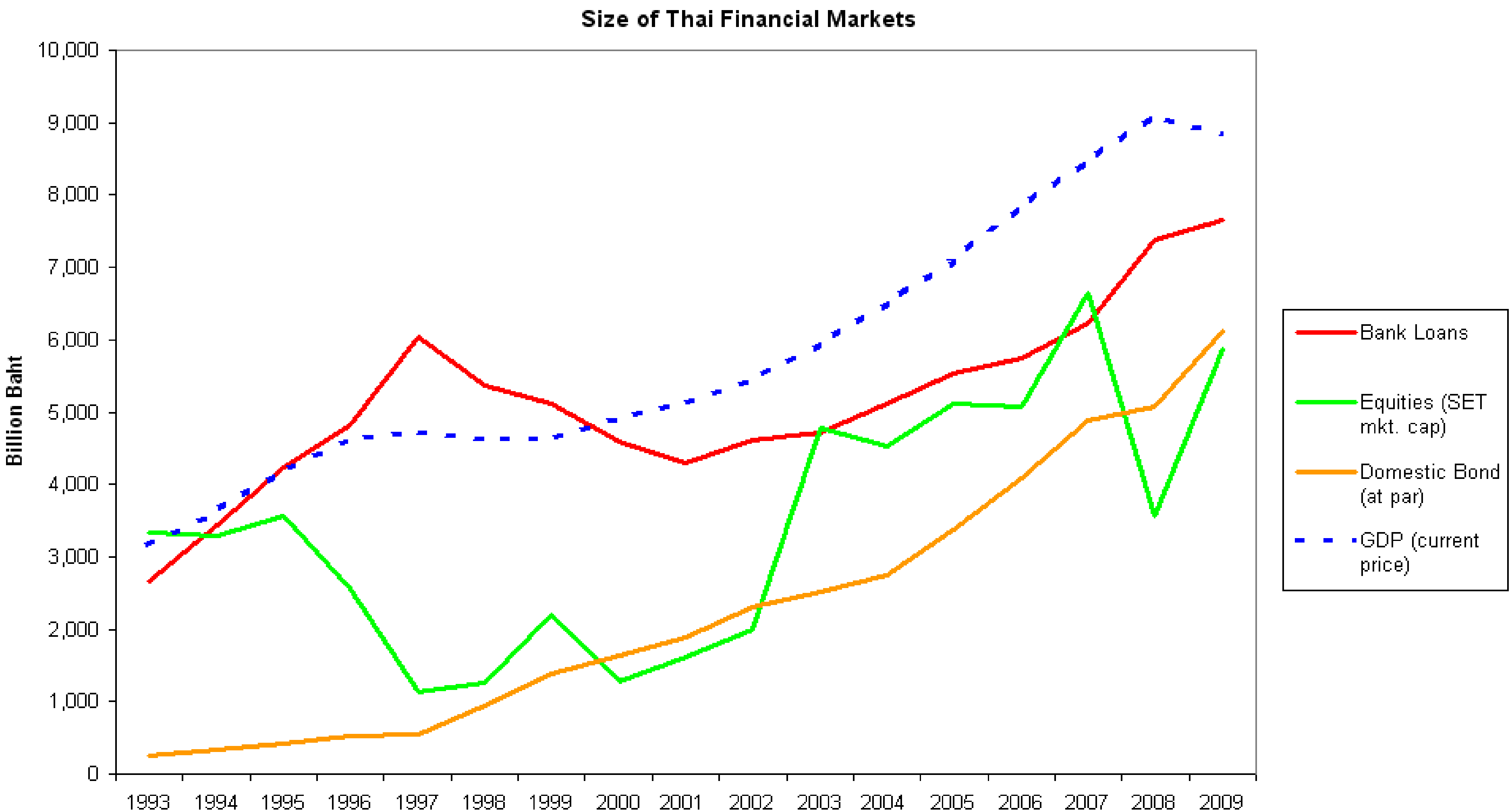
- *Over-the-counter (OTC)* or off-exchange trading is to trade financial instruments directly between two parties.
  - The *dealers* hold an inventory of the security in which they "make a market". They stand ready to buy or sell with market participants.
  - These dealers earn profits through the spread between the prices at which they buy and sell securities.
  - It is also called *Dealer Market*.
  - *Examples: NASDAQ, the Thai bond market*

Types of Financial Markets

Derivative Security Markets are markets in which derivative securities trade.

- *Futures and Options* are traded on exchanges
  - *Example: Thailand Futures Exchange (TFEX), Chicago Board of Trade (CBT), Chicago Mercantile Exchange (CME), New York Mercantile Exchange (NYMEX)*
- *Forwards and Swaps*, since they are not standardized, can be traded in OTC markets.

Size of the Thai Financial Markets (billion baht)

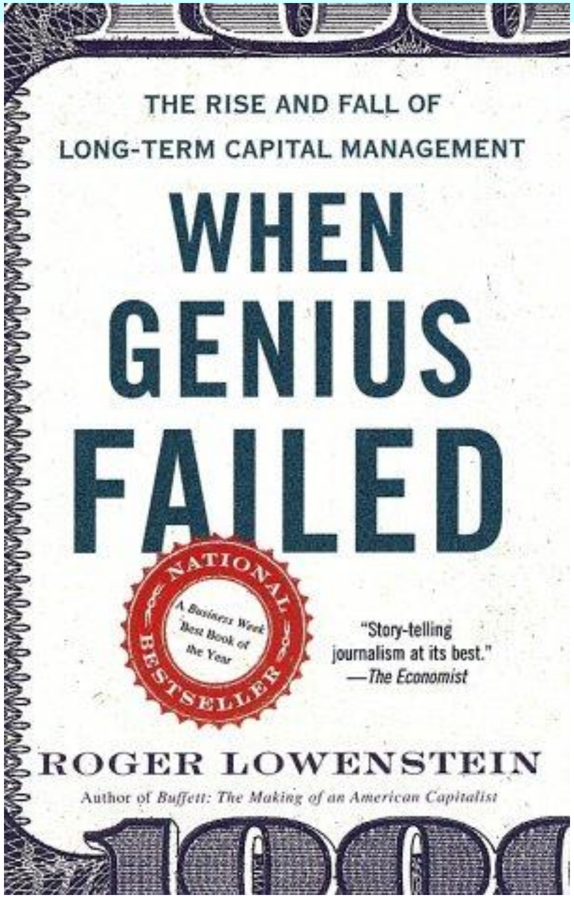


Source: *http://www.thaibma.or.th/fact_figure/primary_market.htm#Size*

Factors Tying All Financial Markets Together

- *Credit, the Common Commodity.* Borrowers can switch from one market to another, seeking the most favorable credit terms wherever they can be found. This helps bring the credit costs in the different markets into balance with one another.
- *Speculation and Arbitrage.*
  - Speculators are risk seekers who are willing to gamble their funds even when the probability of success is low. They help level out the prices of securities
    - *Buy underpriced securities with hope that prices will go up*
  - Arbitrageurs make profit when prices of securities in different markets appear to be out of line with each other. They help maintain consistent prices between markets.
    - *Long underpriced securities <u>and</u> short overpriced securities with hope that prices will converge*

Recommended Reading



Long-Term Capital Management (LTCM)

- was a U.S. hedge fund which used trading strategies (such as *fixed income arbitrage*) combined with high leverage.
- It failed spectacularly in the late 1990s, leading to a massive bailout by other major banks and investment houses.

Fixed Income Arbitrage

- *Buying* the cheaper 'off-the-run' bond (the 29.75 year old bond) and *shorting* the more expensive, but more liquid, 'on-the-run' bond (the 30 year bond just issued by the Treasury), it would be possible to make a profit as the difference in the value of the bonds narrowed.

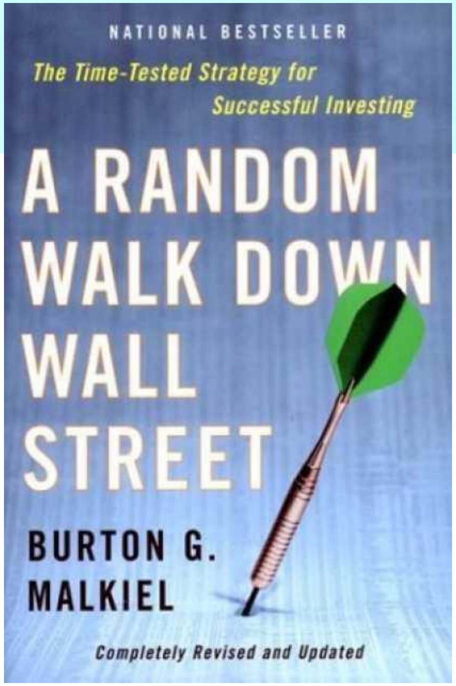
Factors Tying All Financial Markets Together

- *Perfect and Efficient Markets.*
  - A market is perfect if transaction cost is zero or near zero and all market participants are price takers. No significant government restrictions on trading.
    - *No financial market today is perfect, although many of them are quite close to being perfect.*
  - A market is efficient if prices fully reflect the latest available information. No buyer or seller can expect to reap excess profits from collecting information that is readily available in the market and then trading on the basis of that information.
    - *Studies suggest that many financial markets are close to being efficient.*

Recommended Reading

- Burton Malkiel, professor of economics at Princeton, is a leading proponent of the efficient market hypothesis.
- He contends that prices of publicly traded assets reflect all publicly available information.
    - *In other words, a "blindfolded monkey" would have as much luck selecting a portfolio as a pro.*

- Since stock prices cannot be predicted in the short term, investors are better off buying and holding onto index funds than meddling with securities or actively managing mutual funds.



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Overview of Financial Institutions

- Institutions that perform the essential function of channeling funds from those with surplus funds to those with shortages of funds.
- Examples are banks, insurance companies, securities firms and investment banks, finance companies, mutual funds, pension funds, etc.

Classification of Financial Institutions

- *Depository institutions* derive the bulk of their loanable funds from deposit accounts sold to the public.
  - Commercial banks, credit unions.
- *Contractual institutions* attract funds by offering legal contracts to protect the saver against risk.
  - Insurance companies, pension funds.
- *Investment institutions* sell shares to the public and invest the proceeds in stocks, bonds, and other assets.
  - Mutual funds, money market funds, real estate investment trusts (REITs).

Types of Financial Institutions

- Commercial banks
  - depository institutions whose major assets are loans and major liabilities are deposits
- Insurance companies
  - financial institutions that protect individuals and corporations from adverse events

Types of Financial Institutions

- Securities firms and investment banks
  - financial institutions that underwrite securities and engage in securities brokerage and trading
- Finance companies
  - financial institutions that make loans to individuals and businesses
- Credit Foncier
  - financial institutions that make loans to real estate businesses.

Types of Financial Institutions

- Mutual Funds
  - financial institutions that pool financial resources and invest in diversified portfolios

krungsri Asset Management

- Pension Funds
  - financial institutions that offer savings plans for retirement

สำนักงานประกันสังคม Social Security Office

กองทุนบำเหน็จบำนาญข้าราชการ

Services Performed by Financial Institutions

- Monitoring Costs
  - FIs can hire employees with superior skills and training who will collect information and monitor the ultimate fund users on behalf of the fund suppliers.
  - This helps alleviate the free-rider problem that exists when small fund suppliers leave it to each other to collect information and monitor a fund user.
  - In an economic sense, fund suppliers have appointed FI as a delegated monitor to act on their behalf.

- Liquidity and Price Risk
  - FIs act as asset transformer by issuing secondary securities which are very liquid, with low risk of default, to make loans or buy stocks and bonds which are less liquid and has higher risk of default.

Services Performed by Financial Institutions

- Maturity Intermediation
  - FIs have ability to provide long-term loans while still raising funds with short-term liability contracts such as deposits.

- Denomination Intermediation
  - FIs issue secondary securities which have small denomination for small savers and, in turn, make loans or buy stocks and bonds in large denomination.

- Money Supply Transmission
  - Since bank deposits are a significant component of the money supply, FIs play a key role in the transmission of monetary policy from the central bank.

Services Performed by Financial Institutions

- Credit Allocation
  - Policy makers may want to finance particular sectors (BAAC for farmers, GHB for home buyers, SME Bank for SMEs, etc.)
- Intergenerational Wealth Transfers
  - life insurance companies and pension funds provide savers with the ability to transfer wealth from their youth to old age as well as from one generation to the next.
- Payment Services
  - Check-clearing and wire transfer services

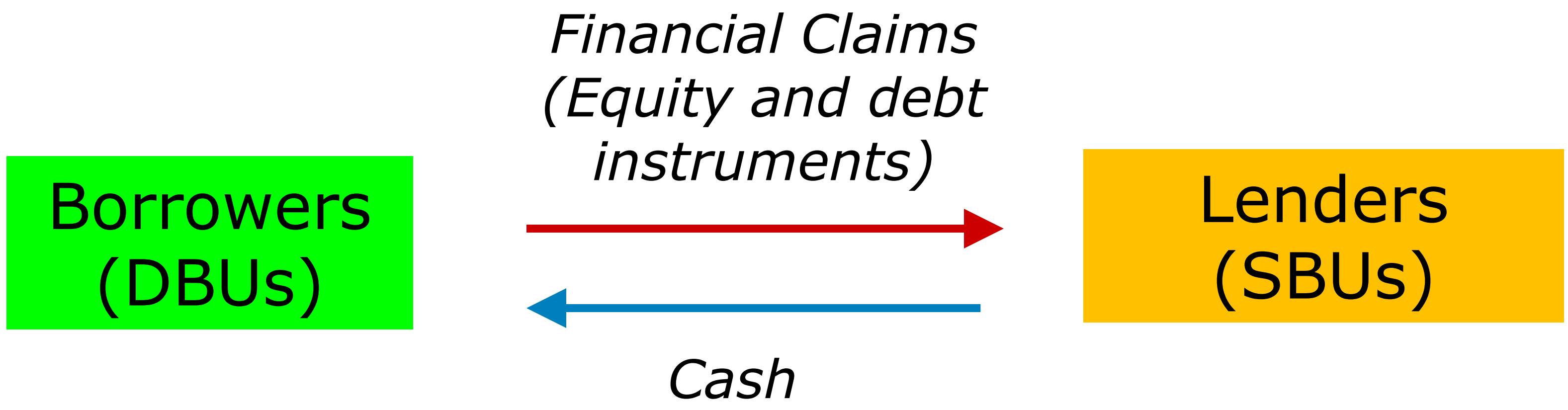
WESTERN UNION
moving money for better

The Evolution of Financial Transactions

- Financial systems change constantly in response to shifting demands from the public, the development of new technology, and changes in laws and regulations.
- Over time, the ways of carrying out financial transactions have evolved in complexity.
- In particular, the transfer of funds from savers to borrowers can be accomplished in at least three different ways.

The Evolution of Financial Transactions

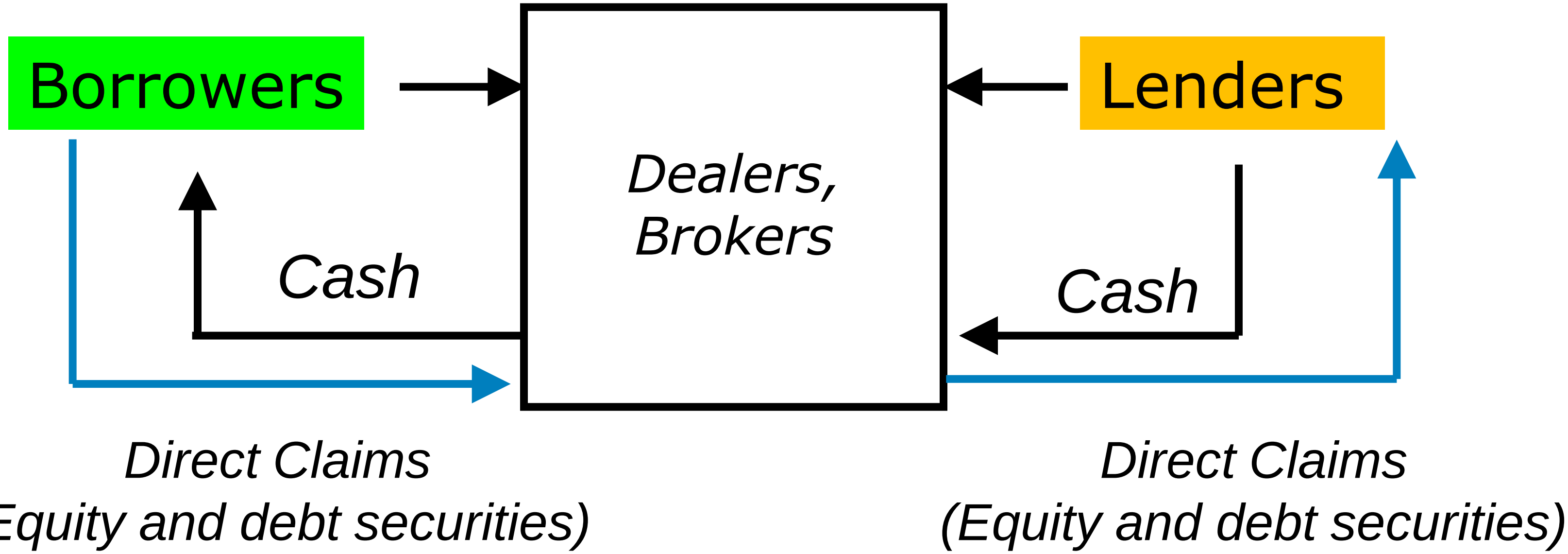
Direct Finance – Direct lending gives rise to direct claims against borrowers.



- *Both borrower and lender must desire to exchange the same amount of funds at the same time.*
- *The lender must be willing to accept the borrower's IOU, which may be risky.*
- *This incurs substantial information costs, simply to find each other.*
- *Example: **borrow money from a friend** and give him or her your IOU, purchase stocks or bonds directly from the issuing company.*

The Evolution of Financial Transactions

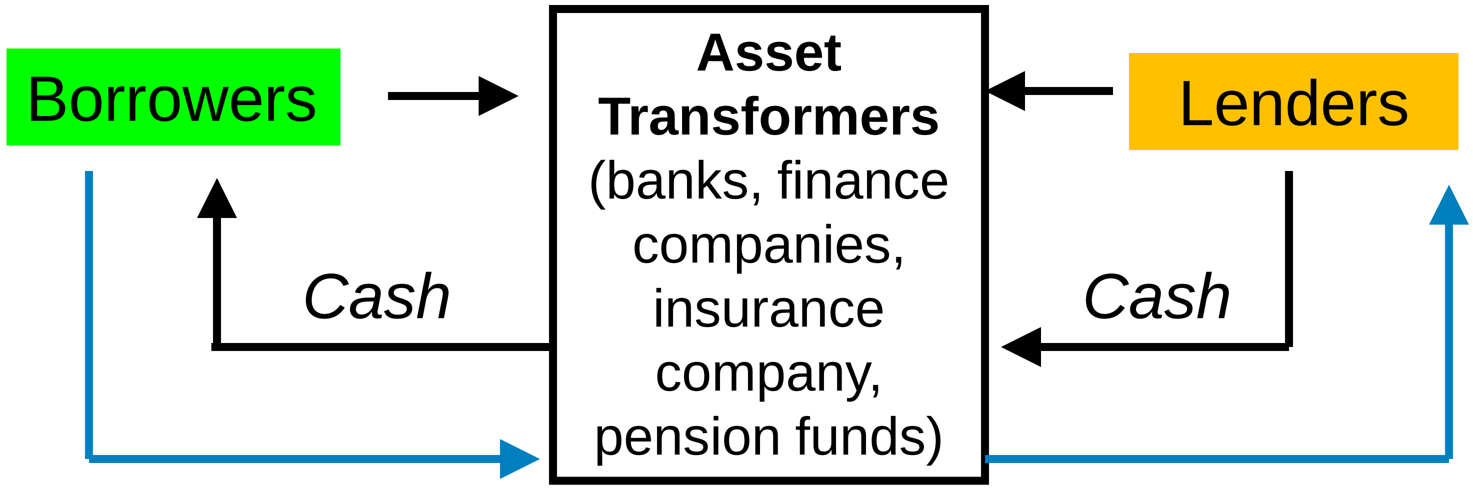
Semidirect Finance – Direct lending with the aid of market makers who assist in the sale of direct claims against borrowers.



- *Brokers – match buyers and sellers*
- *Dealers – acquire securities from sellers (take position of risk) with hope to sell to buyers later at better price.*
- *Lower information (search) cost. Lenders must be willing to take risk.*
- *Example – **buy stocks and bonds from brokers/dealers in primary markets***

The Evolution of Financial Transactions

Indirect Finance – Financial intermediation of funds.



Direct Claims/Primary Sec.
(Equity and debt securities)

Indirect Claims/Secondary Sec.
(Deposits and insurance policies)

- *Asset transformers offering low risk, indirect claims with small denominations to lenders while granting higher risk, more illiquid investments (e.g., loans) to borrowers*
- *Example: **buy insurance policy**, deposit money at a bank*

Direct, Semi-direct or Indirect Finance?

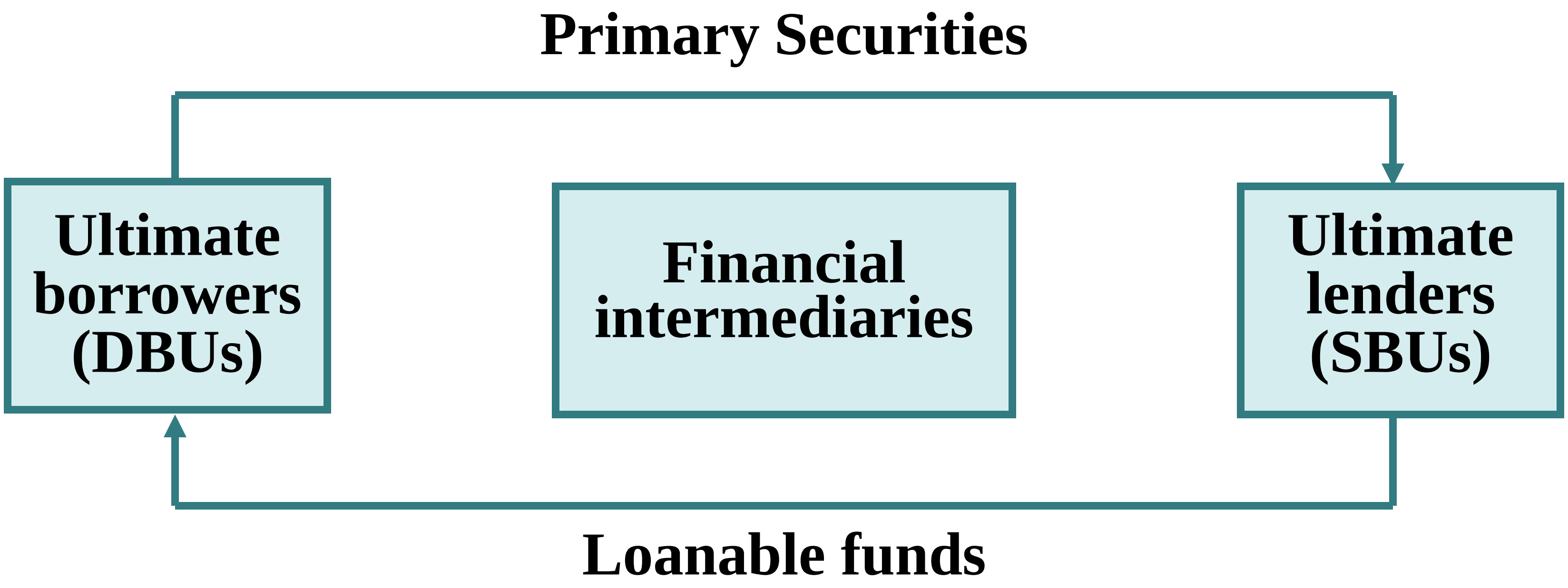
Borrowing money from a bank	
Purchasing a life insurance policy	
Selling shares of stock through a broker	
Withdrawing money from a savings deposit account and lending it to a friend	
Selling shares of stock to a colleague at work	
purchase stock from your broker	
Your corporation's contracting with an investment banker to help sell its bonds	

Disintermediation of Funds

- *Disintermediation* refers to the withdrawal of funds from a financial intermediary by the ultimate lenders (SBUs) and the lending of those funds directly to the ultimate borrowers (DBUs).
- Disintermediation involves the shifting of funds from indirect finance to direct and semidirect finance.

Disintermediation of Funds

Financial Disintermediation

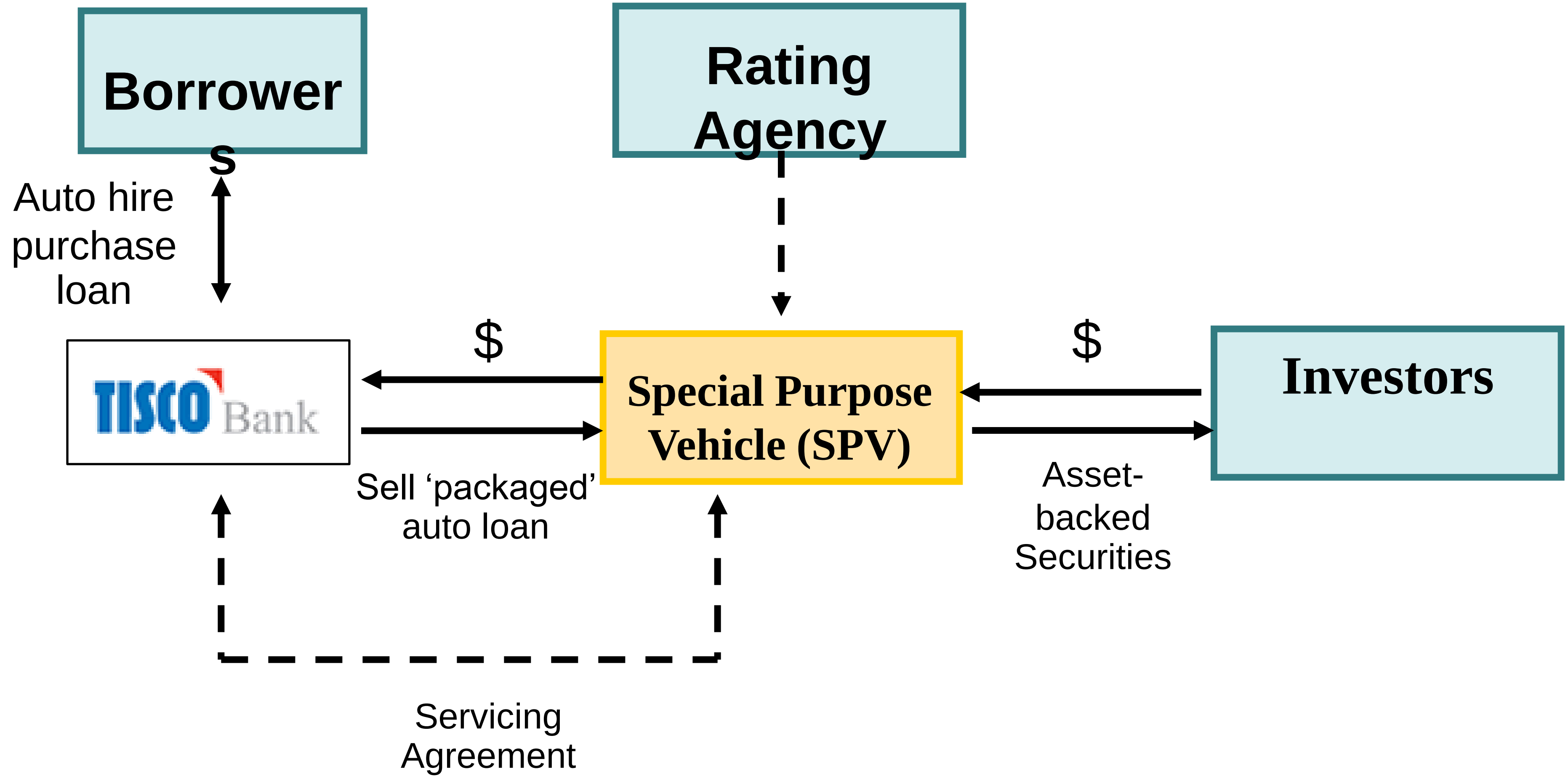


Disintermediation of Funds

- Some new forms of disintermediation have appeared in recent years.
  - **Initiation by financial intermediaries:** Some banks sold off some of their loans (such as credit cards, auto hire purchase, etc.) because of difficulties in raising capital.
  - **Initiation by borrowing customers**: Some borrowing customers learned how to raise funds directly from the open market.

Disintermediation of Funds: Example

Asset-Backed Securitization



Bank-Dominated Versus Security-Dominated Financial Systems

- Lesser-developed financial systems are often *bank-dominated financial systems*, in which banks and other similar institutions dominate in supplying credit and attracting savings.

- The more mature systems today are becoming *security-dominated financial systems*, in which traditional intermediaries play lesser roles and growing numbers of borrowers sell securities to the public to raise the funds they need.

The World of Securitization

Basic or Pass-through

Mortgage-backed securities (MBS)
- Residential
- Commercial

Asset-backed securities (ABS)
- Home Equity Loans
- Auto Loans
- Credit Card
- Student Loans

Structured

Collateralized debt obligations (CDO)

The World of Securitization

Mortgage-backed securities (MBS)

- **Government National Mortgage Association (Ginnie Mae)**

  (backed by the full faith and credit of the U.S. government)

- **Federal Home Loan Mortgage Corporation (Freddie Mac)**

  Federal National Mortgage Association (Fannie Mae)

  (U.S. government-sponsored enterprises)

- **private-label**