EE431: Topic 1. Financial Assets and Overview of Financial Market

Federic Mishkin, The Economics of Money, Banking and Financial Markets
Chapter 1 - 3, HG173 .M57 2007
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1 Introduction

- Money is not, properly speaking, one of the subjects of commerce; but only the instrument which men have agreed upon to facilitate the exchange of one commodity for another. It is not the wheels of trade: It is the oil which renders the wheels more smooth and easy." David Hume, Of Money , 1752.
  - Money is anything that is accepted in payment for goods and services or in the repayments of debts
  - Throughout the history of the world, many things have served as money: gold, silver, cows, horses, cigarettes, and more.
- Money Supply and Price Level : too much money supply or too little money supply
- Money supply in the economy is huge; burning money, slightly lower prices to everybody in the world who owned some British pounds
- Money = things you could buy with money? ; for individual, it is; for a society, it's not.
- All that is necessary for money to have value is for everyone to believe that it has value.

1.1 Functions of Money

- Function of money

  1. The medium of exchange -> purchasing power through space - from one situation (doing the laudry) to another situation (buying a computer)
  2. The store of value -> purchasing power through time.
  3. unit of account -> what would be the most helpful way to think about what you have? -> to find out what unit of acount is stable relative to the kind of things you want to buy.
     - For example, salt was used in early contracts—it's the basis of the word "salary". and it seems likely that Roman soldiers were originally paid in salt. This makes sense, because salt had a very stable value. The demand for salt is stable, because everybody needs a bit, but nobody wants a lot; the supply of salt, meanwhile, was also stable because it was produced by age-old techniques. If both supply and demand are stable, so is the price—and price stability is just what you need in your unit of account.
     - We usually used the gold standard. Price of gold was collapsing.
     - One could tell a similar story about Bitcoin, a decentralized electronic "currency." Bitcoin was developed in 2008 by a mysterious person or group of people with the pseudonym Satoshi Nakamoto. He, she or they developed a way by which Bitcoins could be produced, or mined, slowly—a bit like gold. Some people love Bitcoin for the same reason that some people love gold–it's independent from any government, and there's a hard limit on how many Bitcoins can ever exist. But just like gold, Bitcoin is not money for a very simple reason: it's far too volatile. On April 10, 2013, for instance, the price of Bitcoins dropped by 61 percent. Again, Bitcoins may prove to be a smart long-term investment. But they aren't money. Maybe that's obvious to you, but there are a lot of gold -and -Bitcoin enthusiasts out there who don't seem to have realized this.
     - This does suggest, though, that a dollar isn't automatically money either—it's only money if it keeps a reasonably stable value.
     - Another example is when the dollar wasn't good enough money to use in contracts to pay the soldiers fighting for Massachusetts in the U.S. Revolutionary War. The Continental Congress, the body which that issued the Declaration of Independence, was printing money but nobody

knew how much it might be worth when the war was over—and indeed it turned out to be worth very little. So Massachusetts promised its soldiers the value of 68 4/7 poundslb of beef, 16 poundslb of leather, 5 bushels of corn, and 10 poundslb of wood, at the end of the war. Note that Massachusetts wasn't actually proposing to hand sacks of produce to each soldier—they would be paid in cash. The point was that promises of any specific amount of cash were hard to weigh up. By offering cash to the value of this portfolio of commodities, Massachusetts discovered a way of making that promise comprehensible in a chaotic environment.

- suggested podcast : https://www.stlouisfed.org/education/economic-lowdown-podcast-series/episode-9-functions-of-money

1.2 Money, Wealth and Income

- Money refers to what is actually accepted as payment for goods, services, and debts.
- Income refers to earnings during a period of time, such as a year.
- Wealth refers to the accumulated assets/property at a point is time.
- What's this difference?

  Example:

  - If I own \$2 million worth of diamonds but no cash or bank accounts
  - I am wealthy but I do not have any money.
  - Suppose you win a \$25 million lottery prize which you take as a lump sum, put the cash under your bed, and then quit your job.
    * You would be wealthy, you would have a lot of money, but your income will be zero.
  - Suppose a computer genius in Silicon Valley blows all of his income every year on food, parties, vacations even though he earning \$250,000 per year.
    * He has a high income, but is not wealthy if he has accumulated no assets.

1.3 Real Assets and Financial Assets

- **A real asset** is an entity that generates a flow of goods or services over time; example, land, people, factories, inventions, business plans, goodwill, reputation, need not be tangible.

- **A financial asset** is a legal contract that gives its owner a claim to payments. Examples include currency ($), stocks, bonds, bank deposits,bank loans, etc

  - Market is the interaction between buyers and sellers
  - Financial market is a market for financial assets

  Financial markets and financial intermediaries perform the function of channeling funds from agents who have saved funds and want to lend to agents who need funds and want to borrow.

  Financial asset is promise to repay cash (or any valuables) in the future, an asset that derives value because of a contractual claim.

- Other words, financial products, financial claims, securities

  - Financial asset is different from general goods and services
  - its price depends on “future return” “risk” and “liquidity
  - “rate of return”, unit = percent
  - Stock A, price = $100, expected to rise by $10, Stock B, price = $10, expected to rise by $2

- Consider the following news/ article.

Oil prices jump and stocks slide on escalating US-Iran tensions

Crude climbs 3% after top Iranian military commander killed in Iraq

Adam Samson in London, **Alice Woodhouse** in Hong Kong and **Matthew Rocco** in New York

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Oil prices jumped while global stocks fell on Friday after the US killed a top Iranian military commander in an air strike, shoving geopolitics to the top of investors' agenda for the new year.

Brent crude jumped 3.5 per cent to more than $68 a barrel, putting the international oil benchmark on track for its biggest gain in a month.

US stocks dropped as the S&P 500 slid 0.7 per cent — though better than a fall of 1.1 per cent in early morning trading. The Dow Jones Industrial Average and Nasdaq Composite also clawed back a portion of their losses in afternoon trading and were each down 0.8 per cent.

The pullback on Wall Street came a day after stocks began the new year with record highs. It also pulled the S&P 500 into negative territory for the week, snapping the benchmark's five-week winning streak.

US-Iran tensions bring risk back to markets

Muted reaction in asset prices suggests investors are too complacent

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The killing of Qassem Soleimani has led to a reassessment of risk: oil prices have risen to $70 a barrel, gold is at its highest price for seven years and equity markets have sold off © Haider Mohammed/AFP/Getty

The editorial board JANUARY 7 2020 15

It took just three days for the end of year rally in financial markets to meet a harsh reality in 2020. The assassination of Qassem Soleimani, the key Iranian general, in a US air strike has led to a reassessment of risk: oil prices have risen to $70 a barrel, gold is at its highest price for seven years and equity markets have sold off across the world. Haven assets, such as government bonds and the Japanese yen, have rallied.

"You wanted to talk to me about money. I did indeed. Let me test your reaction to the following story:

On 22 August 22, 1994, two retired musicians, **Bill Drummond and Jimmy Cauty, flew to Jura**, in the Inner Hebrides off the west coast of Scotland. They **brought with them a cameraman, a journalist** (Jim Reid of The Observer) **and twenty thousand £50 notes, bundled and tightly wrapped in plastic bags. A million pounds.** (It's worth about £1.5 million or $2.5 million in today's money.) Drummond and Cauty had, it is said, emptied their bank accounts to put the money together.

In the early hours of the next morning, **the four men travelled to a remote boathouse**, and with the rain hammering down outside, Cauty and Drummond made a small pile of these bundles of notes while the others acted as witnesses. Drummond and Cauty stripped out a £50 note each, **lit them with a cigarette lighter, and set the rest of the money ablaze.** When the dense blocks of cash would not catch, they pulled out the notes three or four at a time, crumpled them and threw them on the fire. The whole job took a couple of hours.

What a waste! Do you think so?

When Drummond and Cauty appeared as guests on a television chat show, Ireland's The Late Late Show, hosted by Gay Byrne, they got a hostile reception as they discussed their "art." There were sharp questions from Byrne, and the studio audience were was furious at the senseless destruction. Couldn't the men have given the money to a good cause instead?

Drummond protested: "If we'd gone and spent the money on swimming pools, Rolls Royces, I don't think people would be upset. It's because we've burned it that people are upset. And I know that this is a kind of corny thing to say and it doesn't really stand up but seeing as you're talking about the charity angle . . . us burning that money doesn't mean there's any less loaves of bread in the world, any less apples, any less anything. The only thing that's less, is a pile of paper."

At that point, Byrne challenged Drummond and said that there could have been more apples or bread in the world if they'd used the money wisely. The audience applauded Byrne and jeered Drummond as he tried to continue.

You're going to tell me Byrne was wrong and Drummond was correct. Am I right? .... "

Source: **"The Undercover Economist Strikes Back**" by Tim Harfords

1.4 Information Theory

1. Search goods: their quality is known ex ante
2. Experience goods :their quality is known ex post
3. Credence goods: their quality may never be established, even ex post

- Characteristics of financial assets : Topic 2 - 4
- Financial Institution : Topic 5
- Asymmetric information in the financial market : Topic 6 - 8
- Asymmetric information $\rightarrow$ market failure $\rightarrow$ role of financial intermediation and financial regulations

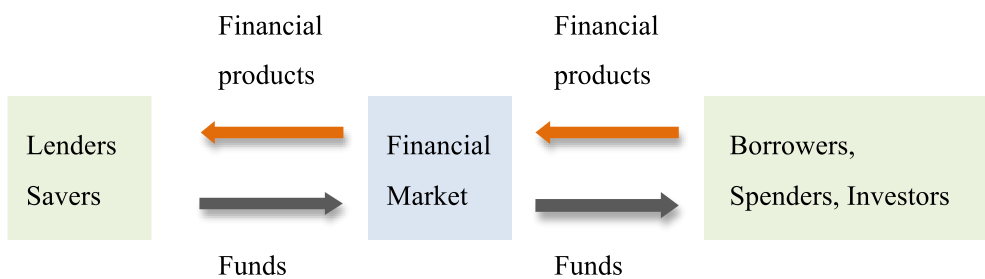
1.5 Other terminology

- Transaction in financial market promotes "saving" and "investment" : flow of funds from savers to investors
- direct investment VS. indirect investment
- economic investment VS financial investment
- We will mention “investment” and “investors” many times in this class.
- The term “investors” is often used loosely, and we will often use the term loosely in this class.
  - When a firm builds a factory or when a person buys a house, that is investment.
  - When a person buys stock, that is, strictly speaking, savings. However, the purchase of a share of stock is commonly called investment, and stockholders are called investor.

2 Flow of funds : borrowers (deficit spending unit), lenders (surplus spending unit)

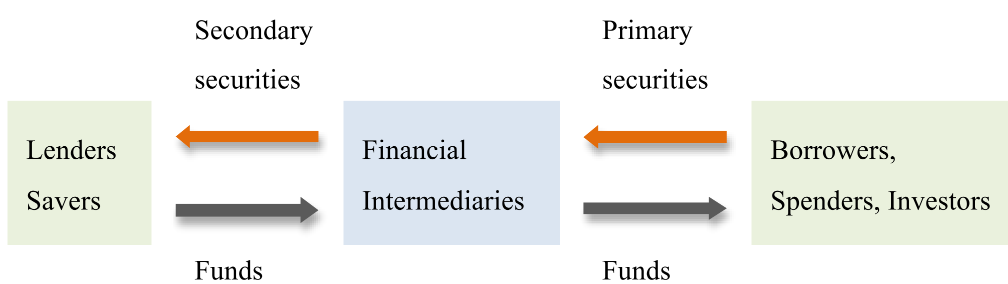
2.1 Direct Finance :

borrowers borrow funds directly from the lenders by selling them securities



2.2 Indirect Finance :

Financial intermediary stands between the lenders and the borrowers and help transfer funds from one to the other.



- ****** The main difference is about the function of financial institution. ******

- Financial institutions perform two main functions:

  1. to match transactors (like marriage brokers do)
  2. to manage risk and transform the nature of claims (qualitative asset transformation)

  - Banks make profits by selling liabilities (e.g. deposits) with one set of characteristics and using the proceeds to buy assets (e.g. loans) with a different set of characteristics.
  - Normally, banks borrows from short-dated deposits and lends through long-term loans.

Example : Direct (D) or Indirect (I) finance

- deposit money into a bank
- buy a newly issued bond from PTT PLC. at Kasikorn Bank
- buy a government bond at BOT
- buy an insurance plan from an insurance company
- give your friend a loan
- your friends put money into your business and both of you share in the profits (or losses) of the business

Note : Different roles of financial institutions.

- The process of indirect finance using financial intermediaries is called financial intermediation
- Financial Intermediaries are important because of transactions costs and asymmetric information

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Big banks

Chop chop

Why haven't banking giants got a lot smaller?

"Economists have long theorised about the relative merits of bank-based finance and market-based finance. For years it was taken for granted that financial systems dominated by banks, such as Germany's and Japan's, were better at mobilising capital and channelling it to the best uses than systems such as the United States' and Britain's, which give financial markets a larger role."

This was especially true, it was believed, of economies at an early stage of development, where the information-gathering advantages of banks were crucially important. Believers in market-based systems emphasised the advantages on the other side, including improvements in the governance of companies fostered by an active market in corporate control.

By the end of the 1990s these supposed advantages of bank-based systems seemed rather less compelling. Japan (especially) and Germany were achieving a less-than-stellar economic performance, in stark contrast to America's remarkable success during the decade. The current economic consensus, underpinned by new research, is not that one system is necessarily better than the other, but that either can work fine so long as certain conditions are met."

"The trouble with banks, Nobody loves them, everybody needs them", The Economist (2003)

3 Structure of financial markets

3.1 Primary and secondary market:

(classified by seasoning of the claims)

- .... market = market in which newly-issued securities are sold to initial buyers by the corporation or government borrowing the funds.
  - .... market = market in which previously-issued securities are traded.
  - Note that the originally issuer or borrower receives funds only when its securities are first sold in the .... market; the issuer does not receive funds when its securities are traded in the .... market.
  - In Economics, is primary market more important than secondary market?

- Importance of secondary market: promote liquidity, provide information necessary for the financial asset price determination in the primary market.
  - They allow the original buyers of securities to sell them before the maturity date, if necessary. That is, they make the securities more liquid.
  - They allow participants in the primary markets to make judgements about the value of newly-issued securities by looking at the prices of similar, existing securities that are traded in the secondary markets.
  - Notice that most financial economics theories focus on activities in the secondary market.

Article

Secondary Market Liquidity and Primary Market Pricing of Corporate Bonds †

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† An earlier version of this paper entitled "Liquidity and the Pricing of Corporate Bond Issues" was presented at the 2009 Financial Management Association Annual Meeting.

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Abstract: This paper studies the link between secondary market liquidity for a corporate bond and the bond's yield spread at issuance. Using ex-ante measures of expected liquidity at the time of issuance, based on the characteristics of the underwriting syndicate, we find an economically large impact of liquidity on yield spreads. We estimate that a 10% increase in expected liquidity implies a decrease in the yield spread at issuance of between 8% and 14%. Our results suggest that liquidity has an important effect on firms' cost of capital, and they contribute to the literature which examines the impact of liquidity on asset prices.

Keywords: corporate bonds; liquidity; primary market pricing

- True or False
  - Since CP stock price increases, CP receives more money. As a result, the company will invest more.

3.2 Money and capital market (classified by maturity)

1. Short-Term (maturity < 1 year) Money Market
2. LongTerm (maturity > 1 year) Capital Market

Chinese finance

Alibaba's maturity mismatch

Alibaba's money-market fund made Chinese banking more competitive. Now, it threatens to make it more risky.

3.3 Debt and equity market

(classified by the nature of the claims)

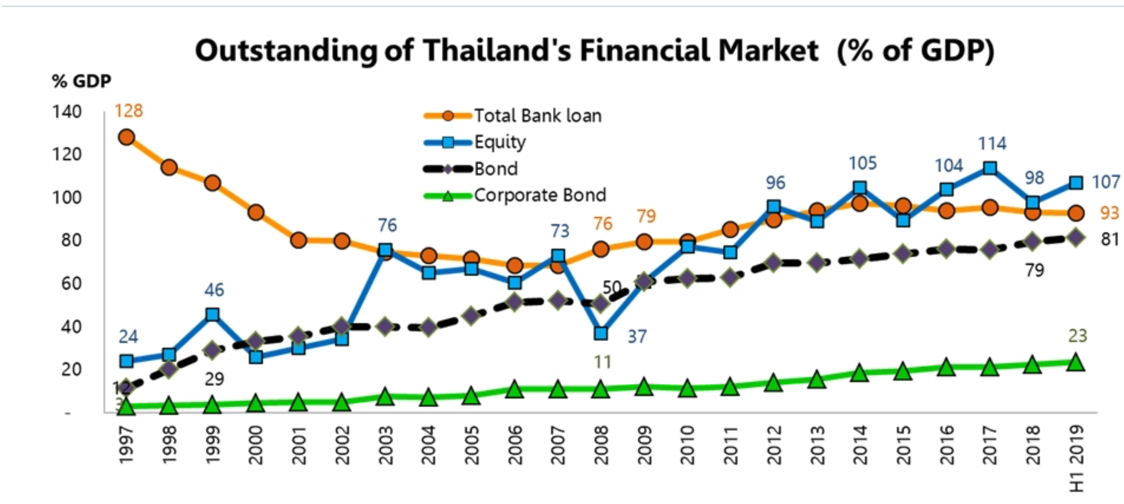
- Debt instrument = a contractual agreement by the issuer of the instrument (the borrower) to pay the holder of the instrument (the lender) fixed dollar amounts (interest and principal payments) at regular intervals until a specified date (maturity date) when a final payment is made

- Equity = a contractual agreement representing claims to a share in the income and assets of a business

- A key feature distinguishing equity from debt is that the equity holders are the residual claimants: the firm must make payments to its debt holders before making payments to its equity holders.

Debt Instrument	**Equity instruments**
Buyers of debt instruments are suppliers (of capital) to the firm, not owners of the firm	Buyers of common stock are owners of the firm
Debt instruments have a finite life or maturity date	Common stock has no finite life or maturity date
Advantage is that the debt instrument is a contractual promise to pay with legal rights to enforce repayment	Advantage of common stock is potential high income since return is not fixed or limited
Disadvantage is that return/profit is fixed or limited	Disadvantage is that debt payments must be made before equity payments can be made

"With the robustness of the bond market, the main pillars of Thai financial market-bank loan, stock market and bond market have been increasingly more balanced. The proportion of bank loans to GDP has declined from 128% of GDP in 1997 to 93% of GDP while the bond market has grown from 12% of GDP in 1997 to 81% of GDP as of June 2019. The stock market capitalization has also grown from 24% of GDP to 107% of GDP during the same period. The total outstanding of Thai bond market was THB 13.3 trillion (USD 443 billion) as of June 2019. Government bonds (including T-bills) dominate the market, accounting for 37% of total. Corporate bonds ranked the second, accounting for 29% while the central bank bonds accounted for 27% and state-owned enterprise (SOE) bonds accounted for 7%."



3.4 Derivative market

- A derivative is a financial instrument whose value depends on (or derives from) the value of other, more basic underlying assets.

- for example;

  - Forward contract : a contract to buy or sell a specified amount of a designated asset at a date known in the future, is not traded on organised exchanges
  - Futures contract : a contract to buy or sell a specified amount of a designated asset at a date known in the future, is traded on organised exchanges
  - Option: contract that gives the owner the right but not obligation to buy or sell a specified asset at a stipulated price

- Throughout this course, we'll be considering various aspects of the role that these various financial instruments and financial intermediaries play in the economy as a whole.

- With all of these definitions in hand and collected in one place, we'll always be able to refer back to this overview if we need to remember how a particular type of financial instrument works or what a particular role of financial intermediary play.

4 Examples

Example 1:

"IF THE banks won't lend you money, might a stranger? Probably not, to judge by recent data from Prosper, an American peer-to-peer lending marketplace (a place where people can lend their own money to other people).

Peer-to-peer lending, the website, which lets lenders bid against each other on the interest rates they are prepared to offer to specific borrowers, has seen an increase in demand from subprime borrowers as access to bank credit has tightened."

Source: Economist (2007)

Explain the difference between direct finance and indirect finance. What is the method for direct financing mentioned in the news: bank lending, peer-to-peer financing or none?

Example 2:

News 1. "The Stock Exchange of Thailand Index hit a new 18-year high, ahead of the Bank of Thailand's policy rate meeting today. The Thai bourse ended the morning session at 1,540.12 points, gaining 8.05 from the previous closing. The index further rallied in the afternoon, despite foreign net-sells this month, to end the day at 1,546.64 points on turnover of Bt63 billion."

Source: The Nation)

News 2. "Supalai Public Company Limited (SPALI) is offering a 5-year unsecured debentures with the issue size of THB 745 million. The coupon rate has been determined at 3.73 per cent per annum. The interest is payable semi-annually."

Source: ThaiBMA

- Specify which piece of news talks about primary market and which piece of news talks about secondary market.
- Specify which piece of news talks about debt market and which piece of news talks about equity market.