Equity Investments

- **Market Organization and Structure**
- Security Market Indexes
- Market Efficiency
- Overview of Equity Securities
- Introduction to Industry and Company Analysis
- Equity Valuation: Concepts and Basic Tools

LOS Explain the main functions of the financial system;

The financial system serves three main functions:

Financial System

- To help people achieve their purpose for using the financial system
  - Saving, borrowing, raising capital, managing risks, and facilitating trading of assets and exchange of information
- To facilitate the discovery of the rate of return where aggregate savings equal aggregate borrowings
- Allocating capital to its most efficient uses

LOS Describe classifications of assets and markets

- Assets may be classified as financial or physical assets:
  - **Financial assets** include securities, currencies and contracts.
  - **Physical assets** include commodities and real assets.

- **Markets** may be classified on the basis of:
  - The timing of delivery;
  - Who the seller is;
  - The maturity of instruments that are traded;
  - The types of securities.

LOS Describe classifications of assets and markets

Classification of markets

- The timing of delivery:
  - **Futures Markets/Forward Markets/Options Markets:** traded contracts require delivery at some date in the future. Contracts in the options markets are only delivered if the option is exercised.
  - **Spot Markets:** traded contracts require immediate delivery.

- Who the seller is:
  - **Primary Market:** funds flow from the purchaser to the issuer.
  - **Secondary Market:** funds flow between traders.

LOS Describe classifications of assets and markets

Classification of markets

- The maturity of instruments traded
  - **Money Markets:** trade debt instruments maturing in one year or less.
  - **Capital Markets:** trade instruments maturing in over one year, such as bonds and equities. Corporations usually finance their operations through the capital markets.

- The types of securities
  - **Traditional markets** are those for debt and equity.
  - **Alternative markets** are those for hedge funds, commodities, real estate, collectibles, leases, and equipment. Alternative assets are often more difficult to value, illiquid, require investor due diligence, and therefore often sell at a discount.

LOS Describe the major types of securities, currencies, contracts, commodities, and real assets that trade in organized markets, including their distinguishing characteristics and major subtypes

Types of securities

(I) Fixed income

- Include promises to repay borrowed money and a variety of other instruments with payment schedules.

- Often classified based on maturity date as short-term (less than one or two years), intermediate-term (two to five years), and long-term (greater than five years).

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Fixed income instruments	**Notes:** fixed income instruments, usually with a maturity of ten years or less.
	Bonds: fixed income instruments, usually with a maturity of more than ten years.
	Convertible bonds: can be converted into the issuing corporation's stock by the holder after a specified amount of time.
	Bills/Securities of Deposit/Commercial Paper: short-term securities, usually maturing in a year or less, issued by governments, banks, and corporations.
	Money Market Instruments: debt instruments maturing in one year or less, purchased by money market funds and corporations seeking a return on short-term cash balances.

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Types of securities

(II) Equities

- Represent ownership rights in companies

Equities

Common Stock
Shareholders have a right to company dividends, elect the company's board of directors, and a share of the proceeds if the company is liquidated.

Preferred stock
Shareholders have no voting rights, but generally have the right to a regular dividend and have priority over common shareholders to liquidation proceeds

Warrants
Holder has the option to buy a company's securities (usually common stock) at the exercise price at any time before the warrant's expiration.

LOS Describe the major types of securities, currencies, contracts, commodities, and real assets that trade in organized markets, including their distinguishing characteristics and major subtypes

Types of securities

(III) Pooled investments

- Pooled investment vehicles are mutual funds, trusts, depositories, and hedge funds, that issue securities that represent shared ownership in the assets that these entities hold.

- The securities created by mutual funds, trusts, depositories, and hedge fund are respectively called shares, units, depository receipts, and limited partnership interests.

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Pooled investments	**Mutual Funds:** open-ended and closed-ended investment vehicles that pool money from many investors for investment in a portfolio of securities.
	Exchange-traded funds (ETFs) and exchange-traded notes (ETNs): open- ended funds that investors can trade among themselves in secondary markets.
	Asset-backed Securities: securities whose values and income payments are derived from a pool of assets, such as mortgage bonds, credit card debt, or car loans.
	Hedge funds: professionally managed limited partnerships; managers are the general partners and the qualified investors are the limited partners

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Contracts

- A contract is an agreement among traders to do something in the future.
- Usually occur in form of derivatives – assets that derive their value from the prices of underlying assets.
- Derivatives are classified by the nature of their underlying assets.
  - ✓ For instance, a contract based on the price of gold would be considered a physical derivative, while a contract based on Costco's stock price or the S&P 500 would be considered a financial derivative – or more specifically, an equity derivative.

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Types of contracts

Forward contract: an agreement to trade the underlying asset in the future at a price agreed upon today. For example, a contract for the sale of corn after the harvest is a forward contract.

Futures contract: standardized forward contract for which a clearinghouse guarantees the performance of all traders

Buyer: side that will take physical delivery or its cash equivalent.
Seller: side that is liable for the delivery or its cash equivalent.

Swap Contract: agreement to exchange payments of periodic cash flows that depend on future asset prices or interest rates. Variable payments are based on a pre-determined variable interest rate like the London Interbank Offered Rate (Libor).

Option contract: call option (put option) allows the buyer to purchase (sell) an underlying instrument at a set strike price before a specified date.

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Commodities & Real Assets

- **Commodities** include precious metals, energy products, industrial metals, agricultural products, and carbon credits.
- Exposure to commodities can be achieved directly through the spot markets or indirectly through the forward and futures markets.

- **Real assets** include such tangible properties as real estate, airplanes, machinery, or lumber stands.
- Investors find real assets attractive due to their potential income and tax benefits and low correlation to other asset classes.

LOS Describe types of financial intermediaries and services that they provide

Currencies

- Currencies are monies issued by national monetary authorities.

- Currencies trade in foreign exchange markets. In spot currency transactions, one currency is immediately or almost immediately exchanged for another.

- The rate of exchange is called the spot exchange rate.

- Trades generally settle in two business days.

LOS Describe types of financial intermediaries and services that they provide

Financial intermediaries help connect buyers and sellers in various ways:

- **Brokers:** agents who fill orders for their clients, helping to reduce their client’s transaction costs by efficiently matching them with someone else willing to take the other side of their trades.
- **Block Brokers:** provide brokerage service to large traders.
- **Investment Banks:** primarily help corporate clients in issuing a wide range of securities, including common stock, preferred stock, notes, and bonds
- **Exchanges:** provide places where traders can meet to arrange their trades and provide a mechanism that dictates how trades are conducted

LOS Describe types of financial intermediaries and services that they provide

- **Alternative Trading Systems/Electronic Communications Networks/ Multilateral Trading Facilities:** trading venues that function like exchanges, but do not exercise regulatory authority over their subscribers except with respect to the conduct of their trading in their trading systems.

- **Dealers:** fill their clients' orders by trading with them. Unlike brokers, dealers directly buy from or sell to their clients, hoping to find another client to take the opposite side of the trade.

- **Insurance Companies:** help people and companies hedge their risks by underwriting contracts that pay out in the event of losses from a wide variety of causes.

- **Arbitrageurs:** aim to profit through buying an asset in one market and selling a similar asset in another market at a higher price.

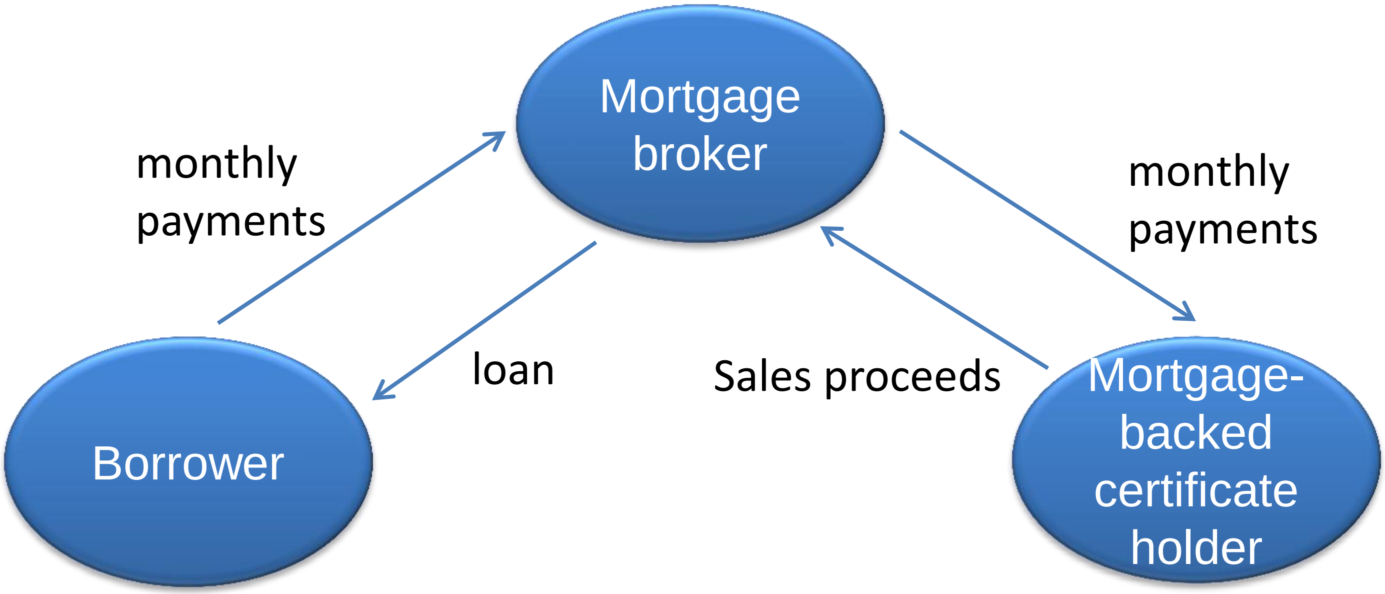
LOS Describe types of financial intermediaries and services that they provide

- **Depository Institutions:** commercial banks, savings and loan banks, credit unions, and similar institutions that raise funds from depositors and other investors and lend it to borrowers.

- **Securitizers**
  - Banks and investment companies can create new financial products by buying and repackaging securities or other assets.
  - For example, mortgage banks commonly originate hundreds of residential mortgages by lending money to homeowners.
  - They then place the mortgages in a pool and sell shares of the pool to investors as mortgage-backed securities.
  - All payments of principal and interest are passed through to the investors each month.

Illustration >>

LOS Describe types of financial intermediaries and services that they provide



A firm may set up a special purpose vehicle (SPV) to buy firm assets, which removes them from the firm's balance sheet. That usually increases their value by removing the risk that financial trouble at the firm will give other investors a claim to the assets' cash flows.

LOS Compare positions an investor can take in an asset

Long position vs. short position

- In a **long position**, the investor owns assets or contracts.

- In a **short position**, the investor sells assets they do not own, or write and sell contracts.

- The **long side** of an option contract is the side that holds the right to exercise the option. The short side **must** satisfy the obligation.

- The **short side** is the side that ***writes*** the option.

LOS Compare positions an investor can take in an asset

- **Short sellers** create short positions in securities by borrowing securities from security lenders who are long holders.
- The short sellers then **sell** the borrowed securities to other traders. In the end, they repurchase the securities for eventual return to the lender.
- If the securities drop in value, the short sellers profit because they repurchase the securities at lower prices than the prices at which they sold the securities. If the securities rise in value, they lose.

LOS Calculate and interpret the leverage ratio, the rate of return on a margin transaction, and the security price at which the investor would receive a margin call

- **Margin Loan**: Money borrowed from a broker to purchase securities.
- The interest rate that the buyers pay for their margin loan is known as the **call money rate**.
- **Initial Margin Requirement**: The margin requirement on the first day of a transaction on which margin funds must be deposited.
- The relation between risk and borrowing is called **financial leverage.**
- The maximum leverage ratio (MLR) on a position financed by the minimum margin requirement is one divided by the minimum margin requirement. If the requirement is 50 percent, MLR = 2.
- The leverage ratio indicates how much more risky a leveraged position is relative to an unleveraged position.

LOS **Calculate and interpret the leverage ratio, the rate of return on a margin transaction, and the security price at which the investor would receive a margin call**

$$\text{Leverage ratio} = \frac{\text{Total value of position}}{\text{Equity value of position}}$$

$$\text{Maximum leverage ratio} = \frac{1}{\text{Initial margin requirement}}$$

Example: Margin transaction

Shares purchased	1,000
Purchase price per share	\$50
Annual dividend per share	\$1
Initial margin requirement	40%
Call money rate	4%
Commission per share	\$0.05
Stock price after one year	\$55

Calculate: (1) the leverage ratio and (2) the investor's return on the margin transaction (return on equity) if the stock is sold at the end of one year. >>

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Solution

- The leverage ratio = 1/0.40 = 2.5.
- The total purchase price is 1,000 x $50 = $50,000. The investor must post initial margin of 40% x $50,000 = $20,000.
- The remaining $30,000 is borrowed. The commission on the purchase is 1,000 x $0.05 = $50. Thus, the total initial equity investment is $20,050.

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Solution

- At the end of one year, the stock value is 1,000 x $55 = $55,000, for a gain of $4,950. Dividends received are 1,000 x $1.00 = $1,000.
- Interest paid is $30,000 x 4% = $1,200. The commission on the sale is 1,000 x $0.05 = $50. The gain on the transaction in one year is $4,950 + $1,000 - $1,200 - $50 = $4,700.
- The return on the equity investment is $4,700/$20,050 = 23.44%.

LOS **Calculate and interpret the leverage ratio, the rate of return on a margin transaction, and the security price at which the investor would receive a margin call**

Margin Call Price

- A margin call will take place when equity drops below the maintenance margin requirement. The formula for the margin call price is:

Margin call price = Debt/(1 – Maintenance Margin)

Example

Purchase price/share: $30; Lev. Ratio: 2.0; Maintenance Margin: 25%

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Solution

- Equity investment can be found by dividing the total purchase price by the leverage ratio: $30/2 = $15
- So, this trade involves $15 of equity and $15 of debt
- Margin call price = Debt/(1 – Maintenance Margin) = $15/(1 – 0.25) = $15/0.75 = $20

LOS Compare execution, validity, and clearing instructions

- The prices at which dealers and other proprietary traders are willing to buy securities are called **bid prices** and those at which they are willing to sell are called **ask (or offer) prices**.

- The quantities that market participants are willing to trade at the bid and ask prices are called **bid sizes** and **ask sizes** respectively.
  - The highest bid in the market is the best bid.
  - The lowest ask price is the best offer.
  - The difference between the best bid and the best offer is the market **bid-ask spread**.

LOS Compare execution, validity, and clearing instructions

- **Execution instructions** indicate how an order should be filled.
- **Market orders**: Immediate order execution at the best available price.
- **Limit orders**: Execute an order at a specified price or better.
- A limit buy order placed:
  - ➢ above the best offer is likely to be at least partially executed immediately and is called a **marketable limit order**.
  - ➢ above the best bid but below the best offer is said to have created a new market by establishing the **new best bid.**
  - ➢ at the best bid is said to **make market**. This order will have to wait for all buy orders (that were placed earlier) at that price to execute first.
  - ➢ below the best bid is referred to as behind the market and will not execute unless market prices drop. These orders are known as **standing limit orders**.

LOS Compare execution, validity, and clearing instructions

Validity is defined as when the order may be filled, with examples below:

- **Day Order**: order is good only for the day on which it is submitted.
- **Good-till-cancelled Order (GTC):** usually limited to a few months, but can stay open for longer.
- **Immediate or Cancel Order (IOC):** good only upon receipt by broker or exchange.
- **Good-on-close Order (Market-on-close):** can only be filled at the close of trading.
- **Good-on-open Order (Market-on-open):** can only be filled at the open of trading.
- **Stop Order (Stop-loss Order):** sell orders are only executed if a trade occurs at or below stop price, buy orders are only valid once price rises above stop price.

LOS Compare execution, validity, and clearing instructions

Clearing is defined as how to arrange the final settlement of the trade.

- Unlike other instructions, clearing instructions are not attached to each order.

- Clearing instructions simply indicate what entity is responsible for clearing and settling the trade, and if the sale is a long sale or short sale.

LOS Define primary and secondary markets and explain how secondary markets support primary markets

- **Primary Market:** The market where securities are first sold and the issuers receive the proceeds.
- **Initial Public Offering(IPO):** The first issuance of common shares to the public by a formerly private corporation.
- **Seasoned Offering/Secondary Offering** : An offering in which an issuer sells additional units of a previously issued security.
- **Secondary Market**: The market where securities are traded among investors.
  - ➢ The secondary markets support the primary markets by offering liquidity to the initial investors in a security. This liquidity helps issuers attract more demand for their security offerings in the primary markets, which leads to higher initial sale prices and thus a lower cost of capital.

LOS Describe how securities, contracts, and currencies are traded in quote-driven, order-driven, and brokered markets

Quote-Driven Markets/Over-the-Counter (OTC) Markets

- In quote-driven markets, customers trade at prices quoted by dealers that generally work for commercial banks, investments banks, broker-dealers, or trading houses.
- Most trades in these markets are conducted through proprietary computer communications networks or by phone.

Order-Driven Markets

- Order-driven markets arrange trades using rules to match buy orders to sell orders submitted by customers or dealers.
- Almost all exchanges use order-driven trading systems, and every automated trading system is an order-driven system.
- Two sets of rules characterize order-driven market mechanisms:

LOS Describe how securities, contracts, and currencies are traded in quote-driven, order-driven, and brokered markets

What about brokered markets?

- In a **brokered market**, brokers arrange trades among their clients.

- Brokers organize markets for unique items (e.g. real estate properties and fine art masterpieces) that only interest a limited number of people or institutions.

LOS Describe characteristics of a well-functioning financial system

What are the features of a well-functioning financial system?

- **Timely and accurate disclosures:** Market participants can make well-informed decisions.

- **Liquidity**: Costs of trading are minimized.

- **Complete markets**: Allow people to solve their financial problems.

- **External or informational efficiency**: Prices respond to changes in fundamental values.

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LOS Describe objectives of market regulation

- **Control fraud** and avoid deception of uninformed participants.
- **Control agency problems** by setting minimum standards of competence for agents like the CFA or GIPS.
- **Promote fairness**: Laws against insider trading, for instance, help to level the playing field.
- **Set mutually beneficial standards** for financial reporting
- **Prevent undercapitalized firms from taking excessive risk.**

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