

Equity

CFA一级培训项目

讲师：纪慧诚

101% contribution breeds Professionalism

◆ 纪慧诚

- **工作职称**：金程教育金融研究院资深培训师
- **教育背景**：金程教育Excel金融建模、量化投资(AQF)课程开发负责人
- **工作背景**：金融行业从业经验丰富，曾先后就职于中国建设银行、中信证券等知名金融机构。对企业IPO、投资理财、量化投资等领域有着深入的研究和独到的见解。
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- **主编出版**：参与金程CFA项目各类参考书目的编写工作，包括翻译CFA协会官方参考书《企业理财》，《国际财务报告分析》，金程CFA中文Notes等

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Topic Weightings in CFA Level I

Session NO.	Content	Weightings
Study Session 1	Ethical and Professional Standards	15
Study Session 2-3	Quantitative Methods	12
Study Session 4-5	Economics	10
Study Session 6-9	Financial Reporting and Analysis	20
Study Session 10-11	Corporate Finance	7
Study Session 12	Portfolio Management	7
Study Session 13-14	Equity	10
Study Session 15-16	Fixed Income	10
Study Session 17	Derivatives	5
Study Session 18	Alternative Investments	4

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① Framework

Equity Investments

➤ Market Organization, Indices and Efficiency

- R45 Market Organization and Structure
- R46 Security Market Indices
- R47 Market Efficiency

➤ Equity Analysis and Valuation

- R48 Overview of Equity Securities
- R49 Introduction to Industry and company Analysis
- R50 Equity Valuation: Concept and Basic Tool

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Reading 45

Market Organization and Structure

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Framework

1. Main Functions of the Financial Market
2. Intermediaries of Financial Market
3. Well functioned financial market
4. Classification of assets
5. Classification of markets
 - Primary vs. Secondary markets
 - Money vs. Capital markets
 - Traditional vs. Alternative markets
6. Positions in an asset
7. Instructions of transaction processes

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◆◆ Main Functions of the Financial Market

- **Main functions of the financial market (Totally three functions)**
- **Fulfill different entities' requirements**
 - ✓ Save and borrow money, raise equity capital, manage risks, trade assets currently or in the future, and trade based on their estimates of asset values.
- **Determine interest rates**
 - ✓ Determine the returns (i.e., interest rates) that equate the total supply of savings with the total demand for borrowing.
- **Capital allocation efficiency**
 - ✓ Economies are said to be allocational efficiency when their financial systems allocate capital (funds) to those uses that are most productive.

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◆◆ Main Functions of the Financial Market

- **First function: fulfill different entities' requirements**
 - **Savings:** savers buy notes, certificates of deposit, bonds, stocks, mutual funds, or real assets such as real estate.
 - **Borrowing:** to lower the costs of borrowing, borrowers often pledge assets as collateral for their loans. The assets pledged as collateral often include those that will be purchased by the proceeds of the loan.
 - **Raising equity:** companies often raise money for projects by selling (issuing) ownership interests.
 - **Managing Risks:** many entities face financial risks , these risks include default risk and the risk of changes in interest rates, etc. These risks are often managed by trading contracts that serve as hedges for the risks.
 - **Exchanging assets:** people and companies often trade one asset for another that they rate more highly or, equivalently, that is more useful to them. .
 - **Information-Motivated Trading:** investors expect to earn a return on their information in addition to the normal return expected for bearing risk through time.
 - ✓ **Information-motivated traders:** trade to profit from information that they believe allows them to predict future prices.

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◆◆ Main Functions of the Financial Market

- **Second function: determining rates of return**
 - Interest rates are justified according to the total supply of savings and the total demand of borrowings.
 - **Equilibrium interest rate:**
 - ✓ It is the price for moving money through time. Determining this rate is one of the most important functions of the financial system..
 - ✓ The equilibrium interest rate is the only interest rate that would exist if all securities were equally risky, had equal terms, and were equally liquid. In fact, the required rates of return for securities vary by their risk characteristics, terms, and liquidity.

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◆◆ Main Functions of the Financial Market

- Third function: **capital allocation efficiency**
 - Economies are said to be allocationaly efficient when their financial systems allocate capital (funds) to those uses that are most productive.
 - This would result in an allocation to capital to its **most valuable uses**.
 - One of the most important functions of the financial system is to ensure that only the best projects obtain scarce capital funds; the funds available from savers should be allocated to the most productive uses.

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◆◆ Intermediaries of Financial Market

- **Intermediaries of financial market (Summary)**
 - Brokers, Dealers and Exchange
 - Securitizers
 - Depository Institutions
 - Insurance Companies
 - Arbitrageurs
 - Clearinghouses and Custodians
 - Hedgers

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专业·创新·增值

◆◆ Intermediaries of Financial Market

- **Brokers, dealers and exchange**
 - **Brokers:**
 - ✓ Facilitate their clients to accomplish trades;
 - ✓ Help finding the counterparties with best price for clients.
 - **Block brokers:**
 - ✓ Deal with large orders;
 - ✓ Manage the impact of large orders to market.
 - **Investment banks:**
 - ✓ Help corporations' debt financing or equity financing;
 - ✓ Help companies with their merge and acquisition.

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专业·创新·增值

◆◆ Intermediaries of Financial Market

➤ Brokers, dealers and exchange

● Exchanges:

- ✓ Provide a venue for traders.
- ✓ Now arrange trades on the basis of orders placed by brokers and traders.

● Alternative trading systems (ATS)

- ✓ ATSS are trading places where traders arrange their trades.
- ✓ However, the trade has a lack of regulatory authority.
 - Many ATSS are known as dark pools because they do not display the orders that their clients send to them.
- ✓ This also known as electronic communications networks (ECNs) or multilateral trading facilities (MTFs)

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专业·创新·增值

◆◆ Intermediaries of Financial Market

➤ Brokers, dealers and exchange (Cont.)

● Dealers:

fill their clients' orders by trading with them. The service that dealers provide is liquidity. Dealers profit when they can buy at prices that on average are lower than the prices at which they sell.

- ✓ Primary dealers are dealers with whom central banks trade when conducting monetary policy.
- ✓ Broker-dealers: Broker-dealers have a conflict of interest with respect to how they fill their customers' orders.
 - Brokers: they must seek the best price for their customers' orders;
 - Dealers: they profit most when they sell to their customers at high prices or buy from their customers at low prices.

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◆◆ Intermediaries of Financial Market

➤ Securitizers

- Securitizers purchase and repackage assets or mortgages and put them into a pool in order to sell them in shares.
 - ✓ The cash flows are more predictable and stable when securitizer creates a diversified pool of assets with different assets securitized.
 - ✓ Therefore the liquidity of these assets will explosively increase.
 - ✓ Typically, economies of scales will lower management costs and benefit investors.

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◆◆ Intermediaries of Financial Market

- **Securitizers (Cont.)**
 - Underlying asset:
 - ✓ Mortgages, car loans, credit card receivables, bank loans, and equipment lease.
 - A special purpose vehicle(SPV) or a special purpose entity(SPE):
 - ✓ SPE/SPV is set by a firm to take over some assets for the firm.
 - ✓ To get a better rating, SPE/SPV taking high quality assets of its parent firm.
 - ✓ To absorb risk for parent firm, SPE/SPV takes low quality assets of its parent firm.
- **Depository Institutions**
 - Raise funds from depositors and other investors and lend it to borrowers
 - Provide transaction services on one hand, and then make loans with the deposits on the other hand.

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专业·创新·增值

◆◆ Intermediaries of Financial Market

- **Insurance companies**
 - Offsetting risks by creating insurance contracts (policies) that provide a payment in the event that some loss occurs.
 - Such intermediaries are able to do this by pooling policyholders with uncorrelated risk of losses.
 - The company manages the relationships with the insured hopefully controls the various problems:
 - ✓ **Moral hazard** occurs when people are less careful about avoiding insured losses than they would be if they were not insured so that losses occur more often than they would otherwise.
 - ✓ **Adverse selection** occurs when only those who are most at risk buy insurance so that insured losses tend to be greater than average.
 - ✓ **Fraud** occurs when people deliberately cause or falsely report losses to collect on insurance.

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◆◆ Intermediaries of Financial Market

- **Arbitrageurs**
 - Arbitrageurs are intermediaries who seek to gain certain return without bearing any risk.
 - If information about prices is readily available to market participants, pure arbitrages involving the same instrument will be quite rare.
- **Clearinghouses and custodians**
 - **Clearinghouses:** act as buyers when customers want to sell assets and as sellers when customers want to buy assets, and thus limit counterparty risk.
 - **Custodians:** help prevent the loss of securities through fraud, oversight, or natural disaster by holding securities on behalf of their clients.

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专业·创新·增值

◆ Example



- Akihiko Takabe has designed a sophisticated forecasting model, which predicts the movements in the overall stock market, in the hope of earning a return in excess of a fair return for the risk involved. He uses the predictions of the model to decide whether to buy, hold, or sell the shares of an index fund that aims to replicate the movements of the stock market. Takabe would best be characterized as a(n):
 - A. hedger.
 - B. investor.
 - C. information-motivated trader.
- **Correct answer: C**
 - Takabe is best characterized as an information-motivated trader. Takabe believes that his model provides him superior information about the movements in the stock market and his motive for trading is to profit from this information.
- **Think about what if a investor who buys the stock of an oil producer may?**

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专业·创新·增值

◆ Example



- If a trader buy and sell identical or essentially similar instruments at different price in different market, which type will the trader most likely be?
 - A. Information motivator
 - B. Arbitrageurs
 - C. Securitizers
- **Correct answer: B**
 - Arbitrageurs trade when they can identify opportunities to buy and sell identical or essentially similar instruments at different prices in different markets. They profit when they can buy in one market for less than they sell in another market.

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专业·创新·增值

◆ Well Functioned Financial Market

- **A well functioned financial market:**
 - Allows traders to solve financing and risk management problems.
- **Characteristics of a well functioned financial market**
 - **Complete markets:** savers receive a return, borrowers can obtain capital. hedgers can manage risks, and traders can acquire needed assets.
 - **Operational efficiency:** a market has relatively low transaction costs.
 - **Informational efficiency:** a market in which asset prices reflect new information quickly and rationally.
 - **Allocational efficiency:** a market promotes the allocation of resources to their highest value uses.

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专业·创新·增值

◆ Well Functioned Financial Market

➤ Market regulation

Problems when there are no regulations	Objectives of market regulations
Fraud and theft: because financial markets are complex, and customers are often much less sophisticated, the potential for losses caused by frauds can be high in unregulated markets.	Regulators thus ensure that systems are ready to protect customers from fraud.
Insider trading: investors would exit the market and thus reduced liquidity if they believe traders with inside information will exploit them.	Prevent insiders from exploiting other investors.
Costly information: companies that do not report to a common standard will cause a costly financial report. This will lead to investors refuse to invest.	Require common financial reporting requirements.
Defaults: do not honor their contractual commitments when unexpected market movements or poor decisions cause them to lose money.	require that financial firms maintain minimum levels of capital.

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专业·创新·增值

◆ Example



- The government of a country whose financial markets are in an early stage of development has hired you as a consultant on financial market regulation. Your first task is to prepare a list of the objectives of market regulation. Which of the following is *least likely* to be included in this list of objectives?
- Minimize agency problems in the financial markets.
 - Ensure that financial markets are fair and orderly.
 - Ensure that investors in the stock market achieve a rate of return that is at least equal to the risk-free rate of return.

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专业·创新·增值

◆ Example



➤ Correct Answer: C

- Ensure that investors in the stock market achieve a rate of return that is at least equal to the risk-free rate of return is least likely to be included as an objective of market regulation. Stocks are risky investments and there would be occasions when a stock market investment would not only have a return less than the risk-free rate but also a negative return. Minimizing agency costs and ensuring that financial markets are fair and orderly are objectives of market regulation.

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专业·创新·增值

◆ Classification of Assets

- Classification of assets (Summary)
 - Financial assets
 - ✓ Security
 - Fixed income vs. Equity securities
 - Public vs. private
 - ✓ Currency
 - ✓ Derivative contracts
 - Financial derivative contracts
 - Physical derivative contracts
 - Real Assets
 - ✓ Commodity
 - ✓ Real Estate

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专业·创新·增值

◆ Classification of Assets

- Classification of assets-financial assets
 - Security (Fixed income vs. Equity Securities)
 - ✓ Fixed income securities: make sure the borrowed funds can be repaid.

Bonds	With longer maturities (with maturity longer than 10 years)
Notes	Intermediate term (with maturity between 2 to 10 years)
Bills	Short term (with maturity less than 1 year)
Commercial paper	Short term issued by firms (with maturity less than 1-2 years)
Certificates of deposit	Certificates of deposit issued by banks
Repurchase agreements	Borrower sells a high quality asset and has both the right and obligation to repurchase it (at a higher price) in the future. Repurchase agreements can be for terms as short as one day.
Convertible debt	Convertible debt are typically convertible into stock, usually at the option of the holder after some period.

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专业·创新·增值

◆ Classification of Assets

- Classification of assets-financial assets-security
 - Security (Fixed income vs. Equity Securities)
 - ✓ Equity securities: represent ownership in a firm.

Common stock	<ul style="list-style-type: none"> • Own residual rights to the assets of the company; • Right to receive any dividends declared by the boards of directors, and in the event of liquidation, any assets remaining after all other claims are paid.
Preferred stock	<ul style="list-style-type: none"> • Preferred rights (relative to common shares) to the cash flows and assets of the company; • A specific dividend on a regular basis; • Higher claims to assets relative to common shareholders in the event of corporate liquidation.
Warrants	<ul style="list-style-type: none"> • Securities issued by a corporation that allow the warrant holders to buy a security issued by that corporation, if they so desire, usually at any time before the warrants expire.

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专业·创新·增值

◆◆ Classification of Assets

➤ Classification of assets-financial assets-security

- Security (Fixed income vs. Equity Securities)

- ✓ Pooled investment vehicles:

- Individual securities can be combined in pooled investment vehicles.
- The securities created by mutual funds, trusts, depositories, and hedge fund are respectively called shares, units, depository receipts, and limited partnership interests.
- Include mutual funds, depositories, and hedge funds.

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专业·创新·增值

◆◆ Classification of Assets

➤ Classification of assets-financial assets-security

- Security (Fixed income vs. Equity Securities)

- ✓ Pooled investment vehicles:

Mutual funds	<ul style="list-style-type: none"> • Investment vehicles that pool money from many investors for investment in a portfolio of securities; • May be open-ended or closed-ended.
Exchange-traded funds (ETFs) & exchange-traded notes (ETNs)	<ul style="list-style-type: none"> • Open-ended funds: investors can trade in secondary markets; • The market price and net asset values of ETFs tend to converge by authorized participant's operation.
Asset-backed securities	<ul style="list-style-type: none"> • Pooling the asset deriving from assets' values and income payments, e.g., mortgage bonds, credit card debt, or car loans.
Hedge funds	<ul style="list-style-type: none"> • Organized as limited partnerships(investors □ limited partners; fund manager □general partner); • Hedge funds often use leverage; • Funds pay their managers with proportional of their assets and with a contingent incentive fee.

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专业·创新·增值

◆◆ Classification of Assets

➤ Classification of assets-financial assets-security

- Security (Public vs. private)

- ✓ **Public securities:** trade in liquid markets in which sellers can easily find buyers for their securities.

- ✓ **Private securities:** are not traded in public markets which are often illiquid and not subject to regulation.

- **Currency:**

- ✓ Issued by national monetary authorities.

- ✓ Some of these currencies are regarded as reserve currencies. Reserve currencies are currencies that national central banks and other monetary authorities hold in significant quantities.

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专业·创新·增值

◆ Classification of Assets

➤ Classification of assets-financial assets

● Contract:

- ✓ Are agreements between two parties that require some action in the future, such as exchanging an asset for cash.

Forward contract	Is an agreement to trade the underlying asset in the future at a price agreed upon today.
Futures contract	Is a standardized forward contract for which a clearinghouse guarantees the performance of all traders.
Swap contract	Is a series of forward contracts
Option contract	Allows the holder of the option to buy or sell an underlying instrument at a specified price at or before a specified date in the future.
Insurance contract	Pays their beneficiaries a cash benefit if some event occurs.
Credit default swaps	Are insurance contracts that promise payment of principal in the event that a company defaults on its bonds.

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专业·创新·增值

◆ Classification of Assets

➤ Classification of assets-real assets

● Commodity:

- ✓ Commodities are goods like precious metals, industrial metals, agricultural products, energy products, and credits for carbon reduction that are traded in spot, forward, and futures markets.
- ✓ Note: spot markets are for immediate delivery while forwards, futures, and options markets are for the future delivery of physical and financial assets.

● Real Assets:

- ✓ Real assets include such tangible properties as real estate, airplanes, machinery, or lumber stands.
- ✓ Characteristics:
 - Provide income, tax advantage, diversification benefits
 - Entail substantial management costs
 - Require substantial due diligence before investing

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专业·创新·增值

◆ Example



- Consider a mutual fund that invests primarily in fixed-income securities that have been determined to be appropriate given the fund's investment goal. Which of the following is least likely to be a part of this fund?

- A. Warrants.
- B. Commercial paper.
- C. Repurchase agreements.

➤ Correct Answer: A.

Warrants are least likely to be part of the fund. Warrant holders have the right to buy the issuer's common stock. Thus, warrants are typically classified as equity and are least likely to be a part of a fixed-income mutual fund. Commercial paper and repurchase agreements are short-term fixed-income securities.

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专业·创新·增值

◆◆ Classification of Markets

- Classification of markets
 - Primary vs. Secondary markets
 - Money vs. Capital markets
 - Traditional vs. Alternative markets

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专业·创新·增值

◆◆ Classification of Markets

- Classification of markets
 - Primary vs. Secondary markets
 - ✓ **Primary market:** the place for firms to publicly raise capital:
 - **IPO (initial public offerings):** the first time a company offer its securities to market.
 - **Seasoned offerings (secondary issues):** a listed company issues new shares to the market.

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专业·创新·增值

◆◆ Classification of Markets

- Classification of markets
 - Money vs. Capital markets
 - ✓ **Money markets:** the market for short-term debt instruments (one-year maturity or less).
 - ✓ **Capital markets:** financial markets that trade securities of longer duration, such as bonds and equities.
 - Traditional vs. Alternative markets
 - ✓ **Traditional investment markets:** markets for traditional investments, include all publicly traded debts and equities.
 - ✓ **Alternative markets:** market for investments other than traditional securities investments (i.e. traditional common and preferred shares and traditional fixed income instruments).

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专业·创新·增值

◆◆ Organization of the Securities Market

➤ How securities are sold through primary market

- Sold publicly

- ✓ Underwritten offering (the most common way);
- ✓ Best efforts;
- ✓ Indications of interest;
- ✓ Book building.

- Sold privately

- ✓ Private placement.

- Other transaction methods

- ✓ Shelf registration;
- ✓ Dividend reinvestment plan;
- ✓ Rights offering;
- ✓ Competitive bids;
- ✓ Negotiated sales.

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专业·创新·增值

◆◆ Organization of the Securities Market

➤ How securities are sold through primary market- Sold Publicly:

- Underwritten offering (the most common way)

- ✓ The investment bank guarantees the sale of the issue at an offering price that it negotiates with the issuer.
- ✓ Investment bank bears the risk of buying the unsold portion of securities if the target number of shares to be issued does not meet.

- Best efforts

- ✓ Unlike underwriting offering, the investment bank doesn't purchase the whole issue.
- ✓ Bank does not guarantee that a specific amount will be sold.

- Indications of interest



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专业·创新·增值

◆◆ Organization of the Securities Market

➤ How securities are sold through primary market- Sold Publicly :

- Difference between underwritten offering and best efforts.

Underwritten offering	Best Efforts
Obligated to buy the unsold portion	Not obligated to buy the unsold portion
As underwriters, Investment banks have strong incentives to choose a low price.	Investment bank sets the issue price as high as possible to raise the most funds for the issuer

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专业·创新·增值

◆◆ Organization of the Securities Market

➤ How securities are sold through primary market- Sold Publicly:

- Underwritten offering
- Best efforts
- Indications of interest

✓ **Indications of interest:** the investment bank gathers investors who are interested in the issue and willing to buy a portion of them.

✓ This process of investment banks line up subscribers who will buy the security is called book building, and the investment bank during this process is called book builder or book runner.

✓ Accelerated book building is that investment bank arranges the offering in only one or two days. Such sales often occur at discounted prices.

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专业·创新·增值

◆◆ Organization of the Securities Market

➤ How securities are sold through primary market- Sold Privately:

● Private placement

✓ Corporations sell securities directly to a small group of qualified investors, usually with the assistance of an investment bank.

● Shelf registration

✓ Type of public offering that allows the issuer to file a single, all-encompassing offering circular that covers a series of bond issues..

● Dividend Reinvestment Plan

✓ DRPs allow their shareholders to reinvest their dividends in newly issued shares of the corporation.

● Rights Offering

✓ In a rights offering, the corporation distributes rights to buy stock at a fixed price to existing shareholders in proportion to their holdings.

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专业·创新·增值

◆◆ Example



➤ A German publicly traded company, to raise new capital, gave its existing shareholders the opportunity to subscribe for new shares. The existing shareholders could purchase two new shares at a subscription price of €4.58 per share for every 15 shares held. This is an example of a(n):

- A. rights offering.
- B. private placement.
- C. initial public offering.

➤ Correct answer: A

➤ A British company listed on the Alternative Investment Market of the London Stock Exchange, announced the sale of 6,686,665 shares to a small group of qualified investors at £0.025 per share. Which of the following best describes this sale?

- A. Shelf registration.
- B. Private placement.
- C. Initial public offering

➤ Correct answer :B

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◆◆ Organization of the Securities Market

➤ Secondary capital markets

- The secondary market is the place where securities are traded after their initial offerings.
- The secondary market supports the primary market by providing:
 - ✓ **Liquidity**
 - Investors who buy stocks in the primary markets want to sell them again to acquire other securities such as risk free bonds and cash.
 - ✓ **Price discovery**
 - New issues of stocks and bonds are based on prices in the secondary markets.

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专业·创新·增值

◆◆ Organization of the Securities Market

➤ Secondary capital markets

- When securities are traded in a secondary market.
 - ✓ **Continuous markets**
 - ✓ **Call markets**
 - A market in which trades occur only at a **particular time and place**;
 - All buy orders and all seller orders has been gathered. Then the market chooses a single trade price that will maximize the total volume of trade.
 - Traders can arrange and execute their trades **at anytime**;
 - The price is determined either by an auction process or through a dealer bid-ask process. There are differences between dealer markets and an auction market in continuous markets.

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◆◆ Organization of the Securities Market

➤ Secondary capital markets

- How securities are traded in secondary markets
 - ✓ Order-driven market
 - ✓ Quote-driven market
 - ✓ Brokered markets

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专业·创新·增值

◆◆◆ Organization of the Securities Market

- Secondary capital markets
 - How securities are traded in secondary markets
 - ✓ Order-driven market
 - Order-driven markets arrange trades using rules to match buy orders to sell orders. Almost all exchanges use order-driven trading systems, and every automated trading system is an order-driven system.
 - ✓ Quote-driven market
 - ✓ Brokered markets

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专业·创新·增值

◆◆◆ Organization of the Securities Market

- Secondary capital markets
 - How securities are traded in secondary markets
 - ✓ Order-driven market



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◆◆◆ Organization of the Securities Market

- Secondary capital markets
 - How securities are traded in secondary markets- **Order-driven market**.
 - Two sets of rules are used in these markets:
 - ✓ **Order matching rules:** The order precedence hierarchy determines which orders go first.
 - **Price priority:** The highest priced buy orders and the lowest priced sell orders go first.
 - **Secondary precedence rule:** Use time precedence to rank orders at the same price. The first order to arrive has precedence over other orders.

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◆◆ Organization of the Securities Market

➤ Secondary capital markets

- How securities are traded in secondary markets
 - ✓ Order-driven market
 - ✓ **Quote-driven market**
 - Quote-driven market is also referred to as a **dealer market, a price-driven market or an over-the-counter market**. Individual dealers provide liquidity for investors by buying and selling the shares of stock for themselves.
 - Numerous dealers compete against each other to provide the highest bid prices when investors are selling and the lowest asking price when investors are buying stock.
 - ✓ Brokered markets

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◆◆ Organization of the Securities Market

➤ Secondary capital markets

- How securities are traded in secondary markets
 - ✓ Order-driven market
 - ✓ Quote-driven market
 - ✓ **Brokered markets**
 - A market in which brokers arrange trades among their clients.
 - Brokered markets are common for transactions of unique instruments, such as real estate properties, intellectual properties, or large blocks of securities.

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◆◆ Organization of the Securities Market

➤ Secondary capital markets

- How securities are traded in secondary markets
 - ✓ Comparison between Quote-Driven Market and Order-Driven Market.

Quote-Driven Market	Order-Driven Market
Dealers make a market in the stock, which means that they are willing to buy or sell for their own account at a specified bid-and-ask price.	Enough buyers and sellers are trading to allow the market to be continuous

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◆ Example



- A trader seeking to sell a very large block of stock, or a piece of urban real estate property, for her client will most likely execute the trade in a(n):
 - A. brokered market.
 - B. order-driven market.
 - C. quote-driven market.

- **Correct answer: A.**
 - Instruments that are infrequently traded and expensive to carry as inventory (e.g., very large blocks of stock, real estate properties, fine art masterpieces, and liquor licenses) are executed in brokered markets. Organizing order-driven markets for such instruments is not sensible because too few traders would submit orders to them.

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专业·创新·增值

◆ Positions in an Asset

- **Positions an investor can take in an asset**
 - Long Position
 - Short Position
 - Leveraged Position

- **Long Position**
 - An investor who owns an asset, or has the right or obligation under a contract to **purchase** an asset, is said to have a long position.
 - Benefit from an increase in the price.

53-206

专业·创新·增值

◆ Positions in an Asset

- **Short position**
 - For a short-sale, the procedure is as below:
 - ✓ Borrow securities from security lenders who are long holders. Then sell the borrowed securities to other traders.
 - ✓ Close their positions by repurchasing the securities and returning them to the security lenders.
 - ✓ Maintain the proceeds of short-sales as collateral.
 - Benefit from a decrease in the prices of the assets or contracts sold.
 - The potential gains on a short position are limited to no more than 100 percent whereas the potential losses are unbounded.

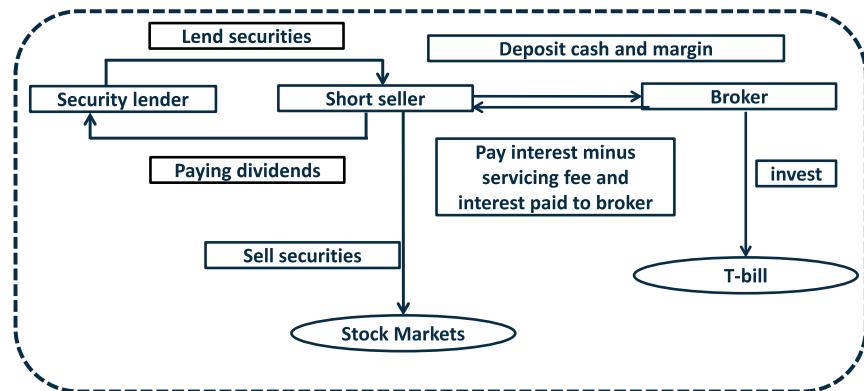
54-206

专业·创新·增值

◆◆ Positions in an Asset

➤ Short position

- **Payment-in-lieu:** The received dividends and interests must be paid back to the investor who lent the stock



55-206

专业·创新·增值

◆◆ Positions in an Asset

➤ Short position

- **Short rebate rate**

- ✓ Lenders require that the short seller leave the proceeds of the short sale on deposit with them as collateral for the stock loan.
- ✓ Lenders invest the collateral in short-term securities, and they rebate the interest to the short sellers at rates called short rebate rates.
- ✓ If a security is hard to borrow, the rebate rate may be very small or even negative.

56-206

专业·创新·增值

◆◆ Positions in an Asset

➤ Leveraged positions

- **Definition:** Traders buy securities by borrowing some of the purchase price.
- **Buy on margin:** Traders can buy securities by borrowing some of the purchase price. They usually borrow the money from their brokers.
 - ✓ The borrowed money is called the margin loan,
 - ✓ and they are said to buy on margin.
- The interest rate that the buyers pay for their margin loan is called the call money rate.
- **Leverage ratio:**
 - ✓ The leverage ratio indicates how many times larger a position is than the equity that supports it.

57-206

专业·创新·增值

◆◆ Positions in an Asset

➤ Leveraged positions

- **Margin requirement:** the required equity position is called the margin requirement.
 - ✓ **Initial margin:** a minimum amount of equity at the time of a new margin purchase.
 - ✓ **Maintenance margin:** is the investor's required equity position in the account.
 - ✓ **Margin call:** if an investor's margin account balance falls below the maintenance margin, the investor will receive a margin call and will be required to either liquidate the position or bring the account back to its **maintenance (minimum) margin requirement.**

58-206

专业·创新·增值

◆◆ Positions in an Asset

➤ Leveraged positions

- Computation of the price triggering a margin call.
 - ✓ Margin call price for a **leverage position.**

$$P_L' = P_0 \left(\frac{1-IM}{1-MM} \right)$$

59-206

专业·创新·增值

◆◆ Example



- Lauren has a margin account and deposits \$50,000. Assuming the prevailing margin requirement is 40 percent, commissions are ignored, and the Gentry Shoe Corporation is selling at \$35 per share.
- How many shares can Lauren purchase using the maximum allowable margin?
- **Correct answer:**
 - Since the margin is 40 percent and Lauren currently has \$50,000 on deposit in her margin account, if Lauren uses the maximum allowable margin, her \$50,000 deposit must represent 40% of her total investment.
 - Thus, if $\$50,000 = 0.4x$, then $x = \$125,000$. Since the shares are priced at \$35 each, Lauren can purchase $\$125,000 \div \$35 = 3,571$ shares (rounded).

60-206

专业·创新·增值

◆ Example



- The maintenance margin is 30 percent, to what price can Gentry Shoe fall before Lauren will receive a margin call?

➤ **Correct answer:**

$$P_L' = P_0 \left(\frac{1-IM}{1-MM} \right)$$

- Price = \$30.00

61-206

专业·创新·增值

◆ Example



- Suppose you buy 100 shares of Margin Industries stock on 55 percent margin when the stock is selling at \$20 a share. The broker charges a 10 percent annual interest rate, and commissions are 3 percent of the total stock value on both the purchase and sale. A year later you receive a \$0.50 per share dividend and sell the stock for 27. What is your rate of return on the investment?

62-206

专业·创新·增值

◆ Example



➤ **Correct answer:**

Profit = Ending value - Beginning value + Dividends - Transaction costs - interest

Beginning value of investment = $\$20 \times 100 \text{ shares } \$2,000$

Your investment = Margin requirement + Commission

$= (0.55 \times \$2,000) + (0.03 \times \$2,000) = (\$1,100 + \$60) = \$1,160$

Ending value of investment = $\$27 \times 100 \text{ shares } \$2,700$

Dividends = $\$0.50 \times 100 \text{ shares } \50.00

Transaction costs for sale = $(0.03 \times \$2,700) + (0.03 \times \$2,000) = \$81 + \$60 = \$141$

Interest = $0.10 \times (0.45 \times \$2,000) = \$90.00$

Therefore: Profit = $\$2,700 - \$2,000 + \$50 - \$141 - \$90 = \519

The rate of return on your investment of \$1,160 is: $\$519 / \$1,160 = 44.74\%$

63-206

专业·创新·增值

◆ Example



- You decide to sell short 100 shares of Charlotte Horse Farms when it is selling at its yearly high of 56. Your broker tells you that your margin requirement is 45 percent and that the commission on the purchase is \$155. While you are short the stock, Charlotte pays a \$2.50 per share dividend. At the end of one year, you buy 100 shares of Charlotte at 45 to close out your position and are charged a commission of \$145. What is your rate of return on the investment?

64-206

专业·创新·增值

◆ Example



➤ Correct answer:

Profit on a short sale = Begin value - Ending value – Dividends - Trans. costs

Beginning value of investment = $\$56.00 \times 100 \text{ shares} = \$5,600$

(sold under a short sale arrangement)

Your investment = Margin requirement + Commission

$$= (0.45 \times \$5,600) + \$155 = \$2,520 + \$155 = \$2,675$$

Ending value of investment = $\$45.00 \times 100 = \$4,500$

(Cost of closing out position)

Dividends = $\$2.50 \times 100 \text{ shares} = \250.00

Transaction costs = $\$155 + \$145 = \$300.00$

Therefore: Profit $\$5,600 - \$4,500 - \$250 - \$300 = \$550.00$

The rate of return on your investment of \$2,675 is: $\$550.00 / \$2,675 = 20.56\%$

65-206

专业·创新·增值

◆ Instructions of Transaction Processes

- If a investor is intended to fill an order, he must determine what instrument to trade, how many to trade, and whether to buy or sell.
- **Execution instructions:** that specify how to trade;
 - **Validity instructions:** that specify when the order can be filled;
 - **Clearing instructions:** that specify how to settle the trade.

66-206

专业·创新·增值

◆ Instructions of Transaction Processes

➤ Execution instructions

- The most common orders
 - ✓ **Market orders:** orders are the orders to buy or sell a security at the best current price, is the most frequent type of order.
 - ✓ **Limit orders:** orders specify the buy or sell order. Limit orders waiting to execute are called standing limit orders.
 - **Make the market:** a limit buy order at best bid or a limit sell order at the best.
 - **Take the market:** those who trade with them at posted prices are said to.
 - **Behind the market:** a buy order placed below the best bid or a sell order placed above the best offer.
 - **Far from the market:** a behind the market order whose price is far from their best ask/bid.

67-206

专业·创新·增值

◆ Instructions of Transaction Processes

➤ Execution instructions

- Instructions concern the volume of the trade:
 - ✓ **All-or-nothing orders** execute only if the whole order can be filled.
- Instructions concern the visibility of the trade:
 - ✓ **Hidden orders** are exposed only to the brokers or exchanges that receive them.
 - ✓ **Iceberg orders** are traders specify display sizes when they do not want to display their full sizes, but still want other traders to know that someone is willing to trade at the displayed price.

68-206

专业·创新·增值

◆ Instructions of Transaction Processes

➤ Validity instructions:

- Validity instructions specify when an order should be executed.
 - ✓ **Day orders:** are good for the day on which they are submitted.
 - ✓ **Good-till-cancelled orders(GTC):** In practice, most brokers limit how long they will manage an order to ensure that they do not fill orders that their clients have forgotten.
 - ✓ **Immediate or cancel orders:** are good only upon receipt by the broker or exchange. If they cannot be filled in part or in whole, they cancel immediately. They are also known as **fill or kill orders**.
 - ✓ **Good-on-close orders:** can only be filled at the close of trading.
 - ✓ **Good-on-open orders:** are only filled at the open of the trading day.

69-206

专业·创新·增值

◆◆ Instructions of Transaction Processes

➤ Validity instructions:

- Validity instructions specify when an order should be executed.
- ✓ **Stop order:** Stop order is an order in which a trader has specified a stop price condition. The stop order may not be filled until the stop price condition has been satisfied.
- **Stop-sell order:** If an investor buys a stock at \$20 and determines his max loss will be 10%, then he could place a stop-sell order at \$18. If the stock price falls to \$18 or below, the order will be exercised.
- **Stop-buy:** Similar with stop-sell order, stop-buy order is usually used for: (1) A trade with stop position; (2) an investor would like to purchase stocks after the signs are revealed.
- Market momentum is reinforced by stop orders.

70-206

专业·创新·增值

◆◆ Instructions of Transaction Processes

➤ Clearing instructions

- Tell brokers and exchanges how to arrange final settlement of trades.
- Traders generally do not attach these instructions to each order—instead they provide them as standing instructions.

71-206

专业·创新·增值

◆◆ Example



➤ Which of the following orders are validity instructions?

- A. Kill or fill orders
- B. Iceberg orders
- C. All or nothing orders

➤ Correct answer: A

- Kill or fill orders also known as immediate or cancel orders are good only upon receipt by the broker or exchange. If they cannot be filled in part or in whole, they cancel immediately. They are one of the validity instructions.

72-206

专业·创新·增值

◆ Example


- A market has the following limit orders standing on its book for a particular stock. The bid and ask sizes are number of shares in hundreds.

Bid size	Limit price	Offer size
5	9.73	
12	9.81	
4	9.84	
6	9.95	
	10.02	5
	10.10	12
	10.14	8

73-206

专业·创新·增值

◆ Example


- What is the market?
- 9.73 bid, offered at 10.14.
 - 9.81 bid, offered at 10.10.
 - 9.95 bid, offered at 10.02.
- Correct answer: C.

74-206

专业·创新·增值

◆ Example


- Consider the following limit order book for a stock. The bid and ask sizes are number of shares in hundreds.

Bid size	Limit price	Offer size
3	122.80	
8	123.00	
4	123.35	
	123.80	7
	124.10	6
	124.50	7

75-206

专业·创新·增值

 **Example**

- A new buy limit order is placed for 300 shares at Y123.40. This limit order is said to:
 - take the market.
 - make the market.
 - make a new market.
- **Correct answer: C**

76-206

专业·创新·增值

 **Example**

- Zhenhu Li has submitted an immediate-or-cancel buy order for 500 shares of a company at a limit price of CNY 74.25. There are two sell limit orders standing in that stock's order book at that time. One is for 300 shares at a limit price of CNY 74.30 and the other is for 400 shares at a limit price of CNY 74.35. How many shares in Li's order would get cancelled?
 - None (the order would remain open but unfilled).
 - 200 (300 shares would get filled).
 - 500 (there would be no fill).
- **Correct answer: C**

77-206

专业·创新·增值

 **Example**

- You have placed a sell market-on-open order—a market order that would automatically be submitted at the market's open tomorrow and would fill at the market price. Your instruction, to sell the shares at the market open, is a(n):
 - execution instruction.
 - validity instruction.
 - clearing instruction.
- **Correct answer: B**

78-206

专业·创新·增值

◆ Example


- A stock now available in the market is quoted \$14, a trader place a stop-buy order at \$20, a limit buy order at \$15. Which interval the stock price will be if the both two orders are not satisfied.
- Below 15
 - Between 15 to 20
 - Above 20
- Correct answer: B

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专业·创新·增值



Security Market Indices

80-206

专业·创新·增值

Framework

1. Definitions about Market Indexes
2. How an index is constructed
3. Uses of Security-Market Indexes
4. Weighting schemes for stock indexes
 - Price-Weighted Index
 - Equal-Weighted Index
 - Market Capitalization-Weighted Index
 - A Float-Adjusted Market Capitalization-Weighted Index
 - Fundamental weighting
5. Rebalancing and Reconstitution
6. Other investment indexes

81-206

专业·创新·增值

◆◆ Definitions about Market Indexes

➤ Definitions about market indexes

- **A security market index:** is used to represent the performance of an asset class, security market, or segment of a market.

✓ Price index:

- A price index reflects only the prices of the constituent securities within the index.
- **A price return** measures only price appreciation or percentage change in price.

✓ Total return index:

- A total return index reflects not only the prices of the constituent securities but also the reinvestment of all income received since inception.
- **Total return** measures price appreciation plus interest, dividends, and other distributions.

82-206

专业·创新·增值

◆◆ How an Index is Constructed

➤ How an index is constructed

- Identify the target market. What is the index intended to measure.
- Pick the representative securities from the market.
- Decide the weight for every securities.
- Determine the rebalance frequency.
- Determine the time of securities re-examination.

83-206

专业·创新·增值

◆◆ Uses of Security-Market Indexes

➤ Uses of security-market indexes

- Reflection of investor confidence.
- Benchmark of manager performance.
- Measure of market return and risk.
- Measure of beta and risk-adjusted return.
- Model portfolio for index funds.

84-206

专业·创新·增值

◆◆ Weighting Schemes for Stock Indexes:

➤ Weighting schemes for stock indexes:

- Price-Weighted Index
- Equal-Weighted Index
- Market Capitalization-Weighted Index
- A Float-Adjusted Market Capitalization-Weighted Index
- Fundamental weighting

85-206

专业·创新·增值

◆◆ Methods of Index Construction

➤ Weighting schemes for stock indexes: Price-Weighted Index

- A price-weighted index is an arithmetic average of current security prices, which means that indexes movements are influenced by the differential prices of the components. The price-weighted index assumes you purchase an equal number of shares (one) of each stock represented in the index.

price-weighted index = $\frac{\text{sum of stock prices}}{\text{number of stocks in index adjusted for splits}}$

- ✓ The Dow Jones Industrial Average (DJIA) is the best known price weighted series and also the oldest and most popular stock-market indicator series.
- ✓ The Nikkei Dow Jones Stock Average is the arithmetic average of the prices of 225 stocks traded in the first section on TSE.

86-206

专业·创新·增值

◆◆ Methods of Index Construction

➤ Weighting schemes for stock indexes: Equal-Weighted Index

- The arithmetic average return of the index stocks for a given time period
- Places an equal weight on the returns of all index stock, regardless of their price or market value.
- Two averaging methodologies to the calculation of an un-weighted index:
 - ✓ **Arithmetic mean:** X_i is the return on each stock

change in average index value = $\frac{\sum X_i}{n}$

- ✓ **Geometric mean:** $X_i = 1 + HPR_i$

change in average index value = $\sqrt[n]{X_1 X_2 \cdots X_n} - 1$

- ✓ The geometric-averaged index value is always **less** than the arithmetic-averaged index value.

87-206

专业·创新·增值

◆◆ Methods of Index Construction

➤ Weighting schemes for stock indexes: **Market Capitalization-Weighted Index**

- A market capitalization-weighted index: the weight on each constituent security is determined by dividing its market capitalization by the total market capitalization (the sum of the market capitalization) of all the securities in the index.
- Current index value =

$$\frac{\text{current total market value of index stocks}}{\text{base year total market value of index stocks}} \times \text{base year index value}$$

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专业·创新·增值

◆◆ Methods of Index Construction

➤ Weighting schemes for stock indexes: **A Float-Adjusted Market Capitalization-Weighted Index**

- The construction method is just like a market capitalization-weighted index.
- the weight on each constituent security is determined by adjusting its market capitalization for the number of shares of the constituent security that are available to the investing public.

89-206

专业·创新·增值

◆◆ Methods of Index Construction

➤ Weighting schemes for stock indexes: **Fundamental weighting**

- Weighting by using measures of a company's size that are independent of its security price to determine the weight on each constituent security.
- **Advantage:** It addresses the disadvantage of market-capitalization weighting method by putting more weights undervalued constituents.
- **Features: value-tilted, contrarian-style**

90-206

专业·创新·增值

◆ Example


- Which of the following index weighting methods requires an adjustment to the divisor after a stock split?
- Price weighting
 - Fundamental weighting
 - Market-capitalization weighting

➤ **Correct answer: A**

In the price weighting method, the divisor must be adjusted so the index value immediately after the split is the same as the index value immediately prior to the split.

91-206

专业·创新·增值

◆ Example


- Which of the following index weighting methods is most likely subject to a value tilt?
- Equal weighting
 - Fundamental weighting
 - Market-capitalization weighting.

➤ **Correct answer: B**

Fundamental weighting leads to indices that have a value tilt.

92-206

专业·创新·增值

◆ Example


- According to the following information of three stocks' prices and outstanding shares, calculate the price return based on market cap-weighting and equally-weighting respectively.

January 31, 2016				January 31, 2017			
	Share Price	Number of Shares	Market Value		Share Price	Number of Shares	Market Value
Stock W	\$15	2000	\$30,000	Stock W	\$20	2000	\$40,000
Stock X	\$20	1500	\$30,000	Stock X	\$15	1500	\$22,500
Stock V	\$40	800	\$32,000	Stock V	\$35	800	\$28,000
Total	\$75	4300	\$92,000	Total	\$65	4300	\$86,500

93-206

专业·创新·增值

◆ Example



- The price return of equally-weighted Index:

Stock	Initial Price	Current Price	Price Change
W	15.00	20.00	+33.3%
X	20.00	15.00	-25%
V	40.00	35.00	-12.5%

Equal-weighted index return is $(33.3\%-25\%-12.5\%)/3=-1.4\%$

- The price return of market cap-weighted Index:

Stock	Initial Value	Current value
W	\$30,000	\$40,000
X	\$30,000	\$22,500
V	\$32,000	\$28,000

Value-weighted index return is

$(40000+22500+28000)/(30000+30000+32000)-1=-1.63\%$

94-206

专业·创新·增值

◆ Rebalancing and Reconstitution

- Rebalancing and reconstitution

● Rebalancing

- ✓ To maintain the weight of each security consistent with the index's weighting method, the index provider rebalances the index by adjusting the weights of the constituent securities.
- ✓ Rebalancing is done on a periodic basis, usually quarterly.

● Reconstitution

- ✓ Index reconstitution refers to periodically adding and deleting securities that make up an index.
- ✓ The reconstitution date is the date on which index providers review the constituent securities, re-apply the initial criteria for inclusion in the index, and select which securities to retain, remove, or add.

95-206

专业·创新·增值

◆ Example



- Rebalancing an index is the process of periodically adjusting the constituent:
- securities' weights to optimize investment performance.
 - securities to maintain consistency with the large market.
 - securities' weights to maintain consistency with the index's weighting method.

➤ Correct answer: C

- Reconstitution of a security market index reduces:

- portfolio turnover.
- the need for rebalancing.
- the likelihood that the index includes securities that are not representative of the target market.

➤ Correct answer: C

96-206

专业·创新·增值

◆◆ Other Investment Indexes

➤ Characteristics of equity indexes (Summary)

- Broad market index
- Multi-market index
- Multi-market index with fundamental weighting
- Sector Index
- Style index

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专业·创新·增值

◆◆ Other Investment Indexes

➤ Broad market index

- represents an entire given equity market and typically includes securities representing more than 90 percent of the selected market.

➤ Multi-market index

- usually comprise indices from different countries and are designed to represent multiple security markets.

➤ Multi-market index with fundamental weighting

- weight the securities within each country by market capitalization and then weight each country in the overall index in proportion to its relative GDP, effectively creating fundamental weighting in multi-market indices.

➤ Sector index

➤ Style index

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专业·创新·增值

◆◆ Other Investment Indexes

➤ Broad market index

➤ Multi-market index

➤ Multi-market index with fundamental weighting

➤ Sector index

- represent and track different economic sectors—such as consumer goods, energy, finance, health care, and technology—on either a national, regional, or global basis.

➤ Style index

- represent groups of securities classified according to market capitalization, value, growth, or a combination of these characteristics.

99-206

专业·创新·增值

◆◆ Characteristics of Fixed-Income Indexes

- Several issues with the construction of fixed income indexes:
 - Large universe of securities:
 - ✓ the number of fixed-income securities is many times larger than the number of equity securities.
 - ✓ issued by governments, government agencies, and corporations.
 - ✓ Turnover is high in fixed income indexes since bond may mature and be replaced in the index.
 - Dealer markets and infrequent trading:
 - ✓ fixed-income markets are predominantly dealer markets. As a result, index providers must contact dealers to obtain current prices or estimate the prices of constituent securities.

100-206

专业·创新·增值

◆◆ Other Investment Indexes

- Alternative investment indexes- Commodity indexes
 - Commodity indices consist of futures contracts on one or more commodities, such as agricultural products, livestock , precious and common metals, and energy commodities.
- Alternative investment indexes- Real estate indexes
 - Real estate indices represent the market for real estate securities and the market for real estate. It can be categorized as appraisal indices, repeat sales indices, and real estate investment trust (REIT) indices.
- Alternative investment indexes- Hedge fund indexes
 - Underlying assets are usually nontraditional assets with high leverage.
 - Hedge funds are largely unregulated.
 - Performance of different indexes are vary substantially.

101-206

专业·创新·增值

◆◆ Example



- Which of the following is an example of a style index? An index based on:
 - A. geography.
 - B. economic sector.
 - C. market capitalization.
- Correct answer: C
- Commodity index values are based on:
 - A. futures contract prices.
 - B. the market price of the specific commodity.
 - C. the average market price of a basket of similar commodities.
- Correct answer: A

102-206

专业·创新·增值

◆ Example


- In comparison to equity indices, the constituent securities of fixed-income indices are:
 - A. more liquid.
 - B. easier to price.
 - C. drawn from a larger investment universe.

➤ Correct answer: C

103-206

专业·创新·增值

◆ Summary

序号	考点	题型	重要性
1	Price index 和 return index	识记	☆☆
2	建立指数的步骤	识记	☆
3	五类指数的特征	识记	☆☆☆
4	三种指数收益率的计算	计算	☆☆☆
5	Rebalance and reconstitution	识记	☆
6	证券指数的用途	识记	☆
7	权益指数的分类	识记	☆☆
8	固定收益类及其他类投资指数的特征	识记	☆☆

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专业·创新·增值

Reading

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Market Efficiency

105-206

专业·创新·增值

Framework

1. What is Efficient Capital Market
2. Factors affect the degree of market efficiency
3. Three forms of market efficiency
 - The weak-form EMH
 - The semi-strong form EMH
 - The strong-form EMH
4. Tests, Implications and Conclusions of EMH
5. Market Anomalies
6. Behavior Finance

106-206

专业·创新·增值

◆ Efficient Capital Market

- Efficient capital market and the assumptions
 - An informational efficient capital market is where security prices adjust rapidly to the infusion of new information
 - Current security prices fully reflect all available information.
 - The time frame for an asset's price to incorporate information can be used to measure a market's efficiency.
 - ✓ If the time frame of price adjustment allows many traders to earn profits with little risk, then the market is relatively inefficient.
 - Prices should be expected to react only to the elements of information releases that are not anticipated fully by investors.

107-206

专业·创新·增值

◆ Efficient Capital Market

- In markets that are highly efficient, investors can typically expect market values to reflect intrinsic values.
 - Market value is the price at which an asset can currently be bought or sold.
 - Intrinsic value or fundamental value is the value that would be placed on it by investors if they had a complete understanding of the asset's investment characteristics.
 - If a market is highly efficient, investors will usually accept market prices as accurately reflecting intrinsic values.
 - If investors believe an asset market is relatively inefficient, they may try to develop an independent estimate of intrinsic value and profit from the mispricing.

108-206

专业·创新·增值

◆ Factors Affect the Degree of Market Efficiency

➤ Factors affect the degree of market efficiency

Number of market participation

- The number participants such as investors, financial analysts who follow or analyze a security or asset should be positively related to market efficiency.

Availability of information

- Information availability (e.g., an active financial news media) and financial disclosure should promote market efficiency.

Impediments to trading

- Market efficiency is impeded by any limitation on arbitrage resulting from operating inefficiencies, such as difficulties in executing trades in a timely manner, prohibitively high trading costs.

Transaction and information costs

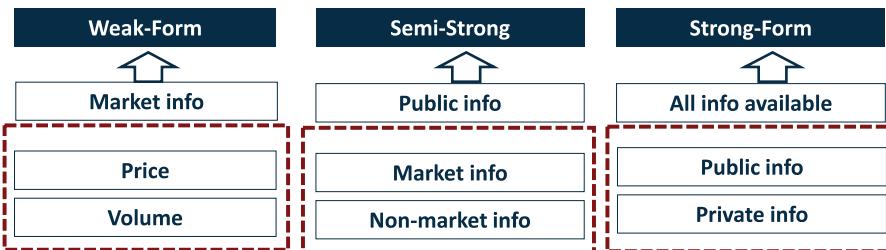
- Higher costs of information, analysis, and trading, more inefficient of the market.

109-206

专业·创新·增值

◆ Three Forms of Market Efficiency

➤ Three forms of market efficiency:



Types	Assumption	Implication
Weak-Form EMH	Market info.	Technical Analysis ✕
Semi Strong-Form EMH	Public info.	Technical Analysis ✕ Fundamental Analysis ✕
Strong-Form EMH	All info.	Technical Analysis ✕ Fundamental Analysis ✕ Nobody can win the market ✕

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专业·创新·增值

◆ Three Forms of Market Efficiency

➤ Three forms of market efficiency:

- Abnormal returns** are returns in excess of those expected given a security's risk and the market's return.
- Technical analysis** is a form of security analysis that uses price and volume data in decision making.
- Fundamental analysis** is the examination of publicly available information and the formulation of forecasts to estimate the intrinsic value of assets.
- Event study** is one method to **test the semi-strong form market**. It examining abnormal returns before and after the release of new material information.
- If markets are **semi-strong** from efficient, investors should invest **passively**.
- In general, mutual fund managers can not beat a passive index strategy from time to time.

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专业·创新·增值

◆◆◆ Tests, Implications and Conclusions of EMH

➤ Market anomalies

- **Definition:** Something deviates and helps to disprove the EMH
- Most evidence suggests anomalies are not violations of market efficiency but are due to the methodologies used in anomaly research, such as data mining or failing to adjust adequately for risk.

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专业·创新·增值

◆◆◆ Market Anomalies

➤ Market anomalies-anomalies in time-series data

● Calendar anomalies

- ✓ The **January effect** contradicts the efficient market hypothesis because excess returns in January are not attributed to any new and relevant information or news.
- ✓ Explanations for January effect are
 - **Tax-loss selling:** in order to reduce their tax liabilities, investors sell their “loser” securities in December for the purpose of creating capital losses
 - **Window dressing:** a practice in which portfolio managers sell their riskier securities prior to 31 December to make their portfolios appear less risky.

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专业·创新·增值

◆◆◆ Market Anomalies

➤ Market anomalies-anomalies in time-series data

- **The overreaction effect:** “winner” securities would underperform the market and “loser” securities would outperform the market.
- **Momentum anomalies:** securities that have high returns in the short-term will be continued by higher return.
- Both the overreaction effect and momentum effects are contradictions to the weak form of market efficiency.

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专业·创新·增值

◆◆ Market Anomalies

- **Anomalies in cross-sectional data**
 - **Size effect:** this test indicates that stocks of small-sized firms tend to outperform stocks of large-sized firms.
 - **Value effect:** studies have shown that Value stocks have consistently outperformed growth stocks.
 - ✓ Value stocks: lower price-to-earnings (P/E), lower market-to-book (M/B), and higher dividend yields.
 - ✓ Growth stocks: higher P/E, higher M/B, and lower dividend yields.
- **Other identified anomalies**
 - **Closed-end investment funds:** an abundance of research, has documented that, on average, closed-end funds trade at a discount from NAV.

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专业·创新·增值

◆◆ Market Anomalies

- **Market anomalies-anomalies in time-series data**
- **Anomalies in cross-sectional data**
- **Other identified anomalies**
 - **Earnings announcements:** an adjustment also occurs after the announcement day.
 - **Initial public offerings:** the subsequent long-term performance of IPOs is generally found to be below average.
 - **Economic fundamentals:** a number of researchers have documented that equity returns are related to prior information on such factors as interest rates, inflation rates, stock volatility, and dividend yields.
- As a matter of fact, most researchers conclude that observed anomalies are **not violations of market efficiency** but, rather, are the result of statistical methodologies used to detect the anomalies.
- **Investors face challenges when they attempt to translate statistical anomalies into economic profits.**

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专业·创新·增值

◆◆ Example



- With respect to the efficient market hypothesis, if security prices reflect only past prices and trading volume information, then the market is:
 - A. weak-form efficient.
 - B. strong-form efficient.
 - C. semi-strong-form efficient.
- Correct answer: A.
- If markets are semi-strong efficient, standard fundamental analysis will yield abnormal trading profits that are:
 - A. negative.
 - B. equal to zero.
 - C. positive.
- Correct answer: B.

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专业·创新·增值

◆ Example



- Technical analysts assume that markets are:
 - A. weak-form efficient.
 - B. weak-form inefficient.
 - C. semi-strong-form efficient.
- **Correct answer: B.**

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专业·创新·增值

◆ Behavioral Finance

- **Behavioral finance:**
 - Concerns about to what extent the psychological characteristics affect investments either by individuals or groups.
- **Behavioral biases that have been identified include**
 - **Loss aversion:** loss aversion refers to the tendency of people to dislike losses more than they like comparable gains.
 - **Overconfidence:** explains that investors or analysts are overconfident in their earning forecasts which result in the overestimation of growth, good news.
 - **Herding:** trading that occurs in clusters and is not necessarily driven by information.
 - **Information cascades:** an application of behavioral theories to markets and pricing focuses on the role of personal learning in markets.

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专业·创新·增值

◆ Behavioral Finance

- **Rational vs. Irrational**
 - Efficient market hypothesis that **only market is rational**.
 - Behavioral finance is used to explain some of the market anomalies as irrational decisions.
- **Behavioral biases that have been identified include**
 - **Representativeness:** Investors assume good companies or good markets are good investments.
 - **Mental accounting:** Investors classify different investments into separate mental accounts instead of viewing them as a total portfolio.
 - **Conservatism:** Investors react slowly to changes.
 - **Narrow framing:** Investors view events in isolation.

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专业·创新·增值

◆ Example


- Example: An internal evaluation of the trading behavior of three fund managers of a mutual fund company during the past year has revealed the following:

Manager X:	She was slower than peers when reacting to changes in information.
Manager Y:	He rarely realized investment losses but realized most of the investment gains.
Manager Z:	She tended to overreact by disliking losses more than liking comparable gains.

From the above, which of the three managers most likely displayed a behavioral bias called “disposition effect”?

- A. Manager X
- B. Manager Y
- C. Manager Z

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专业·创新·增值

◆ Example


- Correct answer: B

B is correct. Disposition effect relates to the behavioral bias in which investors tend toward avoiding realizing losses but, rather, seek to realize gains. Manager Y has displayed this bias because he rarely realized investment losses but realized most of the investment gains.

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专业·创新·增值

◆ Example


- Which of the following market anomalies is inconsistent with weak-form market efficiency?
- A. Earnings surprise.
 - B. Momentum pattern.
 - C. Closed-end fund discount.

- Correct answer: B

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专业·创新·增值

◆◆ Example



- Like traditional finance models, the behavioral theory of loss aversion assumes that investors dislike risk; however, the dislike of risk in behavioral theory is assumed to be:
 - A. leptokurtic.
 - B. symmetrical.
 - C. asymmetrical.
- **Correct answer: C**

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专业·创新·增值

◆◆ Summary

序号	考点	题型	重要性
1	有效市场的特征	识记	☆☆
2	影响市场有效性的因素	识记、定性	☆☆☆
3	三类有效市场假说	识记	☆☆☆
4	Types of anomalies	识记	☆☆
5	行为金融学的影响	识记	☆

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专业·创新·增值



Overview of Equity Securities

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专业·创新·增值

Framework

1. Classification of Public Equity Securities
2. Private Equity Securities
3. Non-domestic Equity Securities
4. Risk and Return Characteristics of Equity Securities

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专业·创新·增值

◆ Classification of Public Equity Securities

➤ Classification of equity securities

● Common Shares:

- ✓ Common shares represent an ownership interest in a company and are the predominant type of equity security. Shareholders have voting rights and a residual claim on company's net assets (after the claims of debt holders and preferred stockholders).
- ✓ Voting rights provide shareholders with the opportunity to participate in major corporate governance decisions.
 - The **statutory voting** is a common method of voting where each share represents one vote.
 - The cumulative voting allows shareholders to direct their total voting rights to specific candidates and offers more representation on the board for small shareholders.
 - Total voting rights = the number of shares owned × the number of board directors being elected.

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专业·创新·增值

◆ Classification of Public Equity Securities

➤ Classification of equity securities

● Callable common shares

- ✓ give the issuing company the option (or right), but not the obligation, to buy back shares from investors at a call price that is specified when the shares are originally issued.

● Putable common shares

- ✓ give investors the option or right to sell their shares (i.e., "put" them) back to the issuing company at a price that is specified when the shares are originally issued.

Callable common share	Benefit the firm
Putable common share	Benefit the investor

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专业·创新·增值

◆◆ Classification of Public Equity Securities

➤ Classification of equity securities

- Preference shares

- ✓ Preference shares or preferred stocks have characteristics of both debt securities and common shares.
- **Features of common stock:** do not mature
- **Features of debt:** the dividends on preference shares are fixed, and are not contractual obligations of the company. Preferences shares generally do not have any voting rights.
- Preference shares (or preferred stock) rank above common shares with respect to the payment of dividends and the distribution of the company's net assets upon liquidation.

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专业·创新·增值

◆◆ Classification of Public Equity Securities

➤ Classification of equity securities

- Cumulative preference shares

- ✓ Preference shares for which any dividends that are not paid accrue and must be paid in full before dividends on common shares can be paid.

- Participating preference shares

- ✓ Preference shares that entitle shareholders to receive the standard preferred dividend plus the opportunity to receive an additional dividend if the company's profits exceeds a pre-specified level.

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专业·创新·增值

◆◆ Classification of Public Equity Securities

➤ Classification of equity securities

- Convertible preference shares

- ✓ Convertible preference shares entitle shareholders to convert their shares into a specified number of common shares.
- ✓ It has the following advantages:
 - They allow investors to earn a higher dividend than if they invested in the company's common shares.
 - They allow investors the opportunity to share in the profits of the company.
 - They allow investors to benefit from a rise in the price of the common shares through the conversion option.
 - Their price is less volatile than the underlying common shares because the dividend payments are known and more stable.

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专业·创新·增值

◆◆ Private Equity Securities

➤ Private equity

- Private equity securities are issued primarily to institutional investors via non-public offerings, such as private placements.

➤ Private equity has the following characteristics:

- Liquidity is lower due to lack of public trading market.
- Share price is negotiated by two parties rather than determined by market trades.
- Because there is no government or exchange requirement, the financial disclosure will be less transparent.
- Low requirement on financial report contribute to low reporting cost.
- Corporate governance is generally weaker.
- Less pressure for short-term performance, therefore more attention is paid to a longer-term focus.
- Gain superior return when the firm launches IPO.

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专业·创新·增值

◆◆ Private Equity Securities

➤ The three main types of private equity investments are:

Venture capital

- Venture capital investments provide “seed” or start-up capital, early-stage financing, or mezzanine financing to companies that are in the early stages of development and require additional capital for expansion.

Leveraged buyout(LBO)

- A group of investors uses a large amount of debt to purchase all of the outstanding common shares of a publicly traded company.
- If the investors are management of the target company, the transaction is referred to MBO.

Private investment in public equity(PIPE)

- A public firm requires capital in a short time and sells a sizable share to private investors. The reasons include business expansion, distress relief or paying debt.

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专业·创新·增值

◆◆ Non-domestic Equity Securities

➤ Direct investing

- Buying a foreign firm's securities in foreign markets directly. Investors who choose direct investing should be aware of following issues:
 - ✓ Return distributed to investors are in foreign currency.
 - ✓ Liquidity risk is higher in foreign market.
 - ✓ Investors may experience less transparency because of less strict reporting system.
 - ✓ Investors must be familiar with the trading, clearing, and settlement regulations and procedures of the foreign market.

➤ Global registered shares

- Global registered share (GRS) is a common share that is traded on different stock exchanges all over the world in different currencies.

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专业·创新·增值

◆◆ Non-domestic Equity Securities

➤ **Depository receipts**

- A depository receipt (DR) is a security that trades like an ordinary share on a local exchange and represents an economic interest in a foreign company.
 - ✓ DRs' creation: The foreign company deposits its equity shares in a bank that is located in the country on whose exchange the shares will trade.
- **Sponsored DR/ Unsponsored DR:** whether the firm is involved with the issue, the depository receipt is a sponsored or unsponsored DR.
 - ✓ Global depository receipts (GDRs) are issued in any countries other than U.S. or the issuer's home country.
 - ✓ American depository receipts (ADRs) are traded within the United States in US dollars.

➤ **Basket of listed depository receipts**

- A basket of listed depository receipts (BLDR) is an exchange-traded fund (ETF) that represents a portfolio of depository receipts.

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专业·创新·增值

◆◆ Example



- An arbitrageur buys a security on a European exchange, where it is quoted in euros, and simultaneously sells the same security on a U.S. exchange, where it is quoted in dollars. The security is most likely a:
 - A. global registered shares.
 - B. global depository receipts.
 - C. sponsored depository receipt.
- **Correct answer: A**
 Global registered shares (GRS) are identical shares of the same issuer that trade on multiple global exchanges in the local currencies.
 Global depository receipts (GDRs) are issued outside the United States and the issuer's home country.
 Depository receipt (DR) represent ownership in a foreign firm and are traded in the markets of other countries in local market currencies. If the firm is involved with the issue, the DR is a sponsored DR.

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专业·创新·增值

◆◆ Risk and Return of Equity Securities

➤ **Equity returns:**

- Dividends
 - ✓ Cash or stock dividends (D_t) represent distributions that the company makes to its shareholders during period t.
- Capital gains or losses from changes in share prices
- Foreign exchange gains or losses.

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专业·创新·增值

◆ Risk and Return of Equity Securities

➤ **Equity risk:**

- Risk is most often measured by calculating the standard deviation of the equity's expected total return.
- **Preferred stock** contains less risk comparing to common stock:
 - ✓ Dividends on preferred shares are known and fixed.
 - ✓ Preferred stockholders have priority over common shareholders in receiving distributions.
 - ✓ Preferred stocks have priority of claimings in liquidation priority over common stock.
- **Putable shares** contains less risk for investor (otherwise identical).
 - ✓ Investors can sell back their shares to the firm at a specific price when the market price is below that price.
- **Callable shares** contains more risk for investor (otherwise identical).
 - ✓ The issuing firm can buy back their shares from investors at a specific price when the market price is over that price.

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专业·创新·增值

◆ Risk and Return of Equity Securities

➤ The risk is most commonly measured as the standard deviation of returns (收益的标准差).

Low ← **risk** → High

Putable stock <Preferred stock <Common stock <Callable stock

Cumulative preferred stock <Non-cumulative preferred stock

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专业·创新·增值

◆ Risk and Return of Equity Securities

➤ **The book value of equity**

- The book value is shareholders' equity on a company's balance sheet.

➤ **The market value of equity**

- The market value of equity reflects the collective and differing expectations of investors concerning the amount, timing, and uncertainty of the company's future cash flows.

➤ **Return on Equity**

- Return on equity is the primary measure that equity investors use to determine whether the management of a company is effectively and efficiently using the capital they have provided to generate profits.

$$ROE_t = \frac{NI_t}{\text{average } BV} = \frac{NI_t}{(BV_t + BV_{t-1})/2}$$

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专业·创新·增值

◆◆ Risk and Return of Equity Securities

➤ Cost of equity

- Company's cost of equity is often used as a proxy for the investors' minimum required rate of return.
- ✓ If the share price drops, the expected return will rise, and vice-versa.
- ✓ A firm's cost of equity can be thought of the minimum expected rate of return that a company must offer to its investors for purchasing its shares and enduring the risk when the price drops.

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专业·创新·增值

◆◆ Summary

序号	考点	题型	重要性
1	股票的分类	识记	☆☆
2	不同性质的优先股	识记	☆
3	私募较公募的特点	识记	☆☆☆
4	私募的三种方式	识记	☆☆
5	直接投资与存托凭证的特点	识记	☆☆
6	不同类型股票风险的特征	定性	☆☆☆
7	股权融资成本与ROE	识记、计算	☆☆

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Reading

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Introduction to Industry and company Analysis

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专业·创新·增值

Framework

1. Top-down process
2. General Economic Influence
3. Industry Influences
 - Industry Life Cycle
 - Business Cycle
 - Statistical methods
4. Company analysis
 - Competitive strategies

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◆ Three-Step Valuation Process

- **Top-down process**
 - General Economic Influence;
 - Industry Influences;
 - Company Analysis.
- **Economic and industry environment will have a major influence on the success of a firm and the realized rate of return on its stock.**

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◆ General Economic Influence

- **Structural economic changes**
 - **Macroeconomic factors**
 - ✓ Trends in overall economic activity generally have significant effects on the demand for an industry's products or services. These trends can be cyclical or structural.
 - **Technology**
 - ✓ New technologies create new or improved products that can radically change an industry and can also change how other industries that use the products conduct their operations.
 - **Demographics**
 - ✓ Changes in population size, in the distributions of age and gender, and in other demographic characteristics may have significant effects on economic growth and on the amounts and types of goods and services consumed.
 - **Governments**
 - ✓ Today's social trend may be tomorrow's law, regulation, or tax
 - **Social influence**
 - ✓ Societal changes involving how people work, spend their money, enjoy their leisure time, etc.

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专业·创新·增值

◆◆ Industry Influences

- Industry classification system (Cont.)
 - Classification by their sensitivity to business cycles
 - ✓ Industry life cycle
 - Embryonic stage
 - Growth stage
 - Shakeout stage
 - Mature stage
 - Decline stage

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专业·创新·增值

◆◆ Industry Influences

- Industry classification system (Cont.)
 - Classification by their sensitivity to business cycles
 - ✓ Industry life cycle
 - **Embryonic stage:** an embryonic industry is one that is just beginning to develop.
 - Growth is slow: customers tend to be unfamiliar with the industry's product.
 - High prices: volumes are not yet sufficient to achieve meaningful economies of scale.
 - Substantial investment is required for product development.
 - Failure risk: risk of failure is high. A majority of start-up companies do not succeed.

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专业·创新·增值

◆◆ Industry Influences

- Industry classification system (Cont.)
 - Classification by their sensitivity to business cycles
 - ✓ Industry life cycle
 - **Growth stage:** industry growth is rapid.
 - Rapidly increasing demand: new customers entering the market.
 - Limited competitive pressures: competition tends to be relatively limited because rapidly expanding demand provides companies with an opportunity to grow without needing to capture market share from competitors.
 - Falling prices: economies of scale are achieved and as distribution channels develop.
 - Increasing profitability: volumes rise and economies of scale are attained.

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专业·创新·增值

◆ Industry Influences

➤ **Industry classification system (Cont.)**

- Classification by their sensitivity to business cycles

- ✓ **Industry life cycle**

- **Shakeout stage:** due to intense competitions, industry growth has slowed and profitability begins to decline.
 - Slowing growth: demand approaches market saturation levels because few new customers enter the market.
 - Intense competition: growth becomes increasingly dependent on market share gains.
 - Increasing industry overcapacity: companies continue to produce which exceeds the growth of industry demand.
 - Declining profitability: company cut prices to sell excess capacity, therefore industry profitability begins to decline.
 - Increased cost cutting: companies increasingly focus on reducing their cost structure and building brand loyalty.
 - Increased failures: marginal companies may fail or merge with others.

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专业·创新·增值

◆ Industry Influences

➤ **Industry classification system (Cont.)**

- Classification by their sensitivity to business cycles

- ✓ **Industry life cycle**

- **Mature stage:** little or no growth, and industry consolidation occurs.
 - Little or no growth: growth tends to be limited to replacement demand and population expansion.
 - Consolidation: as a result of the shakeout, mature industries often consolidate and become oligopolies.
 - High barriers to entry: the surviving companies tend to have brand loyalty and relatively efficient cost structures, both of which are significant barriers to entry.
 - Stable pricing: companies in mature industries tend to recognize their interdependence and try to avoid price wars.
 - Companies with superior products or services: are likely to gain market share and experience above-industry-average growth and profitability.

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专业·创新·增值

◆ Industry Influences

➤ **Industry classification system (Cont.)**

- Classification by their sensitivity to business cycles

- ✓ **Industry life cycle**

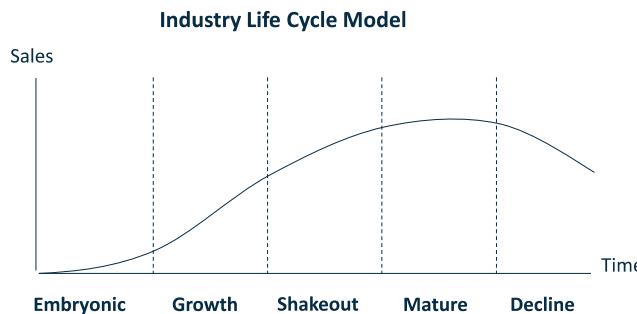
- **Decline stage:** industry growth turns negative.
 - Growth turns negative: demand at this stage may decline for a variety of reasons, including technological substitution, social changes, and global competition.
 - Declining demand and prices: excess capacity in the industry forms and companies respond by cutting prices, which often leads to price wars.
 - Consolidation: the weaker companies often exit the industry at this point, merge, or redeploy capital into different products and services.

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专业·创新·增值

◆◆ Industry Influences

- Industry classification system (Cont.)
 - Classification by their sensitivity to business cycles
 - ✓ Industry life cycle



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专业·创新·增值

◆◆ Example



- According to the industry life-cycle model, an industry in the shakeout stage is best characterized as experiencing:
 - A. Increasing demand but falling prices.
 - B. Slowing growth and intense competition.
 - C. Little or no growth and industry consolidation.
- **Correct answer: B**
 The shakeout stage is usually characterized by slowing growth, intense competition, and declining profitability. During the shakeout stage, demand approaches market saturation levels because few new customers are left to enter the market. Competition is intense as growth becomes increasingly dependent on market share gains.

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专业·创新·增值

◆◆ Example



- If a industry tends to be characterized by falling price, relatively low barriers to entry, and relatively low competition, which of the following cycle the industry belongs to?
 - A. Shakeout
 - B. Mature
 - C. Growth
- **Correct answer: C.**
 A growth industry tends to be characterized by rapidly increasing demand, improving profitability, falling prices, and relatively low competition. The threat of new competitors entering the industry is usually highest when barriers to entry are relatively low.

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专业·创新·增值

◆◆ Industry Influences

- Factors that affect the sensitivity of business cycle
- **Cyclical firm:** A cyclical firm is one whose profits are strongly correlated with the strength of the overall economy.
 - ✓ **High earnings volatility**
 - ✓ **High operating leverage**
 - ✓ Such as: autos, energy, financial services, housing, basic materials, industrials, durables and technology.

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专业·创新·增值

◆◆ Industry Influences

- Factors that affect the sensitivity of business cycle
- **Non-cyclical firm:** A non-cyclical company is one whose performance is largely independent of the business cycle.
 - ✓ **Examples include:** Staple consumer goods(food and beverage), household and personal care products, health care, and utilities.
 - ✓ **Defensive industries:** Revenues and profits are least affected by fluctuations in overall economic activity.
 - ✓ **Growth industries:** would include industries with specific demand dynamics that are so strong that they override the significance of broad economic or other external factors.

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◆◆ Industry Influences

- **Peer group**
- A peer group is a group of companies engaged in similar business activities whose economics and valuation are influenced by closely related factors.
- **The following are steps an analyst would use to form a peer group:**
 - ✓ Examine commercial classification systems.
 - ✓ Review the subject company's annual report for a discussion of the competitive environment.
 - ✓ Review competitors' annual reports to identify other potential comparable companies.
 - ✓ Review industry trade publications to identify comparable companies.
 - ✓ Confirm that each comparable company derives a significant portion of its revenue and operating profit from a business activity similar to the primary business of the subject company.

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专业·创新·增值

◆◆ Industry Influences

- **Pricing power**
- **Barriers to entry**
 - ✓ low barriers to entry->little pricing power
 - ✓ high barriers to entry do not automatically lead to good pricing power and attractive industry economics.
 - ✓ high barriers to exit means they are prone to overcapacity.
- **Industry concentration**
 - ✓ It is not necessarily indicates that concentrated industries always have pricing power.
- **Industry capacity**
 - ✓ Undercapacity->higher pricing power and higher return on capital
 - ✓ Overcapacity->lower pricing power and lower return on capital
- **Market share stability**
 - ✓ Stable market shares typically indicate less competitive industries.

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专业·创新·增值

◆◆ Example



- An industry with high barriers to entry and weak pricing power most likely has:
 - A. high barriers to exit.
 - B. stable market shares.
 - C. significant numbers of issued patents.
- **Correct answer: A**

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专业·创新·增值

◆◆ Industry Influences

- **Competitive advantage**
- Analysis of the competitive environment with an emphasis on the implications of the environment for corporate strategy is known as strategic analysis. Michael Porter's "five forces" framework is a classic starting point:
 - **Rivalry among existing competitors:** which is a function of the industry's competitive structure.
 - **Threat of entry:** which depends on barriers to entry, or how difficult it would be for new competitors to enter the industry.
 - **Power of suppliers:** which may be able to raise prices or restrict the supply of key inputs to a company.
 - **Power of buyers:** which can affect the intensity of competition by exerting influence on suppliers regarding prices.
 - **Threat of substitutes:** which can negatively affect demand if customers choose other ways of satisfying their needs.

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Industry Influences

➤ Elements considered in an industry analysis

- Study statistical relationships between industry trends and a range of economic and business variables.
- Analysts attempt to use various approaches to develop practical and reliable industry variables.
- Identify the difference between their forecasts and consensus forecast and find out the industry which is mis-valued.
- Examine the performance compared with other industries to identify superior ones.
- Determine the consistency, volatility and risk return over time to identify industries with potential highest return.
- Examining industry prospects by testing strategic groups. These groups typically have products with different delivery or complexity, which contribute to their uniqueness.

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专业·创新·增值

Example



- An industry that most likely has both high barriers to entry and high barriers to exit is the:
- restaurant industry.
 - advertising industry.
 - automobile industry.

➤ Correct answer: C

- Which of the following companies most likely has the greatest ability to quickly increase its capacity?
- Restaurant.
 - Steel producer.
 - Legal services provider.

➤ Correct answer: C

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专业·创新·增值

Example



- Which of the following is least likely to involve industry analysis?
- Sector rotation strategy.
 - Top-down fundamental investing.
 - Tactical asset allocation strategy.

➤ Correct answer: C

- Which of the following information about a company would most likely depend on an industry analysis? The company's:
- dividend policy.
 - competitive environment.
 - trends in corporate expenses.

➤ Correct answer: B

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◆◆ Company Analysis

- A company analysis should include the following elements
 - Provide an overview of the company, including a basic understanding of its businesses, investment activities, corporate governance, and perceived strengths and weaknesses;
 - Explain relevant industry characteristics;
 - Analyze the demand for the company's products and services;
 - Analyze the supply of products and services, which includes an analysis of costs;
 - Explain the company's pricing environment;
 - Present and interpret relevant financial ratios, including comparisons over time and comparisons with competitors.

166-206

专业·创新·增值

◆◆ Company Analysis

- Three generic competitive strategies
 - **Cost leadership:** With the same product, the firm seeks to a lower cost.
 - **Differentiation:** With the same cost, the firm seeks to provide product benefits that other firms do no provide.
 - **Focus:** The firm targets a niche with either a cost or a differentiation focus.

Low-cost strategy

- Strive to become the low-cost producers.
- Pricing may become predatory—driving competitors out of business.
- Tight cost controls, efficient operating and reporting systems, and appropriate managerial incentives.

Product differentiation strategy

- Attempt to provide products and services that are unique.
- The price premiums must be above their costs of differentiation and the differentiation must be appealing to customers and sustainable over time.
- Strong market research teams to identify and match customer needs.

167-206

专业·创新·增值

◆◆ Example



- With respect to competitive strategy, a company with a successful cost leadership strategy is most likely characterized by:
 - A. a low cost of capital.
 - B. reduced market share.
 - C. the ability to offer products at higher prices than competitors.
- **Solutions: A**
 Companies with low cost strategies must be able to invest in productivity-improving equipment and finance that investment at a low cost of capital. Market share and pricing depend on whether the strategy is pursued defensively or offensively.

168-206

专业·创新·增值

◆ Company Analysis

- Spreadsheet modeling of financial statements to analyze and forecast revenues, operating and net income, and cash flows has become one of the most widely used tools in company analysis.
- Because modeling requires the analyst to predict and input numerous items in financial statements, there is a risk of errors—either in assumptions made or in formulas in the model—which can compound, leading to erroneous forecasts.

169-206

专业·创新·增值

◆ Summary

序号	考点	题型	重要性
1	行业分类的主要方法	识记	☆
2	统计方式进行行业分类的缺陷	识记	☆☆
3	周期类行业与逆周期行业	识记	☆
4	行业分析的五个要素 (Porter's forces)	识记、定性	☆☆☆
5	影响行业前景的因素及影响方式	定性	☆☆☆
6	行业各周期阶段的特点	识记	☆☆
7	行业周期分析方法的局限性	识记	☆
8	影响行业前景的外部因素	识记、定性	☆☆☆
9	低成本策略与差异化策略	识记	☆☆
10	个股分析的要素	识记	☆
11	使用数量模型分析个股的缺陷	识记	☆

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专业·创新·增值



Equity Valuation: Concept and Basic Tool

171-206

专业·创新·增值

Framework

1. Evaluate a security
2. Major categories of equity valuation models
 - Discounted cash flow models
 - Multiplier models
 - Asset-based models

172-206

专业·创新·增值

◆ Evaluate a Security

- **Intrinsic value vs. Market price**
 - Intrinsic value is based on an analysis of investment fundamentals and characteristics. By comparing estimates of value and market price, an analyst can arrive at one of three conclusions: The security is undervalued, overvalued, or fairly valued in the marketplace.
 - Market price is assumed to move toward intrinsic value.
 - Things to consider when deciding whether to invest based on estimated intrinsic value:
 - ✓ The degree of difference between market prices and estimated values
 - ✓ Confidence in valuation model.
 - ✓ Confidence in inputs used in the valuation model.
 - ✓ Reasons why stock is mispriced.
 - ✓ Assume that market price will actually move toward estimated intrinsic value and that it will do so to a significant extent within the investment time horizon.

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专业·创新·增值

◆ Major Categories of Equity Valuation Models

- **Major categories of equity valuation models**
 - **Discounted cash flow models (or present value models)**
 - ✓ dividend discount models
 - ✓ free cash flow to equity models
 - **Multiplier models (market multiple models)**
 - ✓ the ratio of stock price to fundamentals
 - ✓ the ratio of enterprise value to fundamentals
 - **Asset-based models**

174-206

专业·创新·增值

◆◆ Background for DDM: Stock Dividends

➤ Dividend

- A dividend is a distribution paid to shareholders based on the number of shares owned, and a cash dividend is a cash distribution made to company's shareholders.

➤ Stock dividends

- Stock dividends is a type of dividend in which a company distributes additional shares of its common stock to shareholders instead of cash.

➤ Extra dividend or special dividend

- The dividends paid by a company that does not pay dividends on a regular schedule or a dividend that supplements regular cash dividend with an extra payment.

➤ Stock split/ Reverse stock split

175-206

专业·创新·增值

◆◆ Background for DDM: Share Repurchase

➤ Definition

- A share repurchase is a transaction in which a company uses cash to buy back its own shares.
- Shares that have been repurchased are not considered for dividends, voting, or computing earnings per share.

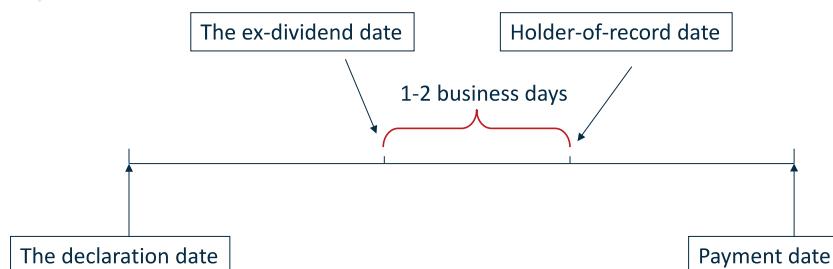
➤ Key reasons for engaging in share repurchases

- Signaling a belief that their shares are undervalued;
- Flexibility in the amount and timing of distributing cash to shareholders;
- Tax efficiency in markets where tax rates on dividends exceed tax rates on capital gains;
- The ability to absorb increase in outstanding shares because of the exercise of employee stock options.

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专业·创新·增值

◆◆ Dividend Payment Chronology



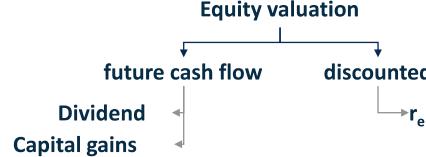
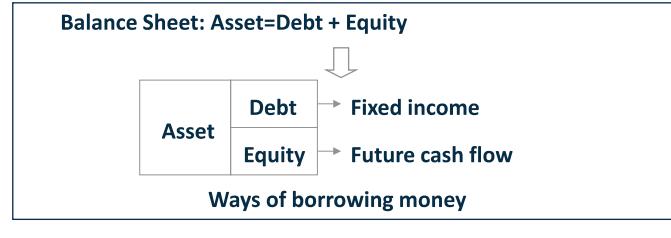
- Ex-dividend date is normally set for stocks **one or two business days** before the record date.

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专业·创新·增值

◆◆ Discounted Cash Flow Models

- Equity valuation key principle: discounted future cash flow



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专业·创新·增值

◆◆ Discounted Cash Flow Models

- Valuing preferred stock

- The preferred stock holders are promised to receive a stated dividend for an infinite period.
- Preferred stock is perpetuity since it has no maturity.
- Valuation model of a preferred stock:

$$V_p = \frac{D_p}{(1+r_p)} + \frac{D_p}{(1+r_p)^2} + \dots + \frac{D_p}{(1+r_p)^N} = \frac{D_p}{r_p}$$

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专业·创新·增值

◆◆ Discounted Cash Flow Models

- Target: Gordon growth dividend discount model (GGM) or dividend discount model(DDM):

$$P_0 = \frac{D_0(1+g_c)}{r_e - g_c} = \frac{D_1}{r_e - g_c}$$

- 知识结构总结

Dividend discount model (DDM) 知识结构

1年持有期股价计算
One year holding period DDM

2年持有期股价计算
Two year holding period DDM

无限期持有股价计算
Infinite holding period DDM

股利恒定增长模型
Constant dividend growth model 多阶段股利折现模型
Multistage dividend discount model

180-206

专业·创新·增值

◆ Discounted Cash Flow Models

- Valuing common stock –**Dividend discount model (DDM)**

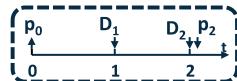
- One-year holding period

$$V_j = \frac{D_1}{(1+r)} + \frac{P_{j1}}{(1+r)}$$



- Two-year holding period

$$V_j = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \frac{P_{j2}}{(1+r)^2}$$



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专业·创新·增值

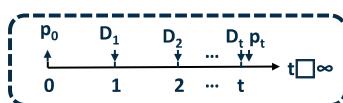
◆ Discounted Cash Flow Models

- Valuing common stock –**Dividend discount model (DDM)**

- Multiple-Stage Dividend Growth Models

$$V_0 = \frac{D_1}{(1+r_e)} + \frac{D_2}{(1+r_e)^2} + \dots + \frac{D_n}{(1+r_e)^n} + \frac{P_n}{(1+r_e)^n}$$

$$P_n = \frac{D_{n+1}}{r_e - g_c}$$



- The general DDM

$$V_j = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \dots + \frac{D_\infty}{(1+r)^\infty} = \sum_{t=1}^n \frac{D_t}{(1+r)^t}$$

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专业·创新·增值

◆ Discounted Cash Flow Models

- Valuing common stock –**Dividend discount model (DDM)**

- Gordon growth model (Constant growth model)

- ✓ Assumption for the infinite period DDM

- Dividends grow at a constant rate.
- The constant growth rate will continue for an infinite period.
- The required rate of return r is greater than the infinite growth rate g ...if it is not, the model gives meaningless results.

$$V_0 = \frac{D_0(1+g_c)}{(1+r_e)} + \frac{D_0(1+g_c)^2}{(1+r_e)^2} + \dots + \frac{D_0(1+g_c)^\infty}{(1+r_e)^\infty}$$

$$V_0 = \frac{D_0(1+g_c)}{r_e - g_c} = \frac{D_1}{r_e - g_c}$$

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专业·创新·增值

◆◆ Discounted Cash Flow Models

- Valuing common stock –**Dividend discount model (DDM)**
 - Gordon growth model (Constant growth model)
 - ✓ Limitations
 - Very sensitive to estimates of r and g ;
 - Difficult with non-dividend stocks;
 - Difficult with unpredictable growth patterns (use multi-stage model).
 - ✓ Important conclusion
 - The wider is the difference between r and g , the smaller the value of the stocks;
 - A small change in parameters of r or g would cause a drastic change in estimate stock value.

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专业·创新·增值

◆◆ Discounted Cash Flow Models

➤ Other variable parameters:

- D_0
- g_c
- r_e

➤ Distribution of EPS

EPS → Dividend
EPS → Retention rate

$$P_0 = \frac{D_0(1+g_c)}{r_e - g_c}$$

$D_0 = (1-RR) \times EPS$
 $g_c = ROE \times RR$
 $r_e = RFR + \beta(R_{mkt} - RFR)$

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专业·创新·增值

◆◆ Discounted Cash Flow Models

- Valuing common stock –dividend discount model (DDM)
 - The required rate of return (capital asset pricing model(CAPM))

$$r = RFR_{nominal} + \beta(R_M - RFR_{nominal})$$
 - Another way to estimate required rate of return
 $r = \text{current bond yield} + \text{equity risk premium}$
 - Growth rate in dividends
 - ✓ Use the historical growth in dividends for the firm.
 - ✓ Use the median industry dividend growth rate.
 - ✓ Estimate the sustainable growth rate.

$g = \text{sustainable growth rate} = b \times ROE$

$b = \text{retention ratio} = 1 - \text{dividend payout rate}$

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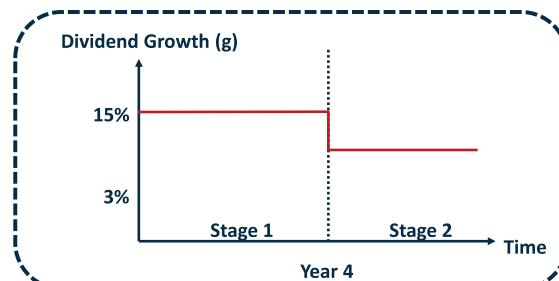
专业·创新·增值

◆ Discounted Cash Flow Models

- Valuing common stock –dividend discount model (DDM)

- Two-stage DDM

- ✓ The growth rate starts at a high level for a relatively short period of time, then reverts to a long-run perpetual level.



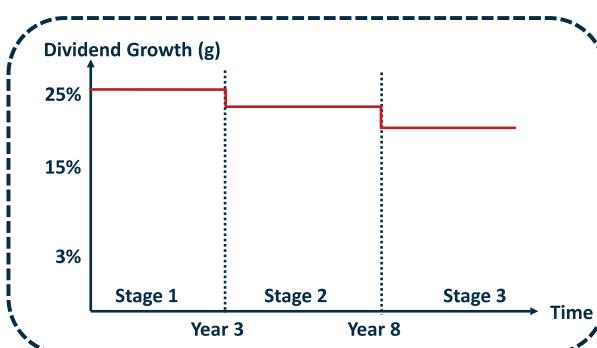
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专业·创新·增值

◆ Discounted Cash Flow Models

- Valuing common stock –dividend discount model (DDM)

- Three-stage DDM



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专业·创新·增值

◆ Example



- An analyst is evaluating the Lambertus Company, a mature company that recently paid a dividend of \$3.00 per share. The company is expected to grow at a rate of 5 percent per year for the foreseeable future. The required rate of return on Lambertus equity is 9 percent. If the risk-free rate of return is 3 percent, the current value of a share is closest to:
- A. \$52.50.
 - B. \$75.00.
 - C. \$78.75.

189-206

专业·创新·增值

◆ Example



➤ Correct answer: C.

The value of the Lambertus equity can be calculated as follows:

$$V_0 = D_1 / (r-g)$$

$$D_1 = \text{expected dividend} = D_0 \times (1+g)$$

g = the constant growth rate of dividends

r = the required rate of return on the stock

$$\text{Therefore: } V = 3.00 * (1.05) / (0.09 - 0.05) = \$78.75$$

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专业·创新·增值

◆ Discounted Cash Flow Models

➤ Valuing common stock –free cash flow to equity

- Valuation obtained by using FCFE involves discounting expected future FCFE by the required rate of return on equity. Dividend-paying capacity should be reflected in the cash flow estimates rather than expected dividends.

$$\text{FCFE} = \text{net income} + \text{depreciation} - \text{increase in working capital} - \text{fixed capital investment (FCInv)} - \text{debt principal repayments} + \text{new debt issues}$$

$$\text{FCFE} = \text{cash flow from operations} - \text{FCInv} + \text{net borrowing}$$

$$V_0 = \sum_{t=1}^{\infty} \frac{\text{FCFE}_t}{(1+r_e)^t}$$

$$V_0 = \frac{\text{FCFE}_0(1+g)}{r_e - g}$$

191-206

专业·创新·增值

◆ Price Multiple Approach

➤ Price multiples based on comparables

- Price to Earnings (P/E)
- Price to Sales (P/S)
- Price to Book Value (P/BV)
- Price to Cash Flow (P/CF)
- Enterprise Value to EBITDA (EV/EBITDA)

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专业·创新·增值

◆◆ Price Multiple Approach

➤ Multiples based on fundamentals

- The Earnings Multiplier Model Derived from DDM

- ✓ According to infinite period DDM

$$P_0 = \frac{D_1}{r-g}$$

- ✓ **Justified P/E:** Assume we divide both sides of the equation by E_1 (expected 12-month earnings), the equation changes to:

- **Leading P/E:** Expected earnings(dividends) used are of next period.

$$\frac{P_0}{E_0} = \frac{D_1/E_1}{r-g} = \frac{1-b}{r-g}$$

- **Trailing P/E:** Based on actual earnings for the previous period

$$\frac{P_0}{E_0} = \frac{D_0/E_0}{r-g} (1+g) = \frac{(1-b)(1+g)}{r-g}$$

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专业·创新·增值

◆◆ Price Multiple Approach

➤ Rationale for using price multiples

- The economic rationale underlying the method of comparables is the law of one price: Identical assets should sell for the same price.

- **Price multiples are widely used because:**

- ✓ Can be calculated easily.
 - ✓ Can be used both cross-sectional (versus the market or another comparable) and in time series.

- **Disadvantage of price multiple:**

- ✓ Reflect only past performance/data.

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专业·创新·增值

◆◆ Price Multiple Approach

➤ Two main ways to apply these price multiples

- **Price multiples based on comparables:**

- ✓ Compare relative values between one firm to another using price multiples with market price.

- **Price multiples based on fundamentals:**

- ✓ The value justified by (based on) fundamentals or a set of cash flow predictions therefore are independent of the current market prices.

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专业·创新·增值

◆ Example



- An analyst made the following statement: "One reason for using either price-to-earnings ratios or price-to-cash-flow ratios, differences among companies with respect to quality of earnings are a major concern." Is the analyst's statement correct with respect to:

price-to-earnings ratios? price-to-cash-flow ratios?

- | | | |
|----|-----|-----|
| A. | No | No |
| B. | No | Yes |
| C. | Yes | No |

➤ **Correct answer: C.**

Most quality of earnings differences between companies (use of aggressive versus conservative accounting methods) are likely to be a problem when using P/E ratios but not when using P/CF ratios.

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专业·创新·增值

◆ Price Multiple Approach

➤ **Multiples based on comparables**

- The methodology involves using a price multiple to evaluate whether an asset is fairly valued, undervalued, or overvalued in relation to a benchmark value of the multiple.
- **Law of one price:** Identical assets should sell for the same price.

✓ **Comparable**

- Identify companies that are most similar according to a number of dimensions. These dimensions include (but are not limited to) overall size, product lines, and growth rate.

✓ **Disadvantages of using price multiples**

- The conclusion drawn under the comparable and fundamental method may be reverse.
- (Price multiples may lose validity when firms use different accounting methods.
- Price multiples for cyclical firms may be highly influenced by current economic conditions.

197-206

专业·创新·增值

◆ Price Multiple Approach

➤ **Enterprise value (cost to acquire the firm)**

- Enterprise value (EV) is total company value, not equity.
- EV = market value of common stock + market value of preferred equity + market value of debt - cash and short-term investments

➤ **Advantage**

- Useful for comparing firms with different degrees of financial leverage.
- EBITDA is useful for valuing capital-intensive business.
- EBITDA is usually positive even when EPS is not.

➤ **Disadvantages**

- Market value of debt is often not available.
 - ✓ Market value of similar debt can be used
 - ✓ Book value of debt can be used

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专业·创新·增值

◆ Example



- An investor gathers the following data. To estimate the stock's justified forward P/E, the investor prefers to use:
- The earnings growth rate rather than the dividends growth rate and
 - The average of the payout ratios over the relevant period, in this case 2006-2009, rather than the most

Year	EPS	DPS	ROE
2009	\$3.20	\$1.92	12%
2008	\$3.60	\$1.80	17%
2007	\$2.44	\$1.71	13%
2006	\$2.50	\$1.60	15%

- The yield on 10-year T-notes is 3 percent and the current equity risk premium is 6.5 percent. If beta is 1.3, then the stock's justified forward P/E is closest to:
- A. 12.
 - B. 16.
 - C. 21.

199-206

专业·创新·增值

◆ Example



- Correct answer: C

Earnings growth rate over the period 2006-2009=2.5 × (1+g)³=3.2;
 $g=8.6\%$

Average payout ratio=(0.6+0.5+0.7+0.64)/4=0.61

Required rate of return on share $i = r_f + \text{Beta} \times \text{market risk}$

premium=3%+1.3 × 6.5%=11.5%

P/E₁=p/r-g=0.61/(0.115-0.086)=0.61/0.029=21

200-206

专业·创新·增值

◆ Example



- The figures are from Daniel's most recent financial statements except for the market value of long-term debt, which has been estimated from financial market data.

Calculate EV/EBITDA multiple

Stock price	\$30
Shares outstanding	300,000
Market value of long-term debt	800,000
Book value of long-term debt	1,100,000
Book value of total debt	2,600,000
Cash and marketable securities	300,000
EBITDA	1,200,000

201-206

专业·创新·增值

◆◆ Asset-Based Valuation

- An asset-based valuation of a company uses estimates of the market or fair value of the company's assets and liabilities.
- The asset-based model is not really applicable for a firm with a high proportion of intangible assets or "off the books" assets.
- The asset-based valuation approach is most applicable when:
 - the market value of the corporate assets is readily determinable.
 - the intangible assets, which are typically difficult to value, are a relatively small proportion of corporate assets.
 - financial companies, natural resource companies, and formerly going-concerns that are being liquidated.
- Asset-based models are frequently used for valuation of private companies.

202-206

专业·创新·增值

◆◆ Comparison of The Three Valuation Methods

- Discounted cash flow models

Advantages	Disadvantages
<ul style="list-style-type: none"> • Based on the <u>finance theory</u>. • Agreed on among the analysts. 	<ul style="list-style-type: none"> • Appropriate <u>estimation</u> for input is needed. • The result is highly <u>sensitive</u> to inputs.

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专业·创新·增值

◆◆ Comparison of The Three Valuation Methods

- Comparable valuation using price multiples

Advantages	Disadvantages
<ul style="list-style-type: none"> • Evidence indicate that some price multiples are able to accurately <u>predict stock returns</u>. • This method is <u>widely used</u> by analyst. • Price multiples for most companies are <u>available</u>. • Allow for relative comparisons, both <u>cross-sectional</u> (versus the market or another comparable) and in <u>time series</u>. • EV/EBITDA multiples are most useful when comparing companies with significant differences in <u>capital structure</u> or when <u>earnings</u> are negative and the P/E ratio cannot be used. 	<ul style="list-style-type: none"> • Price multiples are <u>lagging indicators</u> and indicate only the <u>past performance</u>. • Price multiples are <u>not comparable</u> for firms under different sizes, industries, growth rates, etc. • Price multiples for <u>cyclical firms</u> may be highly influenced by current economic conditions. • The conclusion drawn under the comparable and fundamental method may be <u>reverse</u>. • Price multiples may lose validity when firms use <u>different accounting methods</u>. • A price multiple is meaningless when its <u>denominator</u> is negative. E.g. P/E.

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专业·创新·增值

◆ Comparison of The Three Valuation Methods

➤ Price multiple valuations based on fundamentals

Advantages	Disadvantages
<ul style="list-style-type: none"> Are grounded in valuation models that are sound in <u>theory</u>. Conform to the <u>value metrics</u>. 	<ul style="list-style-type: none"> Little change in <u>inputs</u> will sensitively cause large change in price multiples. E.g. the r-g denominator.

➤ Asset-based models

Advantages	Disadvantages
<ul style="list-style-type: none"> They can provide <u>minimum values</u>. Reliable when the firm has a high portion of <u>tangible assets</u> and <u>current assets</u>. They become more popular in evaluating public firms that have fair values reported. 	<ul style="list-style-type: none"> Market values are <u>not accessible</u> in most situation. Market values <u>differ</u> from book values. Not applicable for firms whose <u>intangible assets</u> take up a large proportion. Assets tend to be more difficult to estimate under a <u>hyper-inflationary condition</u>.

205-206

专业·创新·增值

◆ It's not the end but just beginning.

Never stop smiling, not even when you're sad, someone
might fall in love with your smile.

永远都不要停止微笑，即使是在你难过的时候，说不定
有人会因为你的笑容而爱上你。

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专业·创新·增值

Alternative Investments

CFA一级培训项目

讲师：纪慧诚



Topic Weightings in CFA Level I

Session NO.	Content	Weightings
Study Session 1	Ethical and Professional Standards	15
Study Session 2-3	Quantitative Methods	12
Study Session 4-5	Economics	10
Study Session 6-9	Financial Reporting and Analysis	20
Study Session 10-11	Corporate Finance	7
Study Session 12	Portfolio Management	7
Study Session 13-14	Equity	10
Study Session 15-16	Fixed Income	10
Study Session 17	Derivatives	5
Study Session 18	Alternative Investments	4

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专业·创新·增值

Framework

Alternative Investments

- SS18 Alternative Investments
 - R60 Introduction to Alternative Investments

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专业·创新·增值

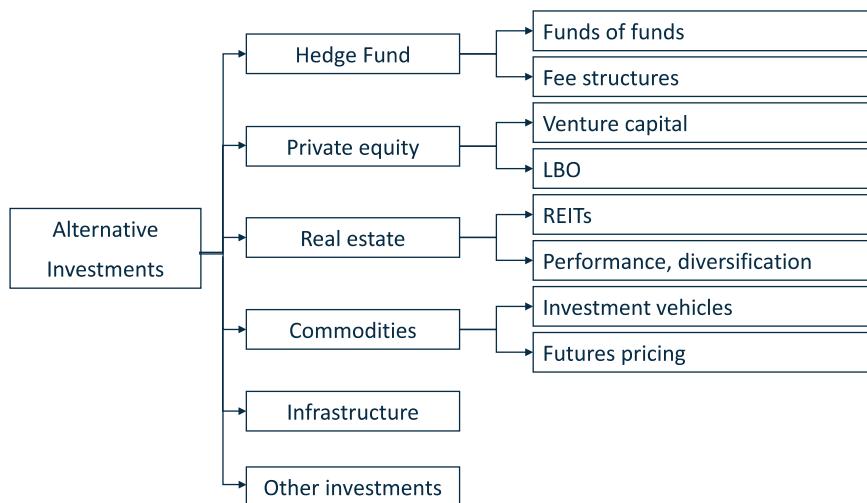


Introduction to Alternative Investments

4-58

专业·创新·增值

◆◆ Framework of alternative investments



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专业·创新·增值

◆◆ Alternative investments

➤ Traditional vs. alternative investments

- Traditional: long-only investments in stocks, bonds, and cash, etc.
- Alternative: other investment vehicles which fall outside the scope of traditional investments, extensive use of leverage.

➤ Characteristics of alternative investments

- Illiquidity of underlying investments;
- Narrow manager specialization;
- Low correlation with traditional investments;
- Low level of regulation and less transparency;
- Limited and potentially problematic historical risk and return data;
- Unique legal and tax considerations.

Not always true!

e.g. high correlation in financial crisis

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专业·创新·增值

◆◆ Alternative investments

➤ Returns for alternative investments

- Empirically, the mean returns to hedge funds, real estate, private equity, and venture capital exceeded the mean returns to global stocks and bonds.
- May be due to active exploitation of less efficiently priced assets, illiquidity premiums, and/or account leverage. May also be the result of tax advantage.

➤ Risks for alternative investments

- The average standard deviation is higher than traditional investments
 - ✓ But hedge funds have lower average standard deviation and higher mean return, this may be due to hedge fund indices' reporting biases.

➤ Historically, the correlation between alternative and traditional investments is low. It seems that adding alternative investments to a portfolio will improve both portfolio risk and expected return(risk/return profile).

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专业·创新·增值

◆ Example



- An investor is most likely to consider adding alternative investments to a traditional investment portfolio because:
 - of their historically higher returns
 - of their historically lower standard deviation of returns
 - their inclusion is expected to reduce the portfolio's Sharpe ratio

Correct Answer: A

- The historically higher returns to most categories of alternative investments compared with traditional investments result in potentially higher returns to a portfolio containing alternative investments. The less than perfect correlation with traditional investments results in portfolio risk (standard deviation) being less than the weighted average of the standard deviations of the investments. This has potential to increase the Sharpe ratio in spite of the historically higher standard deviation of returns of most categories of alternative investments.

8-58

专业·创新·增值

◆ Risk – return measures

- Is Sharpe ratio appropriate for alternative investments?
 - Illiquid nature of the assets
 - ✓ Return may not be reliable overstated;
 - ✓ Standard deviation may not be reliable understated.
- Normal distribution?
 - Alternative investment return: leptokurtic, negatively skewed
 - ✓ Non-normal distribution cannot use standard deviation for risk measure;
 - ✓ VaR, Sortino ratio would be appropriate;
 - ✓ Assuming normal distribution underestimate downside risk.
- Tail events
 - Stress testing/scenario analysis.

9-58

专业·创新·增值

◆ Example



- Compared with traditional investments, alternative investments are most likely to be characterized by high:
 - leverage
 - liquidity
 - regulation
- Correct Answer: A
- Relative to traditional investments, alternative investments are least likely to be characterized by:
 - high levels of transparency
 - limited historical return data
 - significant restrictions on redemptions
- Correct Answer: A

◆ Alternative investments- categories

- **Hedge funds**
 - Manage portfolios of securities and derivative positions using a variety of strategies. Long and short positions, highly leveraged, absolute return.
- **Private equity funds**
 - Invest in companies that are not listed, or listed with a intention of going private.
- **Real estate**
 - Outright ownership or through real estate equity/debt investments. E.g. MBS, REITs, etc.
- **Commodities**
 - In physical commodity products, either through owning cash instruments, utilizing derivatives, or investing in businesses engaged in the production of commodities.
- **Other**
 - Tangible (Fine wine, art, stamp, coin, etc.) and intangible (patents).

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◆ Hedge funds

- **Characteristics of hedge funds**
 - Aggressively managed investment portfolios across asset classes. Use of leverages, take long and short positions, and/or uses derivatives;
 - Aimed at higher returns, either in absolute or relative sense;
 - Private investment partnership open to a limited number of investors willing and able to make a large initial investment;
 - **Hedge fund indices** may not reflect actual performance
 - ✓ Survivorship bias;
 - ✓ Backfill bias.
 - Less restricted than traditional investments;
 - Often impose **restrictions on redemptions**.
 - ✓ Lockup period;
 - ✓ Notice period.

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◆ Investment structures

- **Most common structure: Partnership**
 - **Limited partner (LP)**: LP is the investors who understand and able to assume the risks in the investment.
 - ✓ LP owns a fractional interest based on their investment and as agreed to by the partners;
 - ✓ LP's fractional interest is called his/her share of the partnership;
 - ✓ The partnerships are located in tax-efficient locations.
 - **General partner (GP)**: GP runs the fund.

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专业·创新·增值

◆◆ Funds of funds

➤ **Funds of funds:**

- Funds of funds are funds that hold a portfolio of hedge funds.
 - ✓ FOFs enable small investors to have returns in hedge funds;
 - ✓ FOFs have some expertise in conducting due diligence on hedge funds;
 - ✓ Negotiate better redemption terms for investors;
 - ✓ FOFs invest in numerous hedge funds, diversifying across fund strategies, investment regions, and management styles;
 - ✓ FOFs managers charge an additional layer of fees beyond the fees charged by the individual hedge funds in the portfolio.

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专业·创新·增值

◆◆ Example



- An investor may prefer a single hedge fund to a fund of funds if he seeks:
- due diligence expertise.
 - better redemption terms.
 - a less complex fee structure.

➤ **Correct Answer: C**

Hedge funds of funds have multi-layered fee structures, while the fee structure for a single hedge fund is less complex. Funds of funds presumably have some expertise in conducting due diligence on hedge funds and may be able to negotiate more favorable redemption terms than could an individual investor in a single hedge fund.

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专业·创新·增值

◆◆ Hedge fund strategies

- Event-driven strategies
- Relative value strategies
- Macro strategies
- Equity hedge strategies

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专业·创新·增值

◆ Event-driven strategies

➤ Event-driven strategies

- Seek to profit from short-term events that will affect individual companies;
- Considered “bottom up” strategy;
- Include long/short positions in common and preferred stocks, as well as debt securities and options;

➤ Subdivisions

- Merger arbitrage: long the stock of the company being acquired, and short the stock of the acquiring company;
- Distressed/restructuring: focus on the securities of companies either in bankruptcy or perceived to be near to bankruptcy;
- Activist shareholder: purchase sufficient equity to influence a company’s policies or direction;
- Special situations: focus on companies that are currently engaged in restructuring activities other than merger/acquisitions and bankruptcy.

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专业·创新·增值

◆ Relative value strategies

➤ Relative value strategies

- Seek to profit from a pricing discrepancy between related securities.

➤ Examples of relative value strategies

- Fixed income convertible arbitrage: Exploit pricing discrepancies between convertible bond and the common stock of the issuing companies;
- Fixed Income Asset Backed: Exploit pricing discrepancies among various MBS and ABS;
- General Fixed Income: focus on the relative value within the fixed income markets;
- Volatility: Exploit pricing discrepancies arising from differences between returns volatility implied by options prices and manager expectations of future volatility;
- Multi-Strategy: looks for investment opportunities wherever they might exist.

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专业·创新·增值

◆ Macro strategies

➤ Macro strategies

- “Top down” approach to identify economic trends;
- Use long/short positions to potentially profit from a view on overall market direction as influenced by major economic trends or events;
- Trade opportunistically in the fixed income, equity, currency, and commodity markets.

19-58

专业·创新·增值

◆◆ Equity hedge strategies

➤ Equity hedge strategies

- Seek to profit from long or short positions in publicly traded equities and derivatives with equities as their underlying assets.
- ### ➤ Examples of equity hedge strategies
- Market Neutral: Maintain a net position that is neutral with respect to market risk. The intent is to profit from individual securities movements while hedging against market risk.
 - Fundamental Growth: fundamental analysis to identify companies expected to exhibit high growth and capital appreciation.
 - Quantitative Directional: technical analysis to identify companies that are under- and overvalued.
 - Short Bias: varies its net short exposure based upon market expectations, going fully short in declining markets.
 - Sector Specific: exploit expertise in a particular sector.

20-58

专业·创新·增值

◆◆ Hedge fund fees

➤ Management fee

- Based on capital under management;
- ✓ Attractive to portfolio managers because the management fee alone will generate significant revenue if assets under management are large.
- Earned irrespective of returns.

➤ Incentive fee

- Based on profits net of (or before) management fee;
- Only earned if the return exceeds a hurdle rate;
- High water mark highest value reported.
 - ✓ The hedge fund must recover past losses and return to previous high water mark before any additional incentive fee is earned;
 - ✓ Protect clients from paying twice for the same performance.

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专业·创新·增值

◆◆ Hedge fund fees

➤ Incentive fee

- “2 and 20” means 2% management fee and 20% incentive fee for hedge funds.
- ✓ FOFs may charge extra 1% management fee and 10% incentive fee.

➤ Negotiable terms

- Fees, notice and lockup periods are negotiable with potential investors.
 - ✓ longer investment periods, lower fees.

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专业·创新·增值



◆ Example 1

- UC is a hedge fund with \$250 million of initial capital. It charges a 2% management fee based on assets under management at year end, and a 20% incentive fee based on returns in excess of an 8% hurdle rate. In its first year, UC appreciates 16%. Assume management fees are calculated using end-of-period valuation. The investor's net return assuming the performance fee is calculated net of the management fee is closest to:
- 11.58%
 - 12.54%.
 - 12.80%

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专业·创新·增值



◆ Example 1

- **Correct Answer: B**
- The net investor return is 12.54%, calculated as:
 - End of year capital = \$250 million * 1.16 = \$290 million
 - Management fee = \$290 million * 2% = \$5.8 million
 - Hurdle amount = 8% of \$250 million = \$20 million;
 - Incentive fee = $(\$290 - \$250 - \$20 - \$5.8) \text{ million} * 20\% = \2.84 million
 - Total fees to UC = $(\$5.8 + \$2.84) \text{ million} = \8.64 million
 - Investor net return: $(\$290 - \$250 - \$8.64) / \$250 = 12.54\%$

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专业·创新·增值



◆ Example 2

- Capricorn Fund of Funds invests GBP 100 million in each of Alpha Hedge Fund and ABC Hedge Fund. Capricorn FOF has a "1 and 10" fee structure. Management fees and incentive fees are calculated independently at the end of each year. After one year, net of their respective management and incentive fees, the investment in Alpha is valued at GBP80 million and the investment in ABC is valued at GBP140 million. The annual return to an investor in Capricorn, net of fees assessed at the fund of funds level, is closest to:
- 7.9%.
 - 8.0%.
 - 8.1%.

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专业·创新·增值

◆◆ Example 2



➤ Correct Answer: A

Because the net investor return is 7.9%, calculated as:

First, note that "1 and 10" refers to a 1% management fee, and a 10% incentive fee

- End of year capital = GBP140 million + GBP80 million = GBP220 million
- Management fee = GBP220 million * 1% = GBP2.2 million
- Incentive fee = (GBP220 - GBP200) million * 10% = GBP2 million
- Total fees to Capricorn = (GBP2.2 + GBP2) million = GBP4.2 million
- Investor net return: (GBP220 - GBP200 - GBP4.2) / GBP200 = 7.9%

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专业·创新·增值

◆◆ Hedge funds – other considerations

➤ Using leverage to seek higher returns but may magnify losses

- Investors are required to put up some collateral
 - ✓ Helps to protect against default;
 - ✓ Buying on margin.
 - The margin requirement depends on the riskiness of the investment and the creditworthiness of the hedge fund.

➤ Redemptions also magnify losses for hedge funds

- ✓ Redemption occurs when a hedge fund is performing poorly;
 - When drawdown (reduction in NAV) occurs, investors may require liquidation of their positions and incur transaction costs. Thus further magnify the losses.
- ✓ Ways to prevent redemptions
 - Redemption fees;
 - Notice periods;
 - Lockup periods;
 - Investing in FOFs.

27-58

专业·创新·增值

◆◆ Hedge fund valuation issues

➤ When using market prices for valuation

- Common practice: use average quote, (bid + ask)/2;
- Conservative approach : use bid prices for longs and ask prices for shorts.

➤ Illiquid underlying positions

- No reliable market values: use statistical models to compute estimated values.
 - ✓ Models should be independently tested, benchmarked, and calibrated to industry accepted standards to ensure consistency;
 - ✓ In-house valuations to prevent conflicts of interests affecting estimates.
- Liquidity discounts: reflect fair value.
 - ✓ Two NAVs
 - Trading NAV: incorporates liquidity accounts, based on the size of the position held relative to the total amount outstanding in the issue and its trading volume;
 - Reporting NAV: based on quoted market prices.

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专业·创新·增值

◆ Due diligence

- **Funds of funds have the expertise, but that comes at a cost.**
 - Investors should still conduct due diligence when choosing an FOFs.
 - Key factors to consider
 - ✓ Size;
 - ✓ Longevity;
 - ✓ Reputation;
 - ✓ Track record;
 - ✓ Key-person risk;
 - ✓ Plans for growth;
 - ✓ Management style;
 - ✓ Competitive advantage;
 - ✓ Systems risk management;
 - ✓ Relationship with investors;
 - ✓ Investment strategy and process.

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专业·创新·增值

◆ Private equity

- **Private equity (PE):** investing in privately owned companies or in public companies with the intent to take them private.
 - Leveraged buyouts (LBOs): acquire companies with a significant percentage of the purchase price financed through debt.
 - ✓ Assets of the target company as the collateral for the debt
 - ✓ The debt becomes part of the capital structure of the target company
 - Venture capital: invest in private companies with high growth potential.
 - Development capital: minority equity investment in mature firms that are looking for expanding or restructuring opportunities.
 - Distressed investing: buying the debt of mature companies in financial difficulties.

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专业·创新·增值

◆ Private equity strategies – LBOs

- **LBO with debt financing**
 - If debt financing is unavailable or costly, less likely to occur.
- **Typical LBO capital structure**
 - Equity, leveraged loans, high yield bonds
 - ✓ Mezzanine financing is an alternative to bonds.
 - ✓ Mezzanine financing refers to debt or preferred shares with warrants or conversion options. It pays a higher coupon rate than bank loans and bonds.
 - Leveraged loans carry covenants to protect the investors
 - ✓ Require the company to maintain specified financial ratios within limits, submit information, or operate within certain parameters.
 - ✓ Restrict the company from further borrowing, or impose limits on paying dividends or making operating decisions.
 - Financed through high yield bonds
 - ✓ Key difference: leveraged loans are senior secured debt, while bonds are unsecured in bankruptcy.

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专业·创新·增值

◆◆ Private equity strategies – LBOs

- Characteristics of Attractive Target Companies for LBOs
 - Undervalued/depressed stock price
 - ✓ The intrinsic value of the company is perceived higher than market price.
 - Private equity firms are willing to pay a premium to the market price to secure shareholder approval
 - Willing management
 - ✓ Existing management is looking for a deal.
 - Inefficient companies
 - Strong and sustainable cash flow
 - ✓ Cash flow is necessary to make interest payments on the increased debt load.
 - Low leverage
 - ✓ Easier for PE firms to utilize debt
 - Assets
 - ✓ Physical assets can be used as security

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专业·创新·增值

◆◆ Example



- Which of the following characteristics least likely make a company particularly attractive as an LBO target?
 - A. Efficient management.
 - B. Strong and sustainable cash flow.
 - C. Low leverage
- Correct Answer: A

Private equity firms seek to generate attractive returns on equity by creating value in the companies they buy. They achieve this goal by identifying companies that are inefficiently managed and that have the potential to perform well if managed better, so the target should have a strong and sustainable cash flow. Private equity firms focus on target companies that do not currently have a significant portion of debt on their balance sheets. This characteristic makes it easier to utilize debt to finance a large portion of the purchase price.

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专业·创新·增值

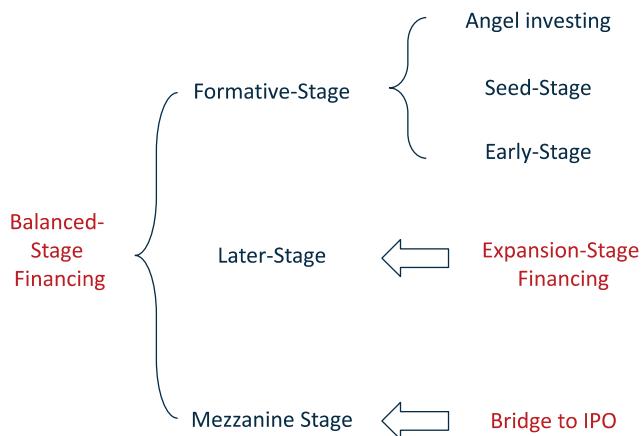
◆◆ Private equity strategies – venture capital

- The stage of venture capital investing
 - Formative stage:
 - ✓ **Angel investing:** At the idea stage, funds are used to transform the idea into a business plan and to assess market potential. Often provided by individuals.
 - ✓ **Seed stage:** support product development and/or marketing efforts. The first stage at which VC funds invest.
 - ✓ **Early stage:** help companies move toward operation but before commercial production and sales have occurred.
 - Later stage: after commercial production and sales have begun but before any IPO. Funds may be used for expansion.
 - Mezzanine stage: prepare to go public. Represent the bridge between the expanding company and the IPO.

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专业·创新·增值

◆◆◆ Private equity strategies – venture capital



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专业·创新·增值

◆◆◆ Private equity structure and fees

- PE firms are structured like hedge funds
 - PE funds are structured as partnerships where the PE firm is the GP, and investors are LPs.
- Fee structures are also like hedge funds
 - Management fees: 1~3% of committed capital.
 - ✓ Distinction from hedge funds: Management fee is based on committed capital, not invested capital.
 - Incentive fees: GP does not earn an incentive fee until the LPs have received initial investment back.
 - Policies that protect LPs
 - ✓ Clawback provision: return any incentive fees until LPs received initial investment back and their profits.

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专业·创新·增值

◆◆◆ Private equity – exit strategies

- Common exit strategies:
 - Trade Sale: sale of a company to a strategic buyer
 - ✓ Advantages:
 - immediate cash exit;
 - potential for high valuation;
 - execution is simple and fast;
 - lower transaction costs than an IPO;
 - lower levels of disclosure and higher confidentiality;
 - ✓ Disadvantages:
 - possible opposition by management;
 - lower attractiveness to employees of the portfolio company;
 - limited number of potential buyers;
 - a possible lower price than in an IPO

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专业·创新·增值

◆◆ Private equity – exit strategies

➤ Common exit strategies:

- IPO

✓ Advantages:

- potential for the highest price;
- management approval;
- firm's equity are trade publicly;
- ability to retain future upside potential;

✓ Disadvantages:

- high transaction costs;
- long lead times;
- risk of stock market volatility;
- high disclosure requirements;
- potential lock-up period;
- IPO is usually only appropriate for larger companies with attractive growth profiles.

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专业·创新·增值

◆◆ Private equity – exit strategies

➤ Common exit strategies (con't):

- Recapitalization

- ✓ Not a true exit strategy, but allows investors to extract money from the company.
- ✓ Very popular when interest rates are low.
- ✓ Often a prelude to a later exit

- Secondary Sale: sale to another private equity firm or other group of investors
- Write-off/Liquidation: When a transaction has not gone well, liquidate the investment to move on to other projects.

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专业·创新·增值

◆◆ Private equity – valuation

➤ Three approaches to value a company

- Market or comparable: value a company or its equity using multiples
 - ✓ EBITDA multiple

- DCF approach

- ✓ FCFF and WACC □ company value
- ✓ FCFE and K_e □ company's equity value
- ✓ Simple approach: income or cash flow divided by a capitalization rate

- Asset-based

- ✓ arrives at the value of the company to the equity holders
- ✓ assumes that the company value = Asset – liabilities
- ✓ Can be valued by using fair values or liquidation values
 - Fair values assume an orderly transaction
 - Liquidation values assume a distressed transaction

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专业·创新·增值

◆◆ Private equity – investment considerations

- Current and anticipated economic conditions
 - Interest rate and capital availability expectations
 - Refinancing risk
- Long term investments
 - Requires a long-term commitment on the part of an LP
 - ✓ Illiquidity aversion: liquidity risk premium
- Due diligence
 - GP's experience and knowledge – financial and operating
 - Valuation methodology
 - Alignment of the GP's incentives with the interests of the LPs
 - The plan to draw on committed capital
 - Planned exit strategies

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专业·创新·增值

◆◆ Real estate

- Key reasons for investing in real estate
 - Competitive long-term total returns driven by income generation and capital appreciation. Considerable return from.
 - Fixed rents may lessen cash flow impact from economic shocks.
 - The correlation between real estate and other asset classes is typically less than 1, therefore a diversification benefit may presents.
 - Potential to provide an inflation hedge if rents can be adjusted quickly for inflation.

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专业·创新·增值

◆◆ Real estate

- Investment categories
 - Residential property
 - Commercial real estate
 - ✓ Appropriate direct investment (equity and debt) for institutional funds or high-net-worth individuals with long time horizons and limited liquidity needs.
 - REIT Investing
 - ✓ Risk and return characteristics depend on the type of investment
 - Mortgage REITs
 - Equity REITs
 - MBS
 - ✓ MBS structure is based on the securitization model of buying a pool of assets and assigning the income and principal returns into individual security tranches.
 - ✓ MBS may be issued privately or publicly.
 - Timberland and Farmland

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专业·创新·增值

◆◆ Real estate – performance and benefits

➤ Performance measurements

- Appraisal index
 - ✓ use estimates of value (appraisals) as inputs to the indices
 - ✓ rely on comparable sales and cash flow analysis techniques
 - ✓ underestimate volatility
- Repeat sales (transaction-based) index
 - ✓ use changes in prices of properties to construct the indices
 - ✓ sample selection bias
- REIT index
 - ✓ use the prices of publicly traded shares of REITs to construct the indices
 - ✓ More frequently traded, more reliable is the index

➤ Diversification benefits

- REIT index and equity returns: high correlation
- REIT index and bond returns: low correlation

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专业·创新·增值

◆◆ Real estate valuation

➤ Common techniques for appraising real estate property

- Comparable sales approach
 - ✓ determine an approximate value based on recent sales of similar properties.
 - ✓ condition, age, location, and size
- Income approach
 - ✓ Direct capitalization
 - NOI □ property level CFO; cap rate
 - strength of tenants, the level of landlord involvement, the extent of repairs and improvements, the vacancy rate, management and operating costs, expected inflation of costs and rent.
 - ✓ DCF approach
- Cost approach
 - ✓ evaluate the replacement cost of the property

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专业·创新·增值

◆◆ Real estate valuation

➤ REIT valuation

- Income based approach
 - ✓ Similar to the direct capitalization approach
 - ✓ Funds from operation (FFO) and adjusted funds from operation (AFFO)
 - ✓ Cap rate
- Asset based approach
 - ✓ REIT's NAV = MKT value of assets – MKT value of liabilities
 - ✓ REIT shares trade at prices that differ from its NAV per share. (premiums or discounts)

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专业·创新·增值

◆ Example



- There are a variety of approaches used to value real estate property. Which of following approaches is most likely income-based ?
 - A. comparable sales approach.
 - B. discounted cash flow approach.
 - C. cost approach.

- **Correct Answer: B**
 - Common techniques for appraising real estate property include comparable sales, income, and cost approaches. And direct capitalization and discounted cash flow approaches are two income-based approaches to appraisal of an income-producing property.

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专业·创新·增值

◆ Introduction to commodities

- **Most investors invest in commodities using commodity derivatives:**
 - **Futures and forward contracts**
 - ✓ Futures contracts are exchange-traded products (ETPs)
 - No physical delivery
 - ✓ Forward contracts trade OTC
 - Physical delivery can be expected
 - **Options contracts**
 - ✓ Options can be ETPs or OTC traded
 - **Swaps contracts**
- **Commodity indices**
 - use the price of futures contracts on the commodities, rather than the prices of the commodities themselves.
 - performance of an index can be quite different from the performance of the underlying commodities.
 - vary in the constituents and the weighting methods used

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◆ Other commodity investment vehicles

- **Alternative means of achieving commodity exposure:**
 - **ETF**
 - ✓ suitable for those who can only buy equity or seek the simplicity of trading.
 - ✓ may use leverage
 - Common stock of companies exposed to a particular commodity
 - ✓ E.g. Sinopec
 - Managed futures funds
 - ✓ Similar to hedge funds in structure
 - Individual managed accounts
 - ✓ managed by professional managers on behalf of high net worth individuals or institutional investors
 - Funds in specific commodity sectors

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专业·创新·增值

◆◆ Commodities

- **The role of commodities for investing in production and consumption**
 - Investing in commodities gives an investor exposure to an economy's production and consumption growth.
 - ✓ E.g. when the economy experiences growth, the demand for commodities increases, and price increases are likely.
 - ✓ During recessions, commodity prices are likely to fall with decreased demand.
- **Overall, swings in commodity prices are likely to be larger than changes in finished goods prices.**

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专业·创新·增值

◆◆ Commodities

- **Relationship between spot prices and expected future prices**
 - **Contango**
 - ✓ Futures price > Spot price
 - **Backwardation**
 - ✓ Futures price < Spot price
- Futures markets that are dominated by long hedgers (users of the commodity who buy futures to protect against price increases) tend to be in **contango**.
- Futures markets that are dominated by short hedgers (producers of the commodity who short futures to protect against price decreases) tend to be in **backwardation**.

51-58

专业·创新·增值

◆◆ Commodities

- **Sources of return and risk**
 - **Price return** on a long-only investment in commodities derivatives can be positive or negative, depending on the direction of change in the spot price.
 - **Collateral yield**: an additional return that the investor deposits cash as collateral for the futures contract purchased with the exchange.
 - **Roll yield**: since commodity derivative contract expire, a speculator or hedger who wants to maintain a position must close out the expiring derivative position and re-establish a new position.
 - ✓ “Rolling over” the position leads to gains (backwardation) or losses (contango) are termed the roll yield.

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专业·创新·增值

◆◆ Pricing of commodity futures contracts

➤ The price of a futures contract

$$\text{futures price} = \text{spot price}(1+r) + \text{storage costs} - \text{convenience yield}$$

- r is the period's short term risk free interest rate.
- The storage and interest costs: "the cost of carry" or "the carry"
- The buyer of a futures contract does not have immediate access to the commodity but will receive it in the future loss of convenience yield

53-58

专业·创新·增值

◆◆ Example



- If the spot prices is greater than futures prices, which of the following statement is most likely correct?
- A. The commodity's forward curve is in contango.
 - B. The commodity's forward curve is in backwardation.
 - C. Both A and B are incorrect.

➤ Correct Answer: B

- If a commodity's forward curve is in contango, the component of a commodities futures return most likely to reflect this is:
- A. Spot price
 - B. The roll yield
 - C. The collateral yield

➤ Correct Answer: B

54-58

专业·创新·增值

◆◆ Infrastructure

- Definition: real, capital intensive, **long-lived** assets, which are intended for public use and provide essential services.

➤ Characteristics of infrastructure

- High barriers to entry;
- Stable cash flows;
- Protection against inflation;
- Better match the longer-term liability structure of some investors.

➤ Categories of Infrastructure Investments

- Economic vs. social infrastructure assets;
- Brownfield vs. greenfield infrastructure investments.

55-58

专业·创新·增值

◆◆ Infrastructure

➤ Forms of Infrastructure Investments

- Invest directly in the underlying assets;
- Indirect investment vehicles.
 - ✓ MLP.

➤ Risk and Returns Overview

- Risk depends on underlying asset;
- An inherent risk to many infrastructure investments is regulatory risk.

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专业·创新·增值

◆◆ Other alternative investments

➤ Collectibles

- Definition: Tangible assets such as antiques and fine art, fine wine, rare stamps and coins, jewelry and watches, and sports memorabilia.
- Characteristics
 - ✓ Do not provide current income, but can potentially provide long-term capital appreciation, diversify a portfolio, and be a source of enjoyment;
 - ✓ Can fluctuate dramatically in value, highly illiquid.

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专业·创新·增值

◆◆ It's not the end but just beginning.

Thought is already late, exactly is the earliest time.

感到晚了的时候其实是最早的时候。

58-58

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