2020 年 06 月 CFA 一级百题预测

1. ETHICS AND PROFESSIONAL STANDARDS
2. QUANTITATIVE METHODS
3. ECONOMICS
4. FINANCIAL REPORTING AND ANALYSIS
5. CORPORATE FINANCE
6. EQUITY
7. FIXED INCOME
8. DERIVATIVES
9. ALTERNATIVE INVESTMENTS
10. PORTFOLIO MANAGEMENT

6. Equity

6.1. Overview of Financial Market: Function & Regulation

6.1.1. 重要知识点

6.1.1.1. Main functions of the financial market

- Fulfill different entities' requirements;
  - To save money for the future;
  - To borrow money for current use;
  - To raise equity capital;
  - To manage risks;
  - To exchange assets for immediate and future deliveries;
  - To trade on information.
- Determine interest rates;
- The allocation of capital to the best uses.

6.1.1.2. The objectives of market regulation are to

- Control fraud;
- Control agency problems;
- Promote fairness;
- Set mutually beneficial standards;
- Prevent undercapitalized financial firms from exploiting their investors by making excessively risky investments;
- Ensure that long-term liabilities are funded.

6.1.1.3. Characteristics of a good market

- Complete markets;
- Operational efficiency;
- Informational efficiency;
- Allocational efficiency.

6.1.2. 基础题

Q-1. Accounting standards and reporting requirements that produce meaningful and timely financial disclosures are most critical for achieving which of the following efficiencies associated with a well-functioning financial system?

A. Allocational

B. Informational

C. Operational

Q-2. Which of the following statements concerning the objectives of market regulation is least accurate? Regulators:

A. set standards to ensure that all agents acting in the market are skilled.

B. ensure systems are in place to prevent fraud.

C. promote fair and orderly markets.

6.2. Intermediaries of Financial Markets

6.2.1. 重要知识点

6.2.1.1. Brokers and dealers, exchanges

- **Brokers** are agents who fill orders for their clients. They do not trade with their clients. Instead, they search for traders who are willing to take the other side of their clients' orders.
- **Dealers** fill their clients' orders by trading with them. When their clients want to sell securities or contracts, dealers buy the instruments for their own accounts. If their clients want to buy securities, dealers sell securities that they own or have borrowed. Dealers profit when they can buy at prices that on average are lower than the prices at which they sell.
- **Exchanges** provide places where traders can meet to arrange their trades.

6.2.1.2. Securitizers

- Buy assets, place them in a pool, and then sell securities that represent ownership of the pool;
- The financial intermediary avoids placing the assets and liabilities on its balance sheet by setting up a special corporation or trust that buys the assets and issues the securities. That corporation or trust is called a special purpose vehicle (SPV) or alternatively a special purpose entity (SPE).

6.2.1.3. Arbitrageurs

- The purest form of arbitrage involves buying and selling the same instrument in two different markets;

6.2.1.4. Hedgers

- Hedgers trade to offset or insure against risks that concern them;
- The hedger and the other entity face exactly the opposite risks, so the transfer makes both more secure.

6.2.1.5. Clearinghouses and custodians

- Clearinghouses arrange for final settlement of trades.
  - Act only as escrow agents (transferring money from the buyer to the seller while transferring securities from the seller to the buyer);

- Guarantee contract performance;
- Require that their members have adequate capital and post-performance bonds (margins);
- Limit the aggregate net (buy minus sell) quantities that their members can settle.

6.2.2. 基础题

Q-3. Information-motivated traders are most likely to differ from pure investors in that they:

A. pay lower transaction fees.

B. hold well-diversified portfolios.

C. expect to earn excess returns.

Q-4. Which of the following financial intermediaries is most likely to provide liquidity service to its clients?

A. Exchanges

B. Brokers

C. Dealers

6.3. Classification of Assets and Market

6.3.1. 重要知识点

6.3.1.1. Classification of assets

- **Financial assets**
  - **Security:**
    - Fixed income securities: predetermined payment schedules that usually include interest and principal payments.
    - Equity securities: represent ownership in a firm and include common stock, preferred stock, and warrants.
    - Pooled investment vehicles: include mutual funds, trusts, depositories and hedge funds.
  - **Derivative contracts:** finance derivative contracts, physical derivative contracts;
  - **Currency.**
- **Real assets**
  - Commodity
  - Real Estate: include such tangible properties as real estate, airplanes,

machinery, or lumber stands;

6.3.1.2. Classification of market

- **Money market and capital market**
  - **Money markets** trade debt instruments maturing in one year or less;
  - **Capital markets** trade instruments of longer duration, whose values depend on the credit-worthiness of the issuers and on payments of interest or dividends that will be made in the future and may be uncertain.
- **Primary market and secondary market**
  - **Primary market:** the market where securities are first sold and the issuers receive the proceeds.
  - **Secondary market:** the market where securities are traded among investors.
- **Traditional market and alternative market**
  - **Traditional investment markets:** markets for traditional investments, which include all publicly traded debts and equities and shares in pooled investment vehicles that hold publicly traded debts and/or equities.
  - **Alternative markets:** market for investments other than traditional securities investments. The term usually encompasses direct and indirect investment in real estate and commodities; hedge funds, private equity, and other investments requiring specialized due diligence.

6.3.2. 基础题

Q-5. A hedge fund holds its excess cash in 90-day commercial paper and negotiable certificates of deposit. The cash management policy of the hedge fund is *best* described as using:

A. capital market instruments.

B. money market instruments.

C. intermediate-term debt instruments.

Q-6. An investor primarily invests in stocks of publicly traded companies. The investor wants to increase the diversification of his portfolio. A friend has recommended investing in real estate properties. The purchase of real estate would best be characterized as a transaction in the:

A. derivative investment market.

B. traditional investment market.

C. alternative investment market.

Q-7. Which of the following is most likely a characteristic of real assets?

A. Substantial management costs

B. High liquidity

C. Homogeneity

6.4. Primary Market

6.4.1. 重要知识点

6.4.1.1. Primary capital markets

- The markets in which companies and governments raise capital (funds).

6.4.1.2. Public offering

- **Underwritten offering 包销:** The investment bank guarantees the sale of the issue at an offering price that it negotiates with the issuer;
- **Best efforts 代销:** the investment bank acts only as broker. If the offering is undersubscribed, the issuer will not sell as much as it hoped to sell.
- **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**

- **Other offering in primary market**
  - Private placement;
  - Shelf registration;
  - A dividend reinvestment plan;
  - Rights offering.

6.4.2. 基础题

Q-8. Which of the following is most likely a primary market transaction?

A. A private placement of shares

B. A market order sale of bonds

C. The exercise of an exchange-traded call option

6.5. Secondary Market

6.5.1. 重要知识点

6.5.1.1. Function of the secondary market

- Corporations and governments can raise money in the primary markets at lower cost when their securities will trade in liquid secondary markets.

- Trading in the secondary market helps identify the proper price for the offering.

6.5.1.2. Call markets & continuous markets（重点）

Call Markets	Continuous Markets
At specific times	At any time when market is open
All bids and asks are gathered and then a negotiated price is produced to make the demand quantity as close as possible to the supply quantity.	The price is determined either by an auction process or through a dealer bid-ask process.

6.5.1.3. Quote-drive Market, order driven market and brokered market

- **Quote-driven market:** 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.
- **Order-driven markets:** A market (generally an auction market) that uses rules to arrange trades based on the orders that traders submit; in their pure form, such markets do not make use of dealers;
- **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.

6.5.2. 基础题

Q-9. A security market in which all the bids and asks for a stock are gathered to arrive at a single price that satisfies most of the orders is best described as a:

A. call market.

B. dealer market.

C. primary market.

Q-10. A Japanese exporter will sell U.S. dollars for Japanese Yen in the quote-driven currency markets. Which of the following statements best describes her currency exchange transactions?

A. Her counterparties are dealers.

B. This currency exchange transaction takes place in organized exchanges.

C. She will pay commissions for exchange services.

Q-11. The market where securities are traded among investors is belong to:

A. primary market.

B. secondary market.

C. both primary and secondary market.

Q-12. A trader seeking to sell a very large block of stock for her client will most likely execute the trade in a(n):

A. order-driven market.

B. quote-driven market.

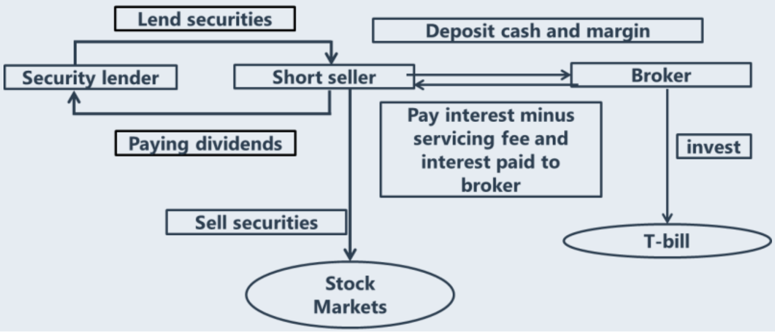
C. brokered market.

6.6. Long & Short Position in Transaction

6.6.1. 重要知识点

6.6.1.1. Short sale 的作用，掌握过程

- Short sellers borrow securities from security lenders who are long holders. The short sellers then sell the borrowed securities to other traders;
- Short sellers close their positions by repurchasing the securities and returning them to the security lenders;
- Lenders require that the short seller leave the proceeds of the short sale on deposit with them as collateral for the stock loan;
- The short sellers will pay the long sellers all dividends or interest that they otherwise would have received had they not lent their securities.



6.6.2. 基础题

Q-13. Which of the following statements is most accurate concerning a short position of 100 shares of a stock at $50 per share?

A. Maximum loss of $5,000

B. Maximum gain of $5,000

C. Unlimited maximum gain

6.7. Leverage Position in Transaction

6.7.1. 重要知识点

6.7.1.1. Margin transaction 掌握概念及计算

- **概念**：Margin transactions involve buying securities with borrowed money.
- **计算** Trigger price (margin of long position)=$P_0\left(\frac{1\text{-IM}}{1\text{-MM}}\right)$
  - IM=initial margin
  - MM=maintenance margin

6.7.1.2. Leverage ratio

- Leverage Ratio=Asset/Equity=1/Margin

6.7.2. 基础题

Q-14. A trader buys 500 shares of a stock on margin at $36 a share using an initial leverage ratio of 1.66. The maintenance margin requirement for the position is 30%. The stock price at which the margin call will occur is closest to:

A. $25.20.

B. $30.86.

C. $20.57.

Q-15. A trader has purchased 200 shares of a non-dividend-paying firm on margin at a price of $50 per share. The leverage ratio is 2.5. Six months later, the trader sells these shares at $60 per share. Ignoring the interest paid on the borrowed amount and the transaction costs, what was the return to the trader during the six-month period?

A. 20%.

B. 33.33%.

C. 50%.

6.8. Execution Instructions

6.8.1. 重要知识点

6.8.1.1. Execution instructions 的分类

- **Market orders** are the orders to buy or sell a security at the best current price, is the most frequent type of order.
- **Limit orders** specify the buy or sell order. Limit orders waiting to execute are called

standing limit orders.

- **Make a new market**: if the buy order is placed above the best bid but below the best offer, traders say the order makes a new market because it becomes the new best bid.
- **Make the market**: a buy order placed at the best bid.
- **Take the market**: those who trade with them at posted prices are said to.
- **Behind the market**: prices specified in orders that are worse than the best current price.
- **Far from the market:** same as behind the market but the price is much further from the best bid/ask price.

➢ **All-or-nothing orders execute only if the whole order can be filled.**

➢ **Hidden orders** are exposed only to the brokers or exchanges that receive them. These agencies cannot disclose hidden orders to other traders until they can fill them.

➢ **Iceberg orders:** any additional size is hidden from the public but can be filled if a suitably large order arrives.

6.8.2. 基础题

Q-16. 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. What is the market?

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

A. 9.73 bid, offered at 10.14.

B. 9.81 bid, offered at 10.10.

C. 9.95 bid, offered at 10.02.

Q-17. Consider an order-driven system that allows hidden orders. The following four sell orders on a particular stock are currently in the system's limit order book. Based on the commonly used order precedence hierarchy, which of these orders will have precedence over others?

Order	Time of Arrival (HH:MM:SS)	Limit Price (€)	Special Instruction (If Any)
I	9:52:01	20.33	
II	9:52:08	20.29	Hidden order
III	9:53:04	20.29	
IV	9:53:49	20.29	

A. Order I (time of arrival of 9:52:01).

B. Order II (time of arrival of 9:52:08).

C. Order III (time of arrival of 9:53:04).

Q-18. 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

A new buy limit order is placed for 300 shares at ¥123.40. This limit order is said to:

A. take the market.

B. make the market.

C. make a new market.

6.9. Validity Instructions

6.9.1. 重要知识点

6.9.1.1. Validity instructions 的分类

- **Day orders:** orders are good for the day on which it is submitted. If it has not been filled by the close of business, the order expires unfilled.
- **Good-till-cancelled orders (GTC):** orders will continue to work until the order fills or is canceled.
- **Immediate or cancel orders:** orders are cancelled unless they can be filled immediately. They are also known as fill or kill orders.
- **Good-on-close orders:** orders can only be filled at the close of trading.

- **Good-on-open orders:** orders are only filled at the open of the trading day.
- **Stop orders** are orders in which traders have specified a stop price condition. The stop order may not be filled until the stop price condition has been satisfied.
  - **Stop-sell order:** the stop price condition suspends execution of the order until a trade occurs at or below the stop price. After that trade, the stop condition is satisfied and the order becomes valid for execution, subject to all other execution instructions attached to it;
  - **Stop-buy:** a buy order with a stop condition becomes valid only after a price rises above the specified stop price.

6.9.2. 基础题

Q-19. 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):

A. execution instruction.

B. validity instruction.

C. clearing instruction.

Q-20. Which of the following orders are validity instructions?

A. Kill or fill orders.

B. Iceberg orders.

C. All or nothing orders.

Q-21. You own shares of a company that are currently trading at $30 a share. Your technical analysis of the shares indicates a support level of $27.50. That is, if the price of the shares is going down, it is more likely to stay above this level rather than fall below it. If the price does fall below this level, however, you believe that the price may continue to decline. You have no immediate intent to sell the shares but are concerned about the possibility of a huge loss if the share price declines below the support level. Which of the following types of orders could you place to most appropriately address your concern?

A. Short sell order.

B. Good-till-cancelled stop sell order.

C. Good-till-cancelled stop buy order.

Q-22. A trader buys a stock at $30 and wants to limit downside risk. Which of the following orders will most likely guarantee that he can sell the stock at $25? (GTC means good till cancelled)

A. Put option buy market order with a strike price of $25

B. GTC, stop $25, limit $25 sell order

C. GTC, stop $25, market sell order

Q-23. A trader who owns shares of a stock currently trading at $100 per share places a "GTC, stop $90, limit $85 sell" order (GTC means good till cancelled). Assuming the specified stop condition is satisfied and the order becomes executed, which of the following statements is most accurate?

A. The order becomes a market order when the price falls below $85 and remains valid for execution.

B. The trader faces a maximum realized loss of $15.

C. The order will be executed at either $90 or $85.

6.10. Security Market Index

6.10.1. 重要知识点

6.10.1.1. The functions of the market index

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

6.10.1.2. Characteristics of equity indexes 注意掌握不同组合的构成。

- Broad market index: 涵盖市场总市值的 90%以上；
- Multi-market index: 由多个国家的指数构成；
- Multi-market index with fundamental weighting: 由多个国家的指数构成 ,同时考虑了基本面因素（比如 GDP）;
- **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.

6.10.1.3. Rebalancing and reconstitution

- **Rebalancing** refers to adjusting the weights of the constituent securities in the index.
- **Reconstitution** is the process of changing the constituent securities in an index.

6.10.2. 基础题

Q-24. Which of the following statements is most likely correct?

A. Equal weighted indices require the most frequent rebalancing among the three indices.

B. The rebalancing frequency of a price-weighted index is more than that of a market capitalization weighted index.

C. Reconstitution instead of rebalancing will lead to turnover within an index.

Q-25. Security market indexes can be used to calculate alphas, which are best described as:

A. the systematic risk of a security, using the index as a proxy for the entire market.

B. a measure of market sentiment.

C. the difference between the return of the actively managed portfolio and the return of the passive portfolio.

Q-26. An index provider launches a new index that will include value stocks in a specific country. This index will most likely be a:

A. large-capitalization index.

B. style index.

C. fundamentally weighted index.

6.11. Different Weighting Method in Securities' Index

6.11.1. 重要知识点

6.11.1.1. 计算：

- **Price-weighted index**
  - Assumption: purchasing an equal number of shares of each stock in the index.

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

  - The divisor of a price-weighted index is adjusted for stock splits.
  - Disadvantage: a high-priced stock will have a relatively greater effect on the

index than a low-priced stock with the same percentage change of the stock price.

- **Market capitalization-weighted index**
  - Assumption: making proportionate market value investments in each stock.

$$\text{Market capitalization-Weighted Index} = \frac{\text{current total market value of the stocks}}{\text{base year total market value of the stocks}} \times \text{base year index value}$$

  - Disadvantage: a greater market capitalization stock will have a relatively greater effect on the index than a lower market capitalization stock with the same percentage change of the stock price.
  - **Momentum effect**
- **Equal-weighted index**
  - Places an equal weight on the returns of all index stock, regardless of their price or market value.
  - Assumption: Investing the same dollar in each stock in the index.

$$\text{Equal-weighted index} = (1 + \text{average percentage change in index stocks}) \times \text{initial index value}$$

    - HPR_i is the return on each stock:
  - Disadvantage: small-size firm tilted, **most frequent rebalancing**
- **Fundamental weighting:**
  - Weighting by using measures of a company's earnings, revenue, assets or cash flow that are independent of its security price to determine the weight on each constituent security.
  - Features: value-tilted, contrarian-style

6.11.2. 基础题

Q-27. Which of the following statements concerning a security market index is most accurate?

A. The divisor will be adjusted to prevent changes not related to prices of constituent securities.

B. At inception, the total return version of an index will be greater than the price version of an index.

C. Estimated market prices of constituent securities are not used to calculate the index value.

Q-28. A price-weighted index series is composed of the following three stocks:

Stock	Price before Split End of Day 1	Price after Split End of Day 2
X	$10	$12
Y	$20	$19
Z	$60	$22

If stock Z completes a three-for-one split at the end of Day 1, the value of the index after the split (at the end of Day 2) is closest to:

A. 31.7.

B. 32.3.

C. 29.9.

Q-29. Compared with its market-value-weighted counterpart, a fundamental-weighted index is least likely to have a:

A. momentum effect.

B. contrarian effect.

C. value tilt.

Q-30. If the following three stocks are held in a portfolio, the portfolio's total return on an equal-weighted basis is closest to:

Stock	Number of Shares Owned	Beginning of Period Price per Share ($)	End of Period Price per Share ($)	Dividend per Share during the Period ($)
A	100	80	74	4.00
B	650	100	104	3.00
C	1000	60	68	0.00

A. 6.37%.

B. 5.94%.

C. 3.28%.

Q-31. An analyst gathers the following information for a price-weighted index comprised of securities ABC, DEF, and GHI:

Security	Beginning of Period Price (€)	End of Period Price (€)	Total Dividends (€)
ABC	25.00	27.00	1.00
DEF	35.00	25.00	1.50
GHI	15.00	16.00	1.00

The price return of the index is:

A. -4.6%.

B. -9.3%.

C. -13.9%.

Q-32. An analyst gathers the following information for a market-capitalization-weighted index comprised of securities MNO, QRS, and XYZ.

Security	Beginning of Period Price (￥)	End of Period Price (￥)	Dividends Per Share (￥)	Shares Outstanding
MNO	2,500	2,700	100	5,000
QRS	3,500	2,500	150	7,500
XYZ	1,500	1,600	100	10,000

The total return of the index is *closest to*:

A. 1.04 %.

B. -5.35 %.

C. -10.23 %.

Q-33. If the price return of an equal-weighted index exceeds that of a market-capitalization-weighted index comprised of the same securities, the *most likely* explanation is:

A. stock splits.

B. dividend distributions.

C. outperformance of small-market-capitalization stocks.

Q-34. Which of the following index weighting methods requires an adjustment to the divisor after a stock split?

A. Price weighting.

B. Fundamental weighting.

C. Market-capitalization weighting.

Q-35. One month after inception, the price return version and total return version of a single index (consisting of identical securities and weights) will be equal if:

A. market prices have not changed.

B. capital gains are offset by capital losses.

C. the securities do not pay dividends or interest.

6.12. Other Market Index

6.12.1. 重要知识点

6.12.1.1. <u>Several issues with the construction of fixed income indexes</u>

- The number of fixed-income securities is many times larger than the number of equity securities. (Large universe);
- Fixed-income markets are predominantly dealer markets and are relatively illiquid;
- High turnover.

6.12.1.2. 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.
- **Real estate indexes:** Real estate indices can be categorized as appraisal indices, repeat sales indices, and real estate investment trust (REIT) indices.
- **Hedge fund indexes:** Most of these indices are equal weighted and represent the performance of the hedge funds within a particular database. Performance survivorship bias suffered overlap and survivorship bias.

6.12.2. 基础题

Q-36. Which of the following statements is least accurate with respect to fixed-income indices?

A. The indices are susceptible to turnover of the underlying securities.

B. Compared with equity indices, it is easier and less expensive to replicate fixed-income indices.

C. Many of the underlying securities in the index tend to be illiquid.

Q-37. Which of the following is not a real estate index category?

A. Appraisal index.

B. Initial sales index.

C. Repeat sales index.

Q-38. A unique feature of hedge fund indices is that they:

A. are frequently equal weighted.

B. are determined by the constituents of the index.

C. reflect the value of private rather than public investments.

Q-39. The MSCI All Country World Index is best described as a:

A. broad market equity index.

B. multi-market equity index.

C. global sector equity index.

6.13. Efficient Market Hypothesis

6.13.1. 重要知识点

6.13.1.1. EMH 掌握概念

- **Efficient market:** security price adjust rapidly to infusion of new information, and therefore current security prices fully reflect all available information.

6.13.1.2. Factors affect the degree of market efficiency

- **The number participants** such as investors, financial analysts who follow or analyze a security or asset should be positively related to market efficiency.
- **Information availability** (e.g., an active financial news media) and financial disclosure should promote market efficiency.
- 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.
- **Higher costs of information**, analysis, and trading, more inefficient of the market.

6.13.1.3. 区分 strong-form EMH & semi-strong form EMH & weak-form EMH 定义

- **Strong form EMH** states that stock prices fully reflect all information from public and private sources;
- **Semi-strong form EMH** states that stock prices reflect all publicly known and available information;
  - If markets are semi-strong-form efficient, then passive portfolio management strategies are most likely to outperform active trading strategies.
- **Weak form EMH** states that stock prices fully reflect all past market data.

6.13.1.4. 如果 EMH 成立哪种分析无效

- Weak form: 技术分析无效；
- Semi-strong form: 基本面分析无效；
- Strong form: 全部无效，不可能打败市场。

6.13.1.5. 检验（包含 6 anomalies）

- **Tests for weak-form EMH (success)**
  - Statistical tests of independence
    - Auto correlation tests;
    - Runs tests.
  - Tests of trading rules
- **Tests for semi-strong form EMH**
  - Event studies(success).
- **Tests for strong-form EMH**
  - Corporate insider trading (1970s 以前 fail, 1980s 以后成功);
  - Stock exchange specialists(fail);
  - Security analysts (success).

6.13.2. 基础题

Q-40. A portfolio manager analyzes a market and discovers that it is not possible to achieve consistent and superior risk-adjusted returns, net of all expenses. This market is most likely characterized by:

A. persistent anomalies.

B. informational efficiency.

C. restrictions on short selling.

Q-41. If the investor is a fundamental analyst, which of the following market is consistent with the abnormal return investor can achieve?

A. Weak.

B. Semi-strong.

C. Strong.

Q-42. If markets are efficient, the information from the annual reports is reflected in the stock prices; therefore, the gradual changes must be from the release of additional new information. After the public announcement of the merger of two firms, an investor makes abnormal returns by going long on the target firm and short on the acquiring firm. This most likely violates which form of market efficiency?

A. Semi-strong-form only

B. Semi-strong-form and strong-form

C. Weak-form and semi-strong-form

Q-43. In a highly efficient market, unexpected positive news on a stock is announced to the public. After this announcement, the difference between the market value and the intrinsic value of the stock will most likely:

A. remain zero.

B. decrease.

C. increase.

Q-44. Which of the following situations will most likely lead to a reduction of market efficiency?

A. An increase in rules and regulations that promote financial disclosure.

B. An increase in arbitrage opportunities.

C. An increase in the number of market participants.

Q-45. Which of the following statements about the forms of market efficiency is least accurate? If the form of market efficiency is:

A. semi-strong, then security prices fully reflect all past market data.

B. weak, then investment strategies based on fundamental analysis could achieve abnormal returns.

C. strong, then prices reflect only private information.

Q-46. The following table shows information on three different investment strategies with equivalent systematic risk:

		Annualized Data	
Strategy	Type of Strategy	Fees and Expenses(%)	Net Return(%)
1	Passive	0.5	15.5
2	Exploits price patterns	1.5	14.5
3	Uses fundamental analysis	1	

The return, gross of fees and expenses that causes Strategy 3 to be most consistent with the strong form of market efficiency is:

A. 16%.

B. 18%.

C. 17%.

Q-47. If a test rejects the hypothesis that market prices reflect private information but does not reject the hypothesis that they reflect past market data and public information, then the form of market efficiency is best described as:

A. strong.

B. weak.

C. semi-strong.

Q-48. If securities markets are semi-strong-form efficient, the most appropriate role of a portfolio manager is to:

A. invest by analyzing publicly available information to consistently generate abnormal returns.

B. manage portfolios with appropriate diversification and asset allocation, taking into consideration investor preferences.

C. exploit appropriate trading rules and serial correlations for achieving excess returns.

Q-49. Which of the following statements is most accurate in an efficient market?

A. Securities market prices respond over time to changes in economic information.

B. Securities market prices fully reflect their fundamental values.

C. Active strategies will lead to excess risk adjusted portfolio returns.

Q-50. An observation that stocks with above average price-to-earnings ratios have consistently underperformed those with below average price-to-earnings ratios least likely contradicts which form of market efficiency?

A. Weak form

B. Semi-strong form

C. Strong form

6.14. Market Anomalies

6.14.1. 重要知识点

6.14.1.1. Anomalies in time-series data

- **Calendar anomalies:** January effect shows that returns in January are significantly higher than the rest of the months in that year (reasons: **window dressing, tax loss selling**). Others includes the day-of-the-week effect, the weekend effect, turn-of-the-month effect and holiday effect.
- **The overreaction effect:** indicate investors overreact to the release of unexpected public information. Therefore, stock prices will be inflated (depressed) for those companies releasing good (bad) information.
- **Momentum anomalies:** refer to when securities that have experienced high returns in the short term tend to continue to generate higher returns in subsequent periods.

6.14.1.2. Anomalies in cross-sectional data

- **The size effect:** results from the observation that equities of small-cap companies tend to outperform equities of large-cap companies on a risk-adjusted basis;
- **The value effect:** A number of global empirical studies have shown that value stocks, which are generally referred to as stocks that have below-average price-to-earnings (P/E) and market-to-book (M/B) ratios, and above-average dividend yields, have consistently outperformed growth stocks over long periods of time.

6.14.1.3. Other anomalies

- **Closed-end investment funds:** Theoretically, these shares should trade at a price approximately equal to their net asset value (NAV) per share. An abundance of research, however, has documented that, on average, closed-end funds trade at a discount from NAV. Explanation for the discount is that tax liabilities are associated with unrealized capital gains/losses and liquidity;
- **Earnings Surprise:** The unexpected part of the earnings announcement, or earnings surprise, is the portion of earnings that is unanticipated by investors and, according to the efficient market hypothesis, merits a price adjustment. Positive (negative) surprises should cause appropriate and rapid price increases (decreases). Most of the results indicate that earnings surprises are reflected quickly in stock prices, but the adjustment process is not always efficient;
- **Initial public offerings:** The percentage difference between the issue price and the closing price at the end of the first day of trading is often referred to as the degree of underpricing;
- **Economic fundamentals:** researchers have documented that equity returns are related to prior information on such factors as interest rates, inflation rates, stock volatility, and dividend yields.

6.14.1.4. Implications for investment strategies

- In 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. As a result, if the methodologies are corrected, most of these anomalies disappear.
- Another point to consider is that in an efficient market, overreactions may occur, but then so do under-reactions. Therefore, on average, the markets are efficient.
- Investors face challenges when they attempt to translate statistical anomalies into economic profits.

6.14.2. 基础题

Q-51. Which of the following market anomalies is inconsistent with weak-form market efficiency?

A. earnings surprise.

B. momentum pattern.

C. closed-end fund discount.

Q-52. A trader is able to obtain persistent abnormal returns by adopting an investment strategy that purchases stocks that have recently experienced high returns. This strategy exploits a market-pricing anomaly best described as:

A. the overreaction effect.

B. data mining.

C. momentum.

Q-53. A closed-end fund is trading at a premium to its net asset value. This scenario most likely reflects:

A. excess demand for redemption of the shares.

B. concerns about the quality of management.

C. a belief that the portfolio securities are undervalued.

Q-54. Which of the following is most likely a cross-sectional anomaly in financial markets?

A. Closed-end fund discount

B. Overreaction effect

C. Value effect

6.15. Behavioral Finance

6.15.1. 重要知识点

6.15.1.1. Behavioral finance

- **Traditional finance models**, including efficient markets, are based on an assumption that the market as a whole acts rationally, although some individual investors may not.
- **Behavioral finance:** investors dislike losses more than they like gains of an equal amount.
- Investors sometimes **overestimate their ability to value securities**. If there is a prevalence of investor **overconfidence**, securities will be mispriced. However, it

appears that this mispricing may be hard to predict. Overconfidence in their estimates also causes investors to hold portfolios that are not well diversified, increasing their portfolio risk but not overall market risk.

- Other behavioral biases that have been identified include
  - **Gambler's fallacy:** recent results affect investor estimates of future probabilities.
  - **Disposition effect:** investors are willing to realize gains but unwilling to realize losses.
  - **Herding:** trading that occurs in clusters and is not necessarily driven by information.
  - **Information cascades:** is the transmission of information from those participants who act first and whose decisions influence the decisions of others.
  - **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.

6.15.2. 基础题

Q-55. Which of the following is not included in behavioral finance?

A. Risk aversion.

B. Loss aversion.

C. Overconfidence.

Q-56. 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.

Q-57. The behavioral bias in which investors tend to avoid realizing losses but rather seek to realize gains is best described as:

A. the gambler’s fallacy.

B. the disposition effect.

C. mental accounting.

6.16. Overview of Equity Investment

6.16.1. 重要知识点

6.16.1.1. Characteristics of various types of equity securities

- Common shares
  - Statutory voting system;
  - Cumulative voting.
  - Putable common shares：股东有权按照预定价格卖回给公司。
  - Callable common shares：公司有权按照预定价格回购股票。
- Preference shares：两优先一固定(股利支付优先,资产清偿优先,股息率固定),股利支付非强制义务，一般没有投票权，没有到期期限。
  - Cumulative preference：当期未获得的优先股股利可以累积到下期。
  - Participating preference shares：当公司利润超过预先设定值后，该类股东可以获得额外股利.
  - Convertible preference shares：该类股东有权利将原股份转为普通股.

6.16.1.2. The returns on equity investments: price changes, dividend payments, and, in the case of equities denominated in a foreign currency, gains or losses from changes in exchange rates.

6.16.1.3. Risks of various types of equity securities

- Preferred stock < Common stock
- Putable stock < Callable stock
- Cumulative preferred stock < Non-cumulative preferred stock

6.16.1.4. Characteristics of private equity

- **Highly illiquid** because there is no active secondary market;
- Require **negotiations** between investors in order to be traded;
- **Financial statements and other important information** needed to determine the fair value of private equity securities may be **difficult to obtain**;
- Private equity **eliminates certain costs** that are necessary to operate a publicly traded company;

- Private equity firms score lower in terms of **corporate governance** effectiveness;
- Feels less pressured to focus on short-term results therefore **greater ability to focus on long-term objects**;
- Private equity provides investors with greater total return potential.

6.16.2. 基础题

Q-58. Participating preference shares are least likely to entitle the shareholders to participate in:

A. additional distribution of the company's assets upon liquidation.

B. corporate decisions through voting rights.

C. additional dividends if the company's profits exceed a predetermined level.

Q-59. Which of the following is *incorrect* about the risk of an equity security? The risk of an equity security is:

A. based on the uncertainty of its cash flows.

B. based on the uncertainty of its future price.

C. measured using the standard deviation of its dividends.

Q-60. A company's cost of equity is often used as a proxy for investors':

A. average required rate of return.

B. minimum required rate of return.

C. maximum required rate of return.

Q-61. Compared with public equity markets, which of the following statements is most accurate about private equity markets? Operating in the private market:

A. offers stronger incentives to improve corporate governance.

B. allows management to better adopt a long-term focus.

C. allows more opportunities to raise capital.

Q-62. The type of voting in board elections that is most beneficial to shareholders with a small number of shares is best described as:

A. cumulative voting.

B. statutory voting.

C. voting by proxy.

Q-63. Which of the following statements is most accurate?

A. Investors owning a small number of common shares would prefer statutory voting to cumulative voting.

B. Convertible preference shares are more volatile and riskier than the underlying common shares.

C. Putable common shares provide benefits to both the issuing company and investors.

Q-64. A company has issued only one class of common shares, and it does not pay dividends on them. It has also issued two types of non-cumulative preference shares: one that is putable and the other callable. Which of these securities will most likely offer the lowest expected return to the investor?

A. Common shares

B. Callable preference shares

C. Putable preference shares

Q-65. The advantages to an investor owning convertible preference shares of a company most likely include:

A. less price volatility than the underlying common shares.

B. an opportunity to receive additional dividends if the company's profits exceed a pre-specified level.

C. preference dividends that are fixed contractual obligations of the company.

6.17. Non-Domestic Investment

6.17.1. 重要知识点

6.17.1.1. Methods for investing in non-domestic equity

- **Direct investing:** buy and sell securities directly in foreign markets. This means that: all transactions are in the company's domestic currency; investors must be familiar with the trading, clearing, and settlement regulations and procedures of that market; and the market may be less liquid.
- **Global registered shares:** a common share that is traded on different stock exchanges all over the world in different currencies.
- **Depository receipts (DRs)** is a security that trades like an ordinary share on a local exchange and represents an economic interest in a foreign company. A depository receipt is created when the equity shares of a foreign company are deposited in a bank (i.e., the depository) in the country on whose exchange the shares will trade. The depository then issues receipts that represent the shares that were deposited. The number of receipts issued and the price of each DR is based on a ratio, which specifies the number of depository receipts to the underlying shares.

- A **global depository receipt (GDR)** is issued outside of the company's home country and outside of the United States.
- An **American depository receipt** (ADR) is a US dollar-denominated security that trades like a common share on US exchanges. They enable foreign companies to raise capital from US investors. Note that an ADR is one form of a GDR; however, not all GDRs are ADRs because GDRs cannot be publicly traded in the United States. However, the issuing companies must fulfill all SEC requirements.

	Level I	**Level II**	**Level III**	**Rule 144A**
Stock Exchange	Over-the-counter (OTC) Markets	NYSE NASDA AMEX	NYSE NASDA AMEX	Private Equity
SEC Registration	Required	Required	Required	Not required
If Permit Fundraising in US	No	No	Yes	No
Listing cost	Low	Higher	Highest	low

6.17.2. 基础题

Q-66. When investing in unsponsored depository receipts, the voting rights to the shares in the trust belong to:

A. the depository bank.

B. the investors in the depository receipts.

C. the issuer of the shares held in the trust.

Q-67. A U.S. institutional money manager prefers to invest in depository instruments of non-domestic equity securities that are privately placed in the U.S. and not subject to the foreign ownership and capital flow restrictions. The type of security that is most appropriate for this investor is:

A. global registered shares.

B. global depository receipts.

C. American depository shares.

Q-68. For a US investor, which of the following statements concerning investing in depository receipts (DRs) is least accurate?

A. Investors in unsponsored DRs would have the same voting rights as the direct owners of common shares.

B. Investing in DRs could provide arbitrage opportunities and entail currency risk.

C. Sponsored DRs are subject to greater reporting requirements than unsponsored DRs.

Q-69. Returns from a depository receipt are least likely affected by which of the following factors?

A. Exchange rate movements

B. Analysts' recommendations

C. Number of depository receipts

6.18. Industry Analysis

6.18.1. 重要知识点

6.18.1.1. The uses of industry analysis

- Understanding a company's business and business environment;
- Identifying active equity investment opportunities;
- Portfolio performance attribution.

6.18.1.2. Methods of classification system

- Modern classification schemes are most commonly based on grouping companies by similar **products and/or services**;
- Companies are sometimes grouped on the basis of their relative sensitivity to the business cycle. This method often results in two broad groupings of companies—**cyclical and non-cyclical**;
- **Statistical approaches** to grouping companies are typically based on the correlations of past securities' returns.

6.18.1.3. Commercial classification

- Basic materials and processing (companies engaged in the production of building **materials, chemicals, paper and forest products, containers and packaging, and metal, mineral, and mining companies**).
- Customer discretionary firm are cyclical and sell goods and services in industries such as automotive, apparel, hotels and restaurants.
- Consumer staples consumer-related companies whose business tends to exhibit less economic sensitivity than other companies; for example, manufacturers of **food, beverage, tobacco, and personal care products**.
- Energy firms.
- Financial services firms.

- Health care.
- Manufacturers of capital goods and providers of commercial service(**heavy machinery and equipment manufacture, aerospace and defense, transportation services, and commercial services and supplies**).
- Technological firms.
- An limitation of current systems is that the narrowest classification unit assigned to a company generally cannot be assumed to be its peer group for the purposes of detailed fundamental comparisons or valuation. A **peer group** is needed.

6.18.1.4. Peer group 及相关概念

- A **peer group** is a group of companies engaged in similar business activities whose economics and valuation are influenced by closely related factors;
- Commercial classification systems do provide a starting point for the construction of a relevant peer group because, by using such systems, an analyst can quickly discover the public companies operating in the chosen industry.
- Steps in constructing a preliminary list of peer companies
  - Examine commercial classification systems, if available to the analyst. These systems often provide a useful starting point for identifying companies operating in the same industry;
  - Review the subject company's annual report for a discussion of the competitive environment. Companies frequently cite specific competitors;
  - 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.

6.18.1.5. Business cycle

- **Cyclical**
  - **Cyclical company:** sales and earnings are heavily influenced by the aggregate business activity; have high business risk and financial risk 主要看公司的盈利增长和整体经济增长的相关性，如果相关性很高，就是周期性公司。
  - **Cyclical stock:** have high betas; the company of the cyclical stock are more volatile than the overall market 主要看股票的价格和市场指数的相关性，如

果相关性很高，就是周期性股票。

- **Non-cyclical firm**
  - **Growth companies:** earn higher returns than WACC; sales and earnings grow faster than similar risk firm and the overall economy; have low dividend-payout ratios.
  - **Defensive company:** earnings are insensitive to downturns in the economy; have low business risk and moderate financial risk.主要看公司的盈利增长和整体经济增长的相关性，如果相关性不高，盈利增长很稳定，就是防守型公司。

6.18.1.6. Industry life cycle

- Five stages
  - An **embryonic industry** is one that is just beginning to develop. Characteristics: slow growth and high prices. Substantial investment is generally required, and the risk of failure is high;
  - A **growth industry** tends to be characterized by rapidly increasing demand, improving profitability, falling prices, and relativity low competition among companies in the industry;
  - The **shakeout stage** is usually characterized by slowing growth, intense competition, and declining profitability;
  - Characteristics of a **mature industry** include little or no growth, industry consolidation, and relatively high barriers to entry;
  - During the **decline stage**, industry growth turns negative, excess capacity develops, and competition increases.
- **Companies in growth industries** should be building customer loyalty as they introduce consumers to new products or services, building scale, and typically reinvest their cash flows in new products and product platforms;
- **Companies in mature industries** are likely to be pursuing replacement demand rather than new buyers and are probably focused on extending successful product lines rather than introducing revolutionary new products.

6.18.1.7. Principles of strategy analysis of an industry

- Differing competitive environments are often tied to the structural attributes of an industry, which is one reason industry analysis is a vital complement to company analysis;

- Michael Porter's <u>"five forces"</u> framework is the classic starting point for strategic analysis; although it was originally aimed more at internal managers of businesses than at external security analysts, the framework is useful to both.
  - The **threat of entry** to the industry, which depends on barriers to entry, or how difficult it would be for new competitors to enter the industry;
  - The **power of suppliers**, which may be able to raise prices or restrict the supply of key inputs to a company;
  - The **power of buyers**, which can affect the intensity of competition by exerting influence on suppliers regarding prices (and possibly other factors such as product quality);
  - The **threat of substitutes**, which can negatively affect demand if customers choose other ways of satisfying their needs;
  - The **rivalry among existing competitors**, which is a function of the industry's competitive structure.

6.18.1.8. Industry concentration

- Concentrated industries **do not always** have pricing power or that fragmented industries do not;
- The **relative market shares** of competitors matter as much as their **absolute market shares**;
- If the industry sells a commodity product that is difficult—or impossible—to differentiate, the **incentive to compete on price increases** because a lower price frequently results in greater market share;
- Capital-intensive industries can be **prone to overcapacity**, which mitigates the benefits of industry concentration.

6.18.1.9. Barriers of entry

- Industries with low barriers to entry often have little pricing power;
- Money, intellectual capital, and attractiveness for customer should be considered to assess the ease of entry;
- Way to investigate the issue is by looking at historical data. If the same ten companies that dominate an industry today dominated it ten years ago, barriers to entry are probably fairly high;
- <u>High barriers to entry do not guarantee pricing power, because incumbents may compete fiercely among each other;</u>
- Do not confuse barriers to entry, however, with barriers to success.

6.18.1.10. Industry Capacity

- Tight, or limited, capacity gives participants more pricing power as demand for the product or service exceeds supply, whereas overcapacity leads to price cutting and a very competitive environment as excess supply chases demand;

- Capacity is fixed in the short term and variable in the long term;
- Capacity additions frequently overshoot long-run demand;
- Note that capacity need not be physical;
- If new capacity is physical, it will take longer for new capacity to come on line to meet an increase in demand, resulting in a longer period of tight conditions.

6.18.1.11. Market share stability

- Examining the stability of industry market shares over time is similar to thinking about the frequency with which new players enter an industry;
- **Unstable market** shares often indicate highly competitive industries that have limited pricing power;
- **High switching costs** for orthopedic devices coupled with slow innovation resulted in a lower benefit from switching, which led to greater market share stability.

6.18.1.12. Summary

- Higher barriers to entry reduce competition.
- Greater concentration (a small number of firms control a large part of the market) reduces competition, whereas market fragmentation (a large number of firms, each with a small market share) increases competition.
- Unused capacity in an industry, especially if prolonged, results in intense price competition.
- Stability in market share reduces competition. For example, loyalty of a firm's customers tends to stabilize market share and profits.
- More price sensitivity in customer buying decisions results in greater competition.
- Greater maturity of an industry results in slowing growth.

6.18.1.13. 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.

6.18.2. 基础题

Q-70. A change in which of the following best describes a macroeconomic influence on industry growth?

A. The cost of debt.

B. Personal spending habits.

C. Population size.

Q-71. When constructing a list of peer companies to be used in equity valuation, which of the following would least likely improve the group? Companies in the same peer group should ideally:

A. be exposed to similar stages in the business cycle.

B. have similar valuations.

C. have the effects of finance subsidiaries minimized.

Q-72. Which of the following statements concerning the use of industry analysis is most accurate? Industry analysis is most useful for:

A. sector allocations in passive equity portfolios.

B. portfolio performance attribution.

C. evaluating market efficiency.

Q-73. When graphically depicting the life-cycle model for an industry as a curve, the variables on the axes are:

A. price and time.

B. demand and time.

C. demand and stage of the life cycle.

Q-74. If an 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.

Q-75. In which of the following life-cycle phases are price wars *most likely* to be absent?

A. Mature.

B. Decline.

C. Growth.

Q-76. Which factor is *most likely* associated with stable market share?

A. Low switching costs.

B. Low barriers to entry.

C. Slow pace of product innovation.

Q-77. Unlike commercial industry classification systems, industry classification systems developed by governments most likely:

A. are updated more frequently.

B. are more transparent.

C. include private companies.

Q-78. An industry experiencing slow growth, high prices, and volumes insufficient to achieve economies of scale is most likely in the:

A. mature stage.

B. embryonic stage.

C. shakeout stage.

Q-79. Companies pursuing cost leadership will most likely:

A. invest in productivity-improving capital equipment.

B. establish strong market research teams to match customer needs with product development.

C. engage in defensive pricing when the competitive environment is one of high rivalry.

Q-80. An equity analyst follows two industries with the following characteristics:?

Industry 1:

A few companies with proprietary technologies, products with unique features, high switching costs, and minimal regulatory influences.

Industry 2:

A few companies producing relatively similar products, sales varying with disposable income and employment levels, high capital costs and investment in physical plants, rapid shifts in market shares of competing firms, and minimal regulatory influences.

Based on the above information, the analyst will most appropriately conclude that, compared with the firms in Industry 2, those in Industry 1 would potentially have:

A. over-capacity problems.

B. high bargaining power of customers.

C. larger economic profits.

Q-81. An equity portfolio manager is evaluating her sector allocation strategy for the upcoming year. She expects the global economy to experience a slowdown period for the next two years. Furthermore, she believes that companies will be facing diminishing growth rates with respect to revenues and profits. On the basis of these beliefs, the portfolio manager will most likely overweight:

A. materials.

B. consumer staples.

C. autos.

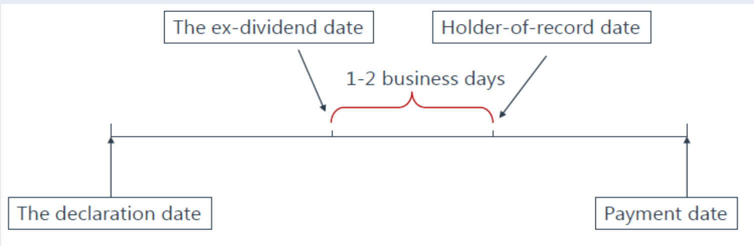
6.19. Discount Cash Flow Model

6.19.1. 重要知识点

6.19.1.1. Types of dividend

- **Cash dividend**
  - Reduces both the value of the company's assets and the market value of equity.
  - No effect on shareholder wealth.
  - Types of cash dividend
    - Regular dividends (dividends are paid on a consistent schedule);
    - Special dividends (dividends are paid irregularly, on cash);
    - Liquidating dividends (dividends are paid when a company goes liquidating).
- **Stock dividends & stock splits**
  - Both create more shares;
  - A proportionate drop in the price per share;
  - No effect on shareholder wealth.
  - Reverse stock splits
    - Increase the share price;
    - Reduce the number of shares outstanding;

6.19.1.2. Payment Chronology



- Ex-Dividend date is usually one or two business days before Holder-of-Record Date.

6.19.1.3. DDM 计算

- **The general DDM**

$$\text{value} = \frac{D_1}{(1+r_e)^1} + \frac{D_2}{(1+r_e)^2} + \frac{D_3}{(1+r_e)^3} + \ldots + \frac{D_n}{(1+r_e)^n}$$

- **Multiple-year holding period DDM**

$$\text{value} = \frac{D_1}{(1+r_e)^1} + \frac{D_2}{(1+r_e)^2} + \frac{P_2}{(1+r_e)^2}$$

- **Preferred stock valuation**

$$\text{value} = \frac{D_p}{r_p}$$

- **The constant growth DDM**

$$PV_0 = \frac{D_0(1+g_c)}{r_e - g_c} = \frac{D_1}{r_e - g_c} \text{ (GGM)}$$

- **Assumption**
  - The firm expects to pay a dividend, D_1, in one year;
  - Dividends will grow at a constant rate, g, forever;
  - The growth rate (g) is less than the required rate(r).
- **Limitations**
  - Very sensitive to estimates of r and g;
  - Difficult with non-dividend stocks;
  - Difficult with unpredictable growth patterns(use multi-stage model).
- **Dividends grow at a constant rate g**，通过公式的变形，求 r 和 g 的关系。

$$r_e = \frac{D_1}{PV_0} + g_c$$

- **Sustainable growth (g)=(1-dividend payout ratio)×ROE**

6.19.1.4. required rate of return 所包含的三个因素：RFR_{real}, P, RP。

- r=required rate of return=$(1+RFR_{real})(1+IP)(1+RP)-1$
- r= required rate of return(approximate)≈$RFR_{real}+IP+RP$
- g=(RR)×(ROE)

6.19.1.5. Free cash flow to equity model

- FCFE = net income + depreciation – working capital investment (WC_{Inv}) – fixed capital investment (FC_{Inv}) – debt principle repayments + new borrowing
- FCFE = CFO – FC_{Inv} + net borrowing
- The required return for equity is calculated using CAPM model

6.19.2. 基础题

Q-82. Which of the following is equivalent to cash dividend?

A. Stock dividends.

B. Stock splits.

C. Share repurchase.

Q-83. The following data pertain to a company that can be appropriately valued using the Gordon growth model. The dividend is expected to grow indefinitely at the existing sustainable growth rate.

EPS growth rate (three-year average)	7.50%
Current dividend per share	$3.00
Return on equity	15%
Dividend payout ratio	45%
Investors' required rate of return	16%

The stock's intrinsic value is closest to:

A. $34.62.

B. $37.94.

C. $41.90.

Q-84. Which of the following dates in the dividend chronology can fall on a weekend? The

A. payment date.

B. record date.

C. ex-date.

Q-85. A company's $100 par value perpetual preferred stock has a dividend rate of 7% and a required rate of return of 11%. The company's earnings are expected to grow at a constant rate of 3% per year. If the market price per share for the preferred stock is $75, the preferred stock is most appropriately described as being:

A. overvalued by $11.36.

B. undervalued by $15.13.

C. undervalued by $36.36.

Q-86. An investor evaluating a company's common stock for investment has gathered the following data.

Current year's earnings per share	$2.50
Dividend payout ratio	60%
Dividend growth rate expected during Year 1 and 2	25%
Dividend growth rate expected after Year 2	5%
Investors' requited rate of return	12%

The value per share of this common stock is closest to:

A. $28.57.

B. $31.57.

C. $38.70.

Q-87. An analyst will most likely put a "sell" recommendation on a stock when its:

A. intrinsic value is positive.

B. market value is higher than intrinsic value.

C. market value is lower than fundamental value.

Q-88. The following information is available about a company:

Next year's sales revenue	$360 million
Next year's net profit margin	18%
Dividend payout ratio	50%
Dividend growth rate expected during Years 2 and 3	25%
Dividend growth rate expected after Year 3	5%
Investors' required rate of return	12%
Number of outstanding shares	16.2 million

The current value per share of the company's common stock according to the two-stage dividend discount model is closest to:

A. $22.46.

B. $39.36.

C. $45.21.

Q-89. Which of the following is the most appropriate reason for using a free-cash-flow-to-equity (FCFE) model to value equity of a company?

A. FCFE models provide more accurate valuations than the dividend discount model.

B. A firm's borrowing activities could influence dividend decisions, but they would not affect FCFE.

C. FCFE is a measure of the firm's dividend paying capacity.

6.20. Price Multiple Model

6.20.1. 重要知识点

6.20.1.1. P/E Ratio 计算,区分 trailing P/E (P_0 / E_0)，leading P/E (P_0 / E_1).

- Justified P/E (使用 GGM 模型演算而来的 P/E)

- Leading P/E

  $\frac{P_0}{E_1}=\frac{(D_1/E_1)}{r\text{-}g}$; $\frac{P_0}{E_1}=\frac{1-b}{r\text{-}g}$

- Trailing P/E

  $\frac{P_0}{E_0}=\frac{(D_1/E_0)}{r\text{-}g}=\frac{(1-b)(1+g)}{r-g}$

6.20.1.2. Enterprise value to EBITDA (EV/EBITDA)

- **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
- **Advantages**
  - 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.

6.20.1.3. Compare the advantages and disadvantages of each category of valuation model.

- **Cash flow models**
  - Advantages of discounted cash flow models
    - They are based on the finance theory;
    - They are agreed on among the analysts.
  - Disadvantages of discounted cash flow models
    - Appropriate estimation for input is needed;
    - The result is highly sensitive to inputs.
- **Price multiples**
  - The major advantage of using price multiples
    - Allow for relative comparisons, both cross-sectional and in time series;
    - Appropriate to value a particular industry or sector in which the expected best performing stocks are needed to identify;
    - Price multiples are popular with investors;
    - Many multiples are readily available from financial websites and newspapers.
  - Advantages of EV/EBIT
    - Using EV/EBIT instead of market capitalization to determine a multiple

can be useful to analysts. Even where the P/E is problematic because of negative earnings;

- ◆ EV/EBIT is most useful when comparing companies with significant differences in capital structure.

■ Disadvantages of price multiple model

- ◆ Price multiples are lagging indicators and indicate the past performance;
- ◆ The multiples for cyclical companies may be highly influenced by current economic conditions;
- ◆ A stock may be relatively undervalued when compared with its benchmarks but overvalued when compared with an estimate of intrinsic value as determined by one of the discounted cash flow methodologies;
- ◆ Differences in reporting rules among different markets and in chosen accounting methods can result in revenues, earnings, book values, and cash flows that are not easily comparable;
- ◆ Denominators for price multiples are easily be negative for some firms. Negative price multiples are meanless and useless.

➢ **Price multiple valuations on fundamentals**

■ Advantages of price multiple valuations based on fundamentals

- ◆ They are grounded in valuation models that are sound in theory;
- ◆ They conform to the value metrics.

■ Disadvantages of price multiple valuations based on fundamentals

- ◆ Little change in inputs will cause large change in price multiples, e.g. the r - g denominator.

6.20.2. 基础题

Q-90. 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 the most recent payout ratio.

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.

Q-91. An investor gathered the following information to estimate the enterprise value multiple.

Market value of long-term debt	$6 million
Book value of long-term debt	$4 million
Book value of debt	$8 million
Market capitalization	$40 million
Cash and short-term investments	$2 million
EBITDA	$15 million
Firm's marginal tax rate	30%

The company's EV/EBITDA multiple is closest to:

A. 2.5.

B. 3.2.

C. 5.8.

Q-92. After a two-for-one stock split, which of the following will most likely change relative to its pre-split value?

A. Earnings per share (EPS)

B. Price-to-earnings ratio (P/E)

C. Dividend payout ratio

Q-93. An investor gathers the following data to estimate the intrinsic value of a company's stock using the justified forward price-to-earnings ratio (P/E) approach.

Actual forward P/E	16
Next year's earnings per share	$3.00
Return on equity	12.5%
Dividend payout ratio	60%
Required return on shares	10%

The intrinsic value per share is closest to:

A. $36.

B. $48.

C. $72.

Q-94. An analyst gathers the following information about two companies in the same industry:

	Company A	Company B
Book value per share	$40	$20
Market price per share	$44	$26
Return on equity	15%	12%
Retention ratio	30%	50%

What is the most appropriate conclusion regarding investors' expectations? Compared to Company B, Company A has:

A. higher intrinsic value as reflected by its higher market price.

B. higher sustainable growth as reflected by its higher return on equity.

C. lower future investment opportunities due to its lower price-to-book ratio.

Q-95. Which of the following multiples is most useful when comparing companies with significant differences in capital structure?

A. EV/EBITDA

B. Price-to-book ratio

C. Price-to-cash flow ratio

Q-96. An analyst gathers the following information about a company's equity security:

- Trailing price-to-earnings multiple: 20x
- Last year's EPS: $4.00
- Forecasted EPS growth rate: 20%

If the analyst estimates that the security is undervalued by $8, the estimated intrinsic value is closest to:

A. $88.

B. $92.

C. $72.

6.21. Asset-Based Model

6.21.1. 重要知识点

6.21.1.1. 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.
- Most applicable when the market value of the corporate assets is readily determinable and the intangible assets are a relatively small proportion of corporate assets.
- Asset-based valuation models are frequently used together with multiplier models to value private companies.
- **Asset-based models**
  - Advantages
    - This model offered a minimum value for analyst;
    - The model is reliable when the firm has a high portion of tangible assets and current assets;
    - They become more popular in evaluating public firms that have fair values reported.
  - Disadvantages of asset-based models
    - They are not suitable with assets that do not have easily determinable market (fair) values;
    - They are not suitable with asset and liability whose fair values can be very different from the book values;
    - They are not suitable with assets that are "intangible" are shown on the books of the company;
    - They are not suitable in a hyper-inflationary environment.

6.21.2. 基础题

Q-97. Which of the following firms would most appropriately be valued using an asset-based model?

A. An energy exploration firm in financial distress that owns drilling right for offshore areas.

B. A paper firm located in country that is experiencing high inflation.

C. A software firm that invests heavily in research and development and frequently introduces new products.

Q-98. Which of the following statements concerning different valuation approaches is most accurate?

A. The justified forward price-to-earnings ratio (P/E) approach offers the advantage of incorporating fundamentals and presenting intrinsic value estimations.

B. One advantage of the three-stage dividend discount model (DDM) model is that it is equally appropriate to young companies entering the growth phase and those entering the maturity phase.

C. It is advantageous to use asset-based valuation approaches rather than forward-looking cash flow models in the case of companies that have significant intangibles.

Q-99. An asset-based valuation model is most applicable for a company with significant:

A. intangible assets.

B. property, plant, and equipment.

C. proportions of current assets and current liabilities and few intangible assets.

Q-100. A firm reports negative earnings for the year just ended. The price multiple of the firm's stock that is least likely to be meaningful is:

A. trailing price to earnings.

B. price to cash flow.

C. leading price to earnings.

6.22. 进阶题

Q-1. 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% 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?

A. 20.56%.

B. 22.65%.

C. 18.56%.

Q-2. An investor opens a margin account with an initial deposit of $5,000. He then purchases 200 shares of PRK stock at $46 in his margin account, which has a margin maintenance requirement of 25 percent, Ignoring commissions and interest, the minimum price that PRK stock can fall to before the investor receives a margin call is *closest* to:

A. $20.00.

B. $28.00.

C. $33.33.

Q-3. The following limit orders were listed on the book of a market:

Buyer	Bid Size (# of shares)	Limit Price ($)	Seller	Offer Size (# of shares)	Limit Price ($)
1	600	35.50	1	200	37.20
2	400	35.70	2	200	38.35
3	500	36.20	3	400	39.50
4	100	37.10	4	100	39.65
5	300	37.15	5	200	39.70

The average price of an immediate-or-cancel limit buy order for 750 shares at a price of $39.50 will be closest to:

A. $37.35.

B. $38.58.

C. $39.60.

Q-4. Two analysts Bran and Whily held different opinions towards the share price of iRobot Incorporation. The current price is $52. Bran took a long position on the stock and would like to close this position once the price rose to $65. Whily took a short position and would like to cover his loss if the stock price rose to $60. Which of the following orders will meet their requirements?

	Bran	Whily
A.	Limit sell at $65	Limit buy at $60
B.	Limit sell at $65	Stop buy at $60
C.	Stop sell at $65	Limit buy at $60

Q-5. An analyst collected the following data about a listed company:

Earnings per share	20
Dividend declared	3
Return on assets	6%
Debt/Equity ratio	1.4
Net profit margin	12%

The constant growth rate of dividends is *closest* to:

A. 2%.

B. 12%.

C. 20%.

Q-6. The following data pertains to a margin purchase of a stock by an investor.

Stock's purchase price	$50/share
Sale price	$55/share
Shares purchased	500
Margin	45%
Call money rate	6%
Dividend	$1.80/share
Transaction commission on purchase	$0.05/share
Transaction commission on sale	$0.05/share

If the stock is sold exactly one year after the purchase, the total return on the investor's investment is *closest* to:

A. 14%.

B. 19%.

C. 22%.

Solutions

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。

6. Equity

6.1. 基础题

Q-1. Solution: B.

Accounting standards and reporting requirements that allow meaningful and timely financial disclosures reduce the costs of obtaining fundamental information and thereby allow analysts to form more accurate estimates of fundamental values. They support informationally efficient markets. A is incorrect. Allocational efficiency refers to making resources available where they are most valuable. C is incorrect. Operational efficiency relates to the costs of arranging trades, which can be reduced via organized exchanges, brokerages, securitization, clearing houses, and so forth.

Q-2. Solution: A.

Regulators help solve agency problems by setting minimum standards of competence, not skill, for agents and by defining and enforcing minimum standards of practice.

Q-3. Solution: C.

Information-motivated traders expect to earn returns in excess of market returns because they trade on securities they believe the market has over- or undervalued. Unlike pure investors, they expect to earn a return on their information in addition to the normal return expected for bearing risk. Excess returns are generated when the market recognizes and corrects the valuation error on such a security.

Q-4. Solution: C.

The service that dealers provide is liquidity. Liquidity is the ability to buy or sell with low transaction costs when investors want to trade. By allowing their clients to trade when they want to trade, dealers provide liquidity to them.

Q-5. Solution: B.

The 90-day commercial paper and negotiable certificates of deposit are money market instruments.

Q-6. Solution: C.

The purchase of real estate properties is a transaction in the alternative investment market.

Q-7. Solution: A.

Real assets are characterized by illiquidity, not high liquidity. The heterogeneity of real assets, their illiquidity, and the substantial costs of managing them are all factors that complicate the valuation of real assets. B is incorrect. Real assets are characterized by illiquidity, not high liquidity. C is incorrect. Real assets are characterized by heterogeneity, not homogeneity.

Q-8. Solution: A.

A is correct. Private placements qualify as primary market transactions because they are sales of securities by issuers directly to a small group of qualified investors. B is incorrect. Market order sales take place in secondary markets. C is incorrect. The exercise of an exchange-traded call option is a secondary market transaction involving the purchase by option owner of previously issued security.

Q-9. Solution: A.

In call Markets, different from the continuous markets, the stock is only traded at specific times, all trades bids, and asks are declared and then one negotiated price is set that clears the market for the stock.

Dealer market is often defined as Quote-Driven Markets or OTC markets, trader transact with dealers who post bid and ask prices.

Primary markets refer to the sale of newly issued securities.

Q-10. Solution: A.

In the quote-driven currency markets, dealers are counterparties to currency exchange transactions.

Q-11. Solution: B.

Secondary market is where securities are traded among investors.

Q-12. Solution: C.

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.

Q-13. Solution: B.

B is correct. The potential gains on a short position are limited to no more than 100%; the potential losses are unbounded. The lowest market price per share an investor can repurchase the stock to return to the security's lender is $0, so the maximum gain is ($50 – $0) × 100 = $5,000. A is incorrect. The potential losses are unbounded because the market price that an investor can repurchase the stock to return to the security's lender can go up with no limit. If the stock goes from \$50 to \$135 per share the loss would be \$8,500. C is incorrect. The potential gains on a short position are limited to no more than 100%: (\$50 – \$0) × 100 = \$5,000.

Q-14. Solution: C.

C is correct. Initial equity (%) in the margin transaction = 1/Leverage ratio = 1/1.66 = 0.60.

Initial equity per share at the time of purchase = \$36 × 0.60 = \$21.60

Price (P) at which margin call occurs:

Equity per share/Price per share = Maintenance margin (%)

(\$21.60 + P – \$36)/P = 0.30

0.7P = \$14.40

P = \$20.57

Q-15. Solution: C.

The return is 50 percent. If the position had been unleveraged, the return would be 20% = (\$60 −\$ 50)/ \$50. Because of leverage, the return is 50% = 2.5 × 20%. From another way to think about it: The minimum margin requirement is 40%=1/2.5, so he contribute \$4000=40% × (200 shares × \$50) to the margin. Six month later, the amount in the margin is \$6000=\$4000 + (\$60 − \$50) × 200 shares. Hence, the return is 50% = (\$6000 − \$4000)/\$4000

Q-16. Solution: C.

Simply find the information in the panel, namely the highest bid price and the lowest offer price.

Q-17. Solution: C.

Order III (time of arrival of 9:53:04) has precedence. In the order precedence hierarchy, the first rule is price priority. Based on this rule, sell orders II, III, and IV get precedence over order I. The next rule is display precedence at a given price. Because order II is a hidden order, orders III and IV get precedence. Finally, order III gets precedence over order IV based on time priority at same price and same display status.

Q-18. Solution: C.

This order is said to make a new market. The new buy order is at ¥123.40, which is better than the current best bid of ¥123.35. Therefore, the buy order is making a new market. Had the new order been at ¥123.35, it would be said to make the market. Because the new buy limit order is at a price less than the best offer of ¥123.80, it will not immediately execute and is not taking the market.

Q-19. Solution: B.

Execution instructions specify how to trade;

Validity instructions specify when the order can be filled;

Clearing instructions specify how to settle the trade.

Q-20. Solution: 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.

Q-21. Solution: B.

The most appropriate order is a good-till-cancelled stop sell order. This order will be acted on if the stock price declines below a specified price (in this case, \$27.50). This order is sometimes referred to as a good-till-cancelled stop loss sell order. You are generally bullish about the stock, as indicated by no immediate intent to sell, and would expect a loss on short selling the stock. A stop buy order is placed to buy a stock when the stock is going up.

Q-22. Solution: A.

A is correct. Option contracts can be viewed as limit orders for which execution is guaranteed at the strike price. Therefore, a put buy order at a strike price of \$25 will guarantee selling the stock at \$25. C is incorrect. A "GTC, stop \$25, market sell" order becomes a market order when the price drops to or below \$25 and is executed at the best price available in the market. Thus, the selling price of \$25 is not guaranteed. B is incorrect. A "GTC, stop \$25, limit \$25 sell" order limits the lower boundary to \$25 but it does not guarantee execution at \$25; in a fast-moving market prices may have dropped below the limit and the order will then not be executed.

Q-23. Solution: B.

B is correct. The order becomes valid when the price falls to, or below, \$90. The "limit \$85 sell" indicates that the trader is unwilling to sell below \$85. Thus, the trader faces a maximum loss of \$15 (\$100 – \$85). A is incorrect. The order becomes invalid for execution when the price falls below \$85. C is incorrect. The order can be executed at any prices between \$85 and \$90.

Q-24. Solution: A.

After an equal weighted index is constructed and the prices of constituent securities change, the index is no longer equally weighted. Therefore, maintaining equal weights requires frequent adjustments (rebalancing) to the index.

Q-25. Solution: C.

C is correct. Security market indexes serve as market proxies when measuring risk-adjusted performance. Alpha, the difference between the return of the actively managed portfolio and the return of the passive portfolio, is a measure of risk-adjusted return. A is incorrect. Beta, not alpha, measures the amount of systematic risk. B is incorrect. The collective opinion of market participants indicates sentiment whereas alpha is a measure of risk-adjusted return.

Q-26. Solution: B.

Style indexes represent a group of securities classified according to market capitalization, value, and growth or a combination of these characteristics. Therefore, the new index will most likely be a style index with a value classification.

A is incorrect. Large-capitalization indexes represent and track the largest securities in terms of market capitalization. They do not represent the category of value stocks.

C is incorrect. Fundamentally weighted indexes use measures such as book value, cash flow, revenues, earnings, dividends, and number of employees to weight the constituent securities. Securities of different styles and sectors could be included in the same fundamentally weighted index. Therefore, fundamentally weighted indexes do not represent the category of value stocks.

Q-27. Solution: A.

An index provider will adjust the value of the divisor as necessary to avoid changes in the index value that are unrelated to changes in the prices of constituent securities.

Q-28. Solution: A.

The value of the price-weighted index is determined by dividing the sum of the security values by the divisor, which is typically set at inception to equal the initial number of securities in the index. In the case of a stock split, the index provider must adjust the value of the divisor by dividing the sum of the constituent prices after the split by the value of the index before the split. This adjustment results in a new divisor that keeps the index value at the same level as before the split. The new divisor will then be used to calculate the index value after the split.

$$\text{Index before the split } = \frac{10+20+60}{3}$$

= 30

$$\text{New divisor, X: } 30 = \frac{10+20+20}{x}$$

X = 1.67

$$\text{Index after the split} = \frac{12 + 19 + 22}{1.67}$$

= 31.7

Q-29. Solution: A.

The momentum effect is a characteristic of a market-capitalization-weighted index, not a fundamental index.

B is incorrect. The fundamental indexes generally have a contrarian effect in that the portfolio weights will shift away from securities that have increased in relative value whenever the portfolio is rebalanced.

C is incorrect. Fundamental weighting leads to a value tilt because the ratios of book value, earnings, dividends, etc., to market value of the firms in a fundamental index tend to be larger than those of the firms in its market-capitalization-weighted counterpart.

Q-30. Solution: B.

Equal weighting assigns an equal weight to each constituent security at inception. Therefore, it is the sum of the total return from each security divided by the number of securities in the portfolios.

Stock	$(P_1 – P_0 + D)/P_0$	Total Return (%)
A	(74 – 80 + 4.00)/80 =	-2.50
B	(104 – 100 + 3.00)/100 =	7.00
C	(68 – 60 + 0)/60 =	13.33
Portfolio return with equal weighting:	(–2.50 + 7.00 + 13.33)/3 =	5.94

Q-31. Solution: B.

The price return of the price-weighted index is the percentage change in price of the index: (68 -75)/75 = -9.3%.

Security	Beginning of Period Price (f)	End of Period Price (f)
ABC	25.00	27.00
DEF	35.00	25.00
GHI	15.00	16.00
TOTAL	75.00	68.00

Q-32. Solution: B.

The total return of the market-capitalization-weighted index is calculated below:

Security	Beginning of Period Value (V)	End of Period Value (V)	Dividend Value (V)
MNO	12,500,000	13,500,000	500,000
QRS	26,250,000	18,750,000	1,125,000
XYZ	15,000,000	16,000,000	1,000,000
Total	53,750,000	48,250,000	2,625,000

So return= (End Value + Dividend – Begin Value)/ Begin Value= –5.35%

Q-33. Solution: C.

The main source of return differences arises from outperformance of small-cap securities or underperformance of large-cap securities. In an equal-weighted index, securities that constitute the largest fraction of the market are underrepresented and securities that constitute only a small fraction of the market are overrepresented. Thus, higher equal-weighted index returns will occur if the smaller-cap equities outperform the larger-cap equities.

Q-34. Solution: 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.

Q-35. Solution: C.

The difference between a price return index and a total return index consisting of identical securities and weights is the income generated over time by the underlying securities. If the securities in the index do not generate income, both indices will be identical in value.

Q-36. Solution: B.

Compared with equity indices, the large number of fixed-income securities—combined with the lack of liquidity of some securities—has made it more costly and difficult for investors to replicate fixed-income indices and duplicate their performance.

Q-37. Solution: B.

Real estate indexes can be constructed using returns based on appraisals of properties, repeat property sales, or the performance of Real Estate Investment Trusts (REITs). Initial sales index is not a real estate index category.

Q-38. Solution: B.

Hedge funds are not required to report their performance to any party other than their investors.

Therefore, each hedge fund decides to which database(s) it will report its performance. Thus, for a hedge fund index, constituents determine the index rather than index providers determining the constituents.

Q-39. Solution: B.

B is correct. The MSCI All Country World Index is a multi-market equity index because it represents stocks of 23 developed and 22 emerging markets.

A is incorrect. The MSCI All Country World Index represents stocks of 23 developed and 22 emerging markets, not a selected market.

C is incorrect. The MSCI All Country World Index is composed of global stocks, but it doesn't represent specific economic sectors.

Q-40. Solution: B.

In an informationally efficient market, consistent and superior risk-adjusted returns (net of all expenses) are not achievable.

A is incorrect. In an informationally efficient market, consistent and superior risk-adjusted returns (net of all expenses) are not achievable. In such a situation, persistent anomalies are unlikely.

C is incorrect. Some market experts argue that restrictions on short selling limit arbitrage trading, which impedes market efficiency.

Q-41. Solution: A.

The weak form of the efficient markets hypothesis states that current security prices fully reflect all currently available security market data. Fundamental analysis is based on public information such as earnings, dividends, and various accounting ratios and estimates, so an investor cannot achieve abnormal return under semi-strong market efficiency.

Q-42. Solution: B.

B is correct. In a semi-strong-form efficient market, prices adjust quickly and accurately to new information. In this case, prices would quickly adjust to the merger announcement, and if the market is a semi-strong-form efficient market, investors acting after the merger announcement would not be able to earn abnormal returns. Therefore, the market is not semi-strong-form efficient. A market that is not semi-strong-form efficient is also not strong-form efficient. Thus, violating the semi-strong-form efficiency also implies violating the strong-form efficiency. However, the market could still be weak-form efficient because past prices are not being used to make abnormal profits. Thus, we cannot say that the weak-form market efficiency has been violated. A is incorrect. A market that is not semi-strong-form efficient is also not strong-form efficient. Thus, violating the semi-strong-form efficiency also implies violating the strong-form efficiency. C is incorrect. The market could still be weak-form efficient, as past prices are not being used to make abnormal profits. Thus, we cannot say that the weak-form market efficiency has been violated.

Q-43. Solution: A.

A is correct. In a highly efficient market, (1) market value reflects new information quickly and rationally, and (2) an asset's market value equals its intrinsic value. Therefore, after the announcement, the difference between a stock's market value and its intrinsic value will remain equal to zero because both market and intrinsic values adjust to reflect the unexpected news by the same amount and at the same time.

B is incorrect. In a highly efficient market, (1) market value reflects new information quickly and rationally, and (2) an asset's market value equals its intrinsic value. In an inefficient market, (1) the market value of a stock adjusts slowly to an unexpected news, and (2) there are probably discrepancies between market value and intrinsic value. Therefore, only in an inefficient market could the difference between market and intrinsic values decrease after the announcement of an unexpected positive news.

C is incorrect. In a highly efficient market, (1) market value reflects new information quickly and rationally, and (2) an asset's market value equals its intrinsic value. In an inefficient market, (1) the market value of a stock adjusts slowly to an unexpected news, and (2) there are probably discrepancies between market value and intrinsic value. Therefore, only in an inefficient market could the difference between market and intrinsic values increase after the announcement of an unexpected positive news.

Q-44. Solution: B.

Arbitrage is a set of transactions that produces riskless profits. Arbitrageurs are traders who engage in such trades to benefit from pricing discrepancies (inefficiencies) in markets. Such trading activity contributes to market efficiency. If arbitrage opportunities increase, it means that there are either more pricing discrepancies or fewer arbitrageurs (or both), and this situation will lead to a reduction in market efficiency.

A is incorrect. An increase of rules and regulations that promote financial disclosure will lead to an increase of market efficiency.

C is incorrect. An increase of the number of market participants will lead to an increase market efficiency.

Q-45. Solution: C.

If markets are strong-form efficient, prices reflect not only private information but also past market data and public information. If markets are weak-form efficient, investment strategies based on fundamental analysis of public information and past market data could achieve abnormal returns. The semi-strong form of market efficiency also encompasses the weak form. Therefore, security prices reflect not only publicly known and available information but also all past market data.

Q-46. Solution: A.

For a violation of the strong form of market efficiency to occur, the strategy based on fundamental analysis must achieve a net return higher than the net return of the passive strategy, on a risk-adjusted basis. This threshold Gross return = Net return + Fees and expenses = 15.5% + 0.5% = 16%. Anything in excess of 16% would violate the strong form of market efficiency for the fundamental analysis strategy.

Q-47. Solution: C.

The forms of market efficiency are as follows:

Forms of Market Efficiency	Market Prices Reflect:		
	Past Market Data	Public Information	Private Information
Weak	√		
Semi-strong	√	√	
Strong	√	√	√

If a test rejects the hypothesis that market prices reflect private information but does not reject the hypothesis that they reflect past market data and public information, then there is evidence that the form of market efficiency is semi-strong (because only past market data and public information are reflected in market prices).

Q-48. Solution: B.

If markets are semi-strong-form efficient (which also encompasses weak-form efficiency), the role of a portfolio manager is not necessarily to beat the market, but rather to establish and manage a portfolio consistent with the portfolio's objectives, with appropriate diversification and asset allocation, while taking into consideration the risk preferences and tax situation of the investor.

Q-49. Solution: B.

In an efficient market, market participants will process available information and those with opposite views will trade among each other until securities market prices fully reflect their fundamental values. An efficient market is thus a market in which asset prices reflect all past and present information.

Q-50. Solution: A.

The observation that stocks with high above average price-to-earnings ratios have consistently underperformed those with below average price-to-earnings ratios is a cross-sectional anomaly. It is a contradiction to the semi-strong form of market efficiency and strong form market efficiency because all the information used to categorize stocks by their price-to-earnings ratios is publicly available. It is not a contradiction to weak form market efficiency.

Q-51. Solution: B.

Trading based on historical momentum indicates that price patterns exist and can be exploited by using historical price information. A momentum trading strategy that produces abnormal returns contradicts the weak form of the efficient market hypothesis, which states that investors cannot earn abnormal returns on the basis of past trends in prices.

Q-52. Solution: C.

A momentum anomaly occurs when securities that have experienced high short-term returns continue to generate higher returns in subsequent periods. Therefore, if a trader can obtain persistent abnormal returns by adopting an investment strategy that purchases stocks that have recently experienced high returns, then he or she is exploiting a momentum anomaly.

Q-53. Solution: C.

Closed-end funds may trade at a premium (discount) to net asset value when investors believe that the portfolio securities are undervalued (overvalued).

Q-54. Solution: C.

C is correct. The value effect—that is, stocks with below-average price-to-earnings and market-to-book ratios and above-average dividend yields have consistently outperformed growth stocks over long periods—is a cross-sectional anomaly.

A is incorrect. A closed-end fund discount is an anomaly where a closed-end fund trades at a discount from its net asset value. It is not a cross-sectional anomaly.

B is incorrect. Overreaction effect is a time-series anomaly, not a cross-sectional anomaly.

Q-55. Solution: A.

Risk aversion belongs to traditional finance. Behavioral finance examines investor behavior, its effect on financial markets, how cognitive biases may result in anomalies, and whether investors are rational.

Q-56. Solution: C.

Behavioral theories of loss aversion allow for the possibility that the dislike for risk is not symmetrical, which allows for loss aversion to explain observed overreaction in markets such that investors dislike losses more than they like comparable gains.

Q-57. Solution: B.

Behavioral biases in which investors tend to avoid realizing losses but, rather, seek to realize gains is the disposition effect.

Q-58. Solution: B.

Participating preference shares do not entitle the shareholders to participate in corporate decisions through voting rights. But they do entitle them to (1) an additional dividend if the company's profits exceed a prespecified level and (2) additional distribution of the company's assets upon liquidation, above the par.

Q-59. Solution: C.

Some equity securities do not pay dividends, and therefore the standard deviation of dividends cannot be used to measure the risk of all equity securities.

Q-60. Solution: B.

Companies try to raise funds at the lowest possible cost. Therefore, cost of equity is used as a proxy for the minimum required rate of return.

Q-61. Solution: B.

The management of a public firm is under pressures to meet shorter-term demands, such as meeting quarterly sales and earnings projections from analysts. Private owners are thus better able to focus on longer-term value creation opportunities.

Q-62. Solution: A.

Cumulative voting allows shareholders to direct their total voting rights to specific candidates, as opposed to having to allocate their voting rights evenly among all candidates. Thus, applying all of the votes to one candidate provides the opportunity for a higher level of representation on the board than would be allowed under statutory voting.

Q-63. Solution: C.

The put option feature facilitates raising capital because the shares are more appealing to investors. As such, it provides a benefit to the issuing company. It also helps investors limit their potential losses because they can sell the shares back to the issuing company if the market price falls below the pre-specified put price. Therefore, putable common shares are beneficial to both the issuing company and the investors.

Q-64. Solution: C.

Putable preference shares are less risky than their callable counterparts. They give the investor the option to put the shares back to the company. Because of the lower risk, they will provide a lower expected rate of return. Common shares are the most risky, whether or not they are dividend paying, and are likely to offer the highest expected return.

Q-65. Solution: A.

A is correct. Convertible preference shares tend to exhibit less price volatility than the underlying common shares because the dividend payments are known and more stable.

B is incorrect. An opportunity to receive additional dividend if the company's profits exceed a pre-specified level is the benefit that accrues to the holders of participating preferred shares, not convertible preference shareholders.

C is incorrect. Preference dividends are fixed but, unlike interest payment on debt, they are not contractual obligations of the company.

Q-66. Solution: A.

In an unsponsored DR, the depository bank owns the voting rights to the shares. The bank purchases the shares, places them into a trust, and then sells shares in the trust-not the underlying shares-in other markets.

Q-67. Solution: B.

Global depository receipts (GDRs) meet the investor preferences. They are not subject to the foreign ownership and capital flow restrictions that may be imposed by the issuing company's home country because they are sold outside of that country. GDRs cannot be listed on U.S. exchanges, but they can be privately placed with the institutional investors based in the United States.

Q-68. Solution: A.

Investors of unsponsored DRs would not have the same voting rights as the direct owners of common shares because the depository bank retains the voting rights.

Q-69. Solution: C.

The price of each depository receipt (and, in turn, returns) will be affected by factors that affect the price of the underlying shares—such as company fundamentals, market conditions, analysts' recommendations, and exchange rate movements. The number of depository receipts issued affects their price but does not affect the returns.

Q-70. Solution: A.

External factors affecting an industry's growth include macroeconomic, technological, demographic, governmental, and social influences. A change in interest rates, or the cost of debt, is an example of a macroeconomic influence on industry growth, profitability, and risk.

C is incorrect. Changes in population size is an example of a demographic influence on industry growth, profitability, and risk.

B is incorrect. Changes in personal spending habits is an example of a social influence on industry growth, profitability, and risk.

Q-71. Solution: B.

B is correct. Companies in the same peer group can have different valuations depending on structure and competitiveness.

A is incorrect. Valuations may be of limited value when comparing companies that are exposed to different stages of the business cycle.

C is incorrect. To make a meaningful comparison of companies, analysts should make adjustments to the financial statements to lessen the impact that the finance subsidiaries have on the various financial metrics being compared.

Q-72. Solution: B.

Portfolio performance attribution, which addresses the sources of a portfolio's returns, usually in relation to the portfolio's benchmark, includes industry or sector selection. Industry classification schemes play a role in such performance attribution.

A is incorrect. Industry analysis is used for identifying active equity investment opportunities, not passive allocation.

C is incorrect. Key determinants of the forms of market efficiency are types of available information that is reflected in market prices.

Q-73. Solution: B.

The industry life-cycle model shows how demand evolves through time as an industry passes from the embryonic stage through the stage of decline.

Q-74. Solution: 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.

Q-75. Solution: C.

The growth phase is not likely to experience price wars because expanding industry demand provides companies the opportunity to grow even without increasing market share. When industry growth is stagnant, companies may only be able to grow by increasing market share, e.g., by engaging in price competition.

Q-76. Solution: C.

A slow pace of product innovation often means that customers prefer to stay with suppliers they know, implying stable market shares.

Q-77. Solution: C.

C is correct. Industry classification systems developed by governments do not distinguish between public and private companies, whereas commercial classification systems include only publicly traded organizations.

A is incorrect. Commercial industry classification systems are updated more frequently than government classification systems.

B is incorrect. Unlike commercial industry classification systems, most government classification systems do not disclose information about specific businesses.

Q-78. Solution: B.

An embryonic industry is one that is just beginning to develop and is characterized by slow growth, high prices, volumes not yet sufficient to achieve meaningful economies of scale, developing distribution channels, and low brand loyalty because there is low customer awareness of the industry's product.

Q-79. Solution: A.

Companies pursuing cost leadership must be able to invest in productivity-improving capital equipment in order to be low-cost producers and maintain efficient operating systems.

Q-80. Solution: C.

The economic profit (the spread between the return on invested capital and the cost of capital) tends to be larger in industries with differentiated products, greater pricing power, and high switching costs to customers. Industry 1 has these features. In contrast, firms in Industry 2 have little pricing power (undifferentiated products and rapid shifts in market shares, indicating intense rivalry), which is indicative of potentially smaller economic profits.

A is incorrect. The characteristics of Industry 1 do not indicate a potential for over-capacity problems. If anything, Industry 2 is prone to such a problem because of high capital costs and investment in physical capital, cyclical demand for products, and rapid shifts in market shares.

B is incorrect. Industry 1 is less prone to the bargaining power of customers because of differentiated products and high switching costs for customers.

Q-81. Solution: B.

B is correct. In periods of economic slowdowns, the manager would tend to overweight in non-cyclical companies, such as consumer staples. A is incorrect. The materials sector tends to exhibit a relatively high degree of economic sensitivity. C is incorrect. The telecommunication sector exhibits less economic sensitivity, so it should be overweighted, not underweighted.

Q-82. Solution: C.

Because shares are repurchased using a company's own cash, a share repurchase can be considered an alternative to a cash dividend as a way of distributing earning to shareholder.

Q-83. Solution: C.

$$V_0 = \frac{D_0(1+g)}{r-g}$$

where

Sustainable growth rate = g = b × ROE

b = (1 – Payout ratio)

g = (1 – 0.45) × 15% = 8.25%

V_0 = ($3 × 1.0825)/(0.16 – 0.0825) = $41.90

Q-84. Solution: A.

A is correct. The payment date can occur on a weekend or holiday unlike other pertinent dates, such as the ex-date and record date, which occur only on business days. B is incorrect. See the above explanation. C is incorrect. See the above explanation.

Q-85. Solution: A.

Value of perpetual preferred stock = Dividend/Required rate of return

= 7/11% = $63.64.

The stock is overvalued by $75.00 – 63.64 = $11.36.

Q-86. Solution: B.

Current year's dividend per share =$2.50 x 0.6=$1.50

$V=1.50(1.25)/1.12+1.50\ (1.25)^2/1.12^2+1.50\ (1.25)^2(1.05)/\ (0.12\text{-}0.05)\}/1.12^2$ = $1.67+$1.87+ 28.03 =$31.57

Q-87. Solution: B.

Intrinsic value is the true value so an analyst will put a "sell" recommendation on a stock when its market value, the price at which a stock is traded, is higher than intrinsic value.

A is incorrect. Positive intrinsic value would not warrant a "sell" recommendation on a stock. An analyst must compare its market value to intrinsic value.

C is incorrect. If a stock's market value is lower than its fundamental (intrinsic) value, a stock is undervalued, so an analyst will put a "buy" not a "sell" recommendation on it.

Q-88. Solution: B.

Net profit margin = Net earnings/Sales

Net earnings = Net profit margin × Sales;

Dividends per share (Dn) = (Net earnings × Payout ratio)/Number of outstanding shares;

Therefore, D_1 = ($360 million × 0.18 × 0.50)/16.2 million = $2.00

$D_2 = \$2.00(1 + 0.25) = \$2.50$

$D_3 = \$2.00(1 + 0.25)^2 = \$3.13$

$D_4 = \$2.00(1 + 0.25)^2\,(1 + 0.05) = \$3.28$

$V_3 = \$3.28 / (0.12\text{-}0.05)=46.86$

$V_0= \$2 / (1 + 0.12) +\$ 2.5 / (1 + 0.12)^2 + \$3.13 / (1 + 0.12)^3 + \$46.86 / (1 + 0.12)^3 = \$39.36$

Q-89. Solution: C.

FCFE is a measure of the firm's dividend-paying capacity.

A is incorrect. The statement that FCFE models provide more accurate valuations than the dividend discount models is not necessarily true. The appropriateness and the effectiveness of a model depend on the firm characteristics and the analyst's ability in making predictions.

B is incorrect. A firm's borrowing activities do impact FCFE, as in the expression:

FCFE = CFO – FCInv + Net borrowing.

Q-90. Solution: C.

Earnings growth rate over the period 2006-2009=2.50 × $(1 + g)^3$=3.2; g=8.6%

Average payout ratio= (0.60+0.50+0.70+0.64)/4=0.61

Required rate of return on share i= Current expected risk-free rate of return+ Beta × [Market (equity) risk premium] =3%+1.3(6.5%) =11.45%

P/E_1=payout rate/(r-g) =0.61/ (0.1145-0.086) = 21.4

Q-91. Solution: B.

Enterprise value measures total company value.

EV = Market value of common and preferred stock + MV of debt - cash & short-term investments

MV of debt = MV of LT debt + MV of ST debt = MV of LT debt + (BV of debt – BV of LT debt)

EV = 40 + (6+8-4) -2 = 48; EV/EBITDA = 48 / 15 = 3.2

Q-92. Solution: A.

A is correct. A two-for-one stock split will double the number of shares, thus reducing the EPS to half of its pre-split value. P/E will remain unchanged because the price also reduces by half and exactly cancels out the effect of the reduced EPS. The dividend payout ratio remains unchanged because the same proportion of earnings will still be used after the split. C is incorrect because the dividend payout ratio is unchanged. B is incorrect because the P/E ratio is unchanged.

Q-93. Solution: A.

Given that the Intrinsic value is $P_0 = P_0/E_1 \times E_1$ and

Justified forward P/E is $P_0/E_1 = p/(r – g)$, where: p = payout ratio,

Dividend growth rate = (1 – Payout ratio) × ROE = (1 – 0.6) × 12.5% = 5%,

Justified forward P/E = P_0/E_1 = 0.6/ (0.10 - 0.05) = 12x,

So Intrinsic value = 12 × \$3 = \$36.

Q-94. Solution: C.

The price-to-book ratio, which is also referred to as the market-to-book ratio, provides an indication of investors' expectations about a company's future investment and cash flow-generating opportunities. The larger the price-to-book ratio (i.e., the greater the divergence between market value per share and book value per share), the more favorably investors will view the company's future investment opportunities. In this case, as shown below, Company A has lower price-to-book ratio than Company B and therefore an expectation of lower future investment opportunities.

	Company A	Company B
Book value per share	\$40	\$20
Market price per share	\$44	\$26
Price-to-book ratio	44/40 = 1.10	26/20 = 1.3

Q-95. Solution: A.

The EV/EBITDA approach is most useful when comparing companies with significant differences in capital structure. EBITDA is computed prior to payment to any of the company's financial stakeholders and is not impacted by the amount of debt leverage.

Q-96. Solution: A.

The current market value, or price, of a security is calculated as follows:

$P = P/E \times E = 20 \times \$4 = \$80$

The security is undervalued by \$8. Therefore, the estimated intrinsic value is \$80 + \$8 = \$88.

Q-97. Solution: A.

The energy exploration firm would be most appropriately valued using an asset-based model. Its near-term cash flows are likely negative, so a forward-looking model is of limited use. Furthermore, it has valuable assets in the form of drilling rights that likely have a readily determined market value. The paper firm would likely not be appropriately valued using an asset-based model because high inflation makes the values of a firm's assets more difficult to estimate. An asset-based model would not be appropriate to value the software firm because the firm's value largely consists of internally developed intangible assets.

Q-98. Solution: A.

The justified forward P/E approach offers the advantage of incorporating fundamentals and presenting intrinsic value estimations.

Q-99. Solution: C.

C is correct. Asset-based valuations work well for companies that do not have a high proportion of intangible or "off the books" assets and that do have a high proportion of current assets and current liabilities. A is incorrect because when a company has significant intangibles, the analyst should prefer a forward-looking cash flow valuation to an asset-based valuation model. B is incorrect because companies with assets that do not have easily determinable market (fair) values—such as those with significant property, plant, and equipment—are very difficult to analyze using asset-based valuation methods.

Q-100. Solution: A.

Negative earnings in the last year result in a negative ratio of trailing price to earnings and are not meaningful. Practitioners may use the ratio of (1) current price to cash flow or (2) leading price to earnings by replacing last year's loss with forecasted earnings.

B is incorrect. Alternative to negative trailing price-to-earnings ratio, practitioners may use price-to-cash-flow ratio because it is possible cash flow would be positive in spite of a small loss.

C is incorrect. Alternative to negative trailing price-to-earnings ratio, practitioners may use leading price-to-earnings ratio by replacing last year's loss with forecasted earnings which may be positive.

6.2. 进阶题

Q-1. Solution: A.

Profit on a short sale = Begin value — Ending value — Dividends(Interest)— Trans. Costs

Beginning value of investment = $56.00 × 100 =$5,600 (Sold under a short sale arrangement)

Ending value of investment = $45.00 × 100=$4,500

Transaction costs= $155 + $145 =$300.00

Dividends = $2.50 × 100 shares =$250.00

Profit= $5,600 - $4,500 - $250 — $300= $550.00

Initial investment = Margin requirement + Commission = (0.45 × $5,600) + $155= $2,520 + $155= $2,675

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

Q-2. Solution: B.

Determine the price (P) that is equal to 25%

$$\text{Trigger price} = P_0\left(\frac{\text{1-initial margin}}{\text{1-maintenance margin}}\right)=46\times\left(\frac{1-54.35\%}{1-25\%}\right)=28.00$$

Q-3. Solution: B.

Average price = [(200 × $37.20) + (200 × $38.35) + (350 × $39.50)] / 750 = $38.58

Q-4. Solution: B.

Bran needs to sell his shares at the price of 65 or above, therefore, a limit sell order is appropriate. However, Whily would like to cover his position when stock price rose to $60. In other words, he decides to buy the stock once the stock price rose up to $60, so a stop order is more appropriate.

Q-5. Solution: B.

From debt/equity ratio we can calculate the Asset/Equity ratio=2.4.

ROE= ROA ×Financial Leverage = 6% ×2.4 = 14.4%

Constant growth rate of dividends g= ROE ×retention ratio = ROE ×(1- payout ratio) = 14.4% × (1-3/20) = 12.24%

Q-6. Solution: C.

Proceeds on sale: $55×500	$27,500
Payoff loan: $50×500×0.55	-$13,750
Margin interest paid: $13,750×0.06	-$825

Dividend received: $1.80×500	+$900
commission paid on sale: $0.05×500	-$25
Remaining equity	$13,800
Initial investment (including commission): ($50×500×0.45)+($0.05×500)	$11,275
Return on the initial investment: ($13,800-$11,275)/$11,275	22.4%