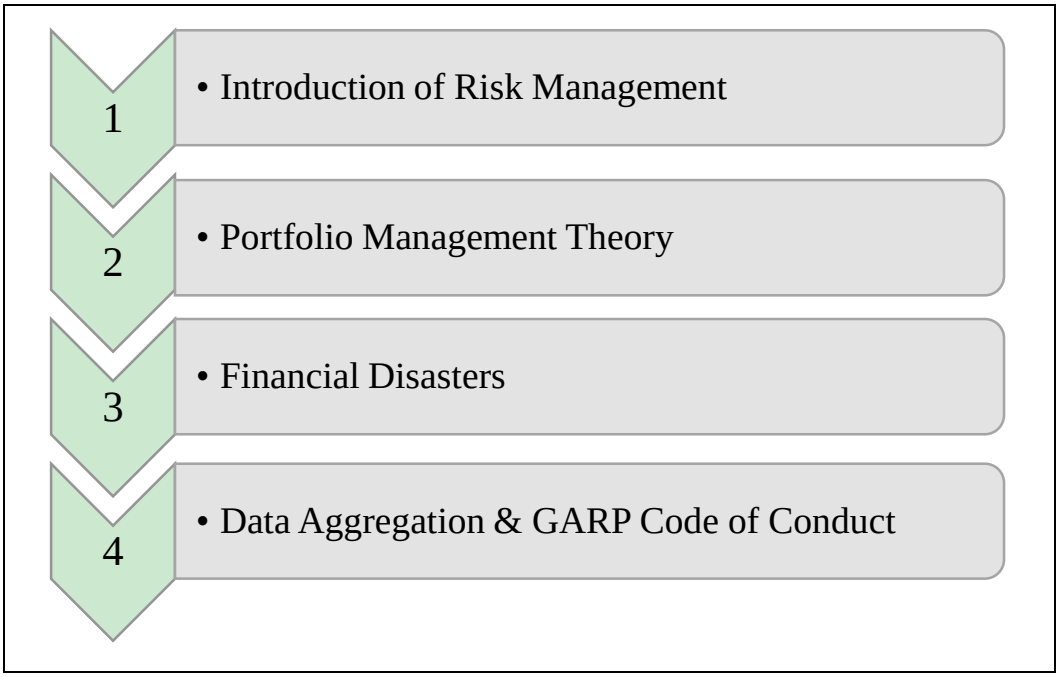
1. Fundamentals of Risk Management



1.1. Types of Risk

1.1.1. 重要知识点

1.1.1.1. Types of Risk

- **Market Risk**
  - Interest rate risk
  - Equity price risk
  - Foreign exchange risk
  - Commodity price risk
- **Credit Risk:**
  - Default risk
  - Bankruptcy risk
  - Downgrade risk
  - Settlement risk
- **Liquidity Risk**
- **Operational Risk**
- **Legal and Regulatory Risk**
- **Business Risk**
- **Strategic Risk:**
- **Reputation Risk**

1.1.2. 基础题

Q-1. Jennifer Durrant is evaluating the existing risk management system of Silverman Asset Management. She is asked to match the following events to the corresponding type of risk. Identify each numbered event as a market risk, credit risk, operational risk, or legal

risk event.

1. Insufficient training leads to misuse of order management system.
2. Credit spreads widen following recent bankruptcies.
3. Option writer does not have the resources required to honor a contract.
4. Credit swaps with counterparty cannot be netted because they originated in multiple jurisdictions.

A. 1: legal risk. 2: credit risk. 3: operational risk. 4: credit risk
B. 1: operational risk. 2: credit risk. 3: operational risk. 4: legal risk
C. 1: operational risk. 2: market risk. 3: credit risk. 4: legal risk
D. 1: operational risk. 2: market risk. 3: operational risk. 4: legal risk

1.2. Risk Treatment

1.2.1 重要知识点

1.2.1.1 Risk Treatment: There are four possibilities for managing risk:

- **Risk avoidance:** risks that are not congruent with stated policy should be avoided.
- **Risk transfer:** risk hedging
- **Risk reduction:** diversification
- **Risk retention:** the risk is acceptable

1.2.2 基础题

Q-2. Krista Skujins, FRM, is the CFO of a manufacturing firm. She is currently in the process of diversifying the firm's investment portfolio by varying the correlations and asset classes among securities. Diversification is best characterized as which of the following risk treatments?

A. Risk avoidance
B. Risk transfer
C. Risk retention
D. Risk reduction

1.3. Risk Management Analytical Tools

1.3.1. 重要知识点

1.3.1.1. Risk Management Analytical Tools

- **Sensitivity Analysis**
- **Scenario Analysis**
- **Decision Trees**
- **Simulation**
- **Value at Risk (VaR)**

1.3.2. 基础题

Q-3. Danielle Marquis is a quantitative analyst who works for a company that experiences risks in a sequential manner in that information obtained in earlier steps helps to make better estimates of future outcomes. Which of the following risk management tools should Marquis consider in her analysis?

A. Decision trees
B. Scenario analysis
C. Sensitivity analysis
D. Simulation

1.4. Corporate Risk Governance

1.4.1. 重要知识点

1.4.1.1. Risk Management Analytical Tools

- The risk policy committee within the Board of Director should have **acceptable, desirable, and best practices** surrounding the establishment of the committee.
- Its purpose, composition, membership qualifications, committee chair, appointment, remuneration, meetings, attendance and notice, reporting to the Board and shareholders, evaluation, authority and resources, responsibilities involving policies and procedures, and responsibilities involving specific risk reviews.

1.4.2. 基础题

Q-4. Which of the following statements regarding corporate risk governance is correct?

A. Management of the organization is ultimately responsible for risk oversight.
B. A risk committee is useful for enforcing the firm's risk governance principles.
C. Effective risk governance requires multiple levels of accountability and authority
D. The point of risk governance is to minimize the amount of risk taken by the organization.

Q-5. Firms commonly incentivize their management to increase the firm's value by granting managers securities tied to the firm's stock. Some securities, however, can reduce managerial incentives to manage risk within the firm. Which is likely the best example of this type of security?

A. Deep in-the-money call option on the firm's stock
B. At-the-money call option on the firm's stock
C. Deep out-of-the-money call option on the firm's stock
D. Long position in the firm's stock

1.5. Enterprise Risk Management

1.5.1. 重要知识点

1.5.1.1. Role and Responsibilities of CRO

- Providing the overall leadership, vision, and direction for enterprise risk management;
- Establishing an integrated risk management framework for all aspects of risks across the organization;
- Developing risk management policies, including the quantification of the firm's risk appetite through specific risk limits;
- Implementing a set of risk indicators and reports, including losses and incidents, key risk exposures, and early warning indicators;
- Allocating economic capital to business activities based on risk, and optimizing the company's risk portfolio through business activities and risk transfer strategies;
- Communicating the company's risk profile to key stakeholders such as the board of directors, regulators, stock analysts, rating agencies, and business partners; and
- Developing the analytical, systems, and data management capabilities to support the risk management program.

1.5.2. 基础题

Q-6. Which of the following statements regarding the responsibilities of the chief risk officer (CRO) is least accurate?

A. The CRO should provide the vision for the organization’s risk management.

B. In addition to providing overall leadership for risk, the CRO should communicate the organization’s risk profile to stakeholders.

C. Although the CRO is responsible for top-level risk management, he is not responsible for the analytical or systems capabilities for risk management.

D. The CRO may have a solid line reporting to the CEO or a dotted line reporting to the CEO and the board.

Q-7. A board of directors is evaluating the implementation of a new ERM program at an asset management company. Which statement below is consistent across the various current definitions of an ERM program and most appropriate to be included in the company's ERM definition and goals?

A. The ERM program should reduce costs by transferring or insuring most of the company’s major risk exposures.

B. The major goal of the new ERM program should be to reduce earnings volatility.
C. The ERM program should be managed separately from the operational side of the company.
D. The ERM program should provide an integrated strategy to manage risk across the company as a whole.

Q-8. The board of directors of a growing asset management company has recommended that the firm establish an ERM framework. Which of the following represents a key benefit that the firm will likely attain after establishing an ERM framework?

A. Allowing the company to determine and make use of a higher risk appetite
B. Finding the optimal reporting methodology for each risk function
C. Improving the top-down communication and coordination in the company
D. Taking advantage of the new opportunities that create value on a standalone basis

1.6. Risk Appetite Frameworks

1.6.1. 重要知识点

1.6.1.1. Risk Appetite Frameworks

- Risk appetite is the amount of risk, on a broad level, an entity is willing to accept in pursuit of value. It reflects the entity's risk management philosophy, and in turn influences the entity's culture and operating style.
- A firm's risk appetite reflects its tolerance (especially willingness) to accept risk.
- There must be a logical relationship between the firm's risk appetite and its business strategy. As a result, business strategy planning meetings require input from the risk management team right from the outset to ensure the consistency between risk appetite and business strategy.

1.6.2. 基础题

Q-9. Which of the following tasks regarding risk appetite would be reasonably performed by an organization's Board of Directors?

I. Develop the organization's risk appetite statement.
II. Determine if the risk appetite may cause risks in other areas of the organization.

A. I only
B. II only
C. Both I and II
D. Neither I nor II

Q-10. Which of the following statements regarding risk appetite and risk tolerance is correct?

I. Risk appetite directly impacts the allocation of resources.
II. Risk tolerance is a measure of an organization's ability to take risk.

A. I only

B. II only

C. Both I and II

D. Neither I nor II

Q-11. A growing regional bank has added a risk committee to its board. One of the first recommendations of the risk committee is that the bank should develop a risk appetite statement. What best represents a primary function of a risk appetite statement?

A. To quantify the level of variability for each risk metric that a firm is willing to accept.

B. To state specific new business opportunities that a firm is willing to pursue.

C. To assign risk management responsibilities to specific internal staff members.

D. To state a broad level of acceptable risk to guide the allocation of the firm's resources.

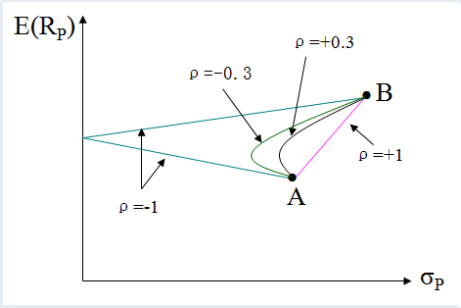
1.7. Portfolio Management Theory

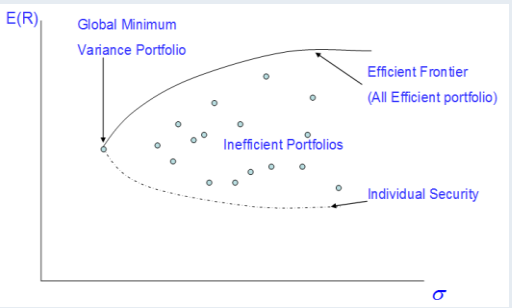
1.7.1. 重要知识点

1.7.1.1. Expected return and volatility of a two-asset portfolio

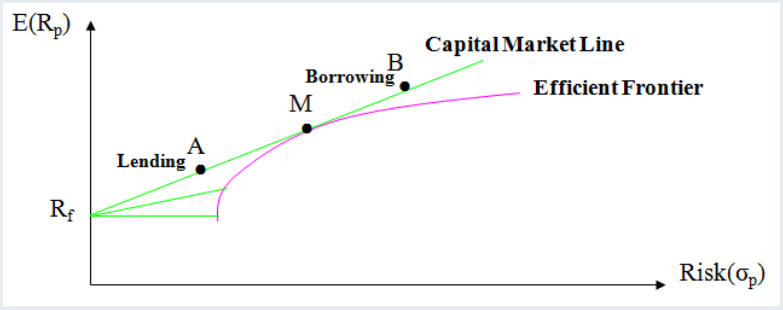
$$E(R_p) = \omega_1 E(R_1) + \omega_2 E(R_2)$$

$$\sigma_p^2 = \omega_1^2\sigma_1^2 + \omega_2^2\sigma_2^2 + 2\omega_1\omega_2 Cov_{1,2} = \omega_1^2\sigma_1^2 + \omega_2^2\sigma_2^2 + 2\omega_1\sigma_1\omega_2\sigma_2\rho_{1,2}$$





1.7.1.2. Capital Market Line (CML)



CML: $E(R_p) = R_f + \left[\frac{E(R_M) - R_f}{\sigma_M}\right]\sigma_p$

1.7.1.3. Capital Asset Pricing Model (CAPM) Assumptions

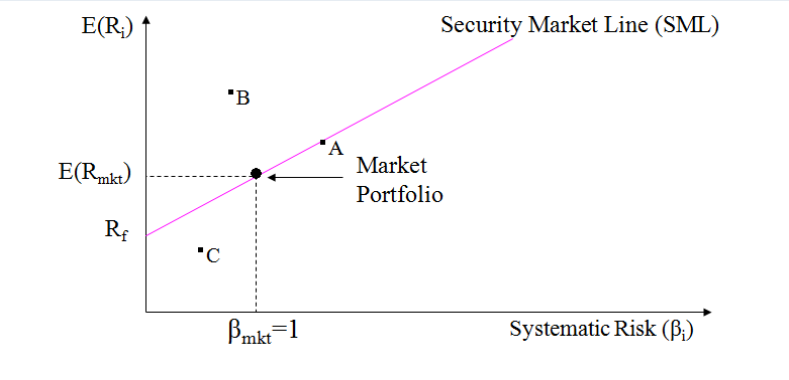
- Investors face no transaction costs when trading assets.
- Assets are infinitely divisible.
- There are no taxes; therefore, investors are indifferent between capital gains and

income or dividends.

- Investors are price takers whose individual buy and sell decisions have no effect on asset prices.
- Investor's utility functions are based solely on expected portfolio return and risk.
- Unlimited short-selling is allowed.
- Investors can borrow and lend unlimited amounts at the risk-free rate.
- One-period horizon investment.
- Homogeneous expectations about the expected returns, variances.
- All assets are marketable, including human capital.

$$E(R_i)=R_f+\beta_i[E(R_M)-R_f],\quad (\beta_i=\frac{Cov_{i,M}}{\sigma_M^2}=\rho\frac{\sigma_i}{\sigma_M})$$

1.7.1.4. Security Market Line (SML)



1.7.1.5. Comparing the CML and the SML

- **Measure of Risk:**
  - SML: Uses systematic risk
  - CML :Uses standard deviation
- **Application:**
  - SML: Tool used to determine the appropriate expected returns for securities.
  - CML :Tool used to determine the appropriate asset allocation (percentages allocated to the risk-free asset and to the market portfolio) for the investor.
- **Definition:**
  - SML: Graph of the CAPM
  - CML :Graph of the efficient frontier
- **Slope:**
  - SML: Market risk premium
  - CML :Market portfolio Sharpe Ratio

1.7.2. 基础题

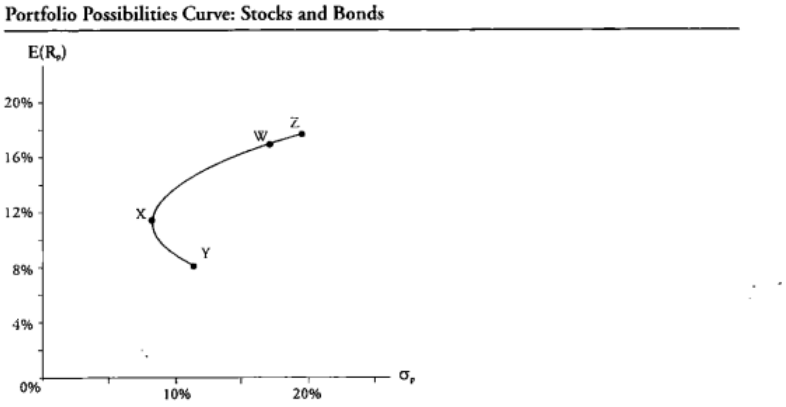
Q-12. According to the Capital Asset Pricing Model (CAPM), over a single time period,

investors seek to maximize their:

A. Wealth and are concerned about the tails of return distributions.
B. Wealth and are not concerned about the tails of return distributions.
C. Expected utility and are concerned about the tails of return distributions.
D. Expected utility and are not concerned about the tails of return distributions.

Use the following data to answer Questions 13 and 14.

Assume the expected return on stocks is 18% (represented by Z in the figure), and the expected return on bonds is 8% (represented by point Y on the graph).



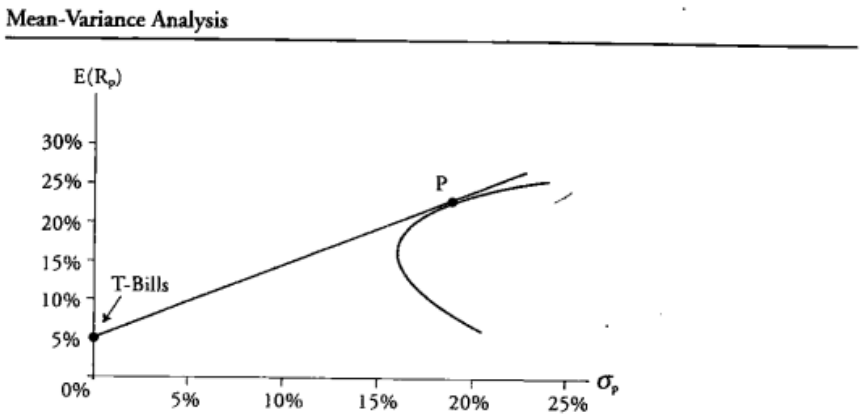
Q-13. The graph shows the portfolio possibilities curve for stocks and bonds. The point on the graph that most likely represents a 90% allocation in stocks and a 10% allocation in bonds is Portfolio:

A. W
B. X
C. Y
D. Z

Q-14. The efficient frontier consists of the portfolios between and including:

A. X and W
B. Y and Z
C. X and Z
D. Y and X

Use the following graph to answer Question



Q-15. Portfolio P in the mean variance analysis represents the tangency point between the capital market line and the portfolio possibilities curve. In this analysis, the market price of risk would be the:

A. standard deviation of Portfolio P
B. expected return on the minimum-variance portfolio
C. slope of the line connecting T-bills and Portfolio P
D. point at which the straight line intersects the expected return axis

Q-16. Suppose that the correlation of the return of a portfolio with the return of its benchmark is 0.8, the volatility of the return of the portfolio is 5%, and the volatility of the return of the benchmark is 4%. What is the beta of the portfolio?

A. 1.00
B. 0.80
C. 0.64
D. -1.00

Q-17. Patricia Franklin makes buy and sell stock recommendations using the capital asset pricing model. Franklin has derived the following information for the broad market and for the stock of the CostSave Company (CS):

- Expected market risk premium 8%
- Risk-free rate 5%
- Historical beta for CostSave 1.50

Franklin believes that historical betas do not provide good forecasts of future beta, and therefore uses the following formula to forecast beta:

$$\text{Forecasted beta} = 0.80 + 0.20 \times \text{historical beta}$$

After conducting a thorough examination of market trends and the CS financial statements, Franklin predicts that the CS return will equal 10%. Franklin should derive the following required return for CS along with the following valuation decision (undervalued or overvalued):

	Valuation	CAPM required return
A.	overvalued	8.3%
B.	overvalued	13.8%
C.	undervalued	8.3%
D.	undervalued	13.8%

Q-18. The efficient frontier is defined by the set of portfolios that, for each volatility level, maximizes the expected return. According to the capital asset pricing model (CAPM), which of the following statements are correct with respect to the efficient frontier?

i. The capital market line is the straight fine connecting the risk-free asset with the zero beta minimum variance portfolio.

ii. The capital market line always has a positive slope and its steepness depends on the market risk premium and the volatility of the market portfolio.

iii. The complete efficient frontier without a risk-free asset can be obtained by combining the minimum variance portfolio and the market portfolio.

iv. The efficient frontier allows different individuals to have different portfolios of risky assets based upon their own risk aversion and forecast for asset returns.

v. The efficient frontier assumes no transaction costs, no taxes, a common investment horizon for all investors, and that the return distribution has no skewness.

A. ii, iii and v
B. i, ii and iii
C. i, iv and v
D. ii, iii and iv

Q-19. An investment advisor is analyzing the range of potential expected returns of a new fund designed to replicate the directional moves of the BSE Sensex Index but with twice the volatility of the index. The Sensex has an expected annual return of 12.3% and volatility of 19.0%, and the risk free rate is 2.5% per year. Assuming the correlation between the fund's returns and that of the index is 1, what is the expected return of the fund using the capital asset pricing model?

A. 18.5%
B. 19.0%
C. 22.1%
D. 24.6%

Q-20. Suppose the S&P 500 has an expected annual return of 7.6% and volatility of 10.8%. Suppose the Atlantis Fund has an expected annual return of 8.3% and volatility of 8.8% and is benchmarked against the S&P 500. If the risk free rate is 2.0% per year, what is

the beta of the Atlantis Fund according to the Capital Asset Pricing Model?

A. 0.81
B. 0.89
C. 1.13
D. 1.23

Q-21. Which of the following statements about portfolio risk and diversification is least accurate?

A. Not all risk is diversifiable.
B. Unsystematic risk can be substantially reduced by diversification.
C. Systematic risk can be eliminated by holding securities in a well-diversified international stock portfolio.
D. None of above.

1.8. Misconduct

1.8.1. 重要知识点

1.8.1.1. Measure of performance

Types	Formula	Application
Sharpe Ratio	$\mathrm{SR} = \frac{\mathrm{E}(\mathrm{R_P}) - \mathrm{R_F}}{\sigma(\mathrm{R_P})}$	Applied to all portfolios and is a better method for measuring historical performance.
Treynor Ratio	$\mathrm{TR} = \frac{\mathrm{E}(\mathrm{R_P}) - \mathrm{R_F}}{\beta_\mathrm{P}}$	For well-diversified portfolios.
Sortino Ratio	$\text{Sortino Ratio} = \frac{\mathrm{E}(\mathrm{R_P}) - \mathrm{MAR}}{\sqrt{\frac{1}{\mathrm{T}}\sum_{\mathrm{t=0}}^{\mathrm{T}}(\mathrm{R_{Pt}} - \mathrm{MAR})^2}}$	Return distribution is skewed to the left (for example hedge fund), but Sortino ratio is much less widely used.
Information Ratio	$\mathrm{IR} = \frac{\mathrm{E}(\mathrm{R_P}) - \mathrm{E}(\mathrm{R_B})}{\sigma(\mathrm{R_P} - \mathrm{R_B})}$	A measure of how well the manager has acquired and used information compared to the average manager.
Jensen's Alpha	$\mathrm{E}(\mathrm{R_P}) - \mathrm{R_F} = \alpha_\mathrm{P} + \beta_\mathrm{P}[\mathrm{E}(\mathrm{R_M}) - \mathrm{R_F}]$	The Jensen measure is the asset's excess return over the return predicted by the CAPM.

1.8.2. 基础题

Q-22. The market portfolio (M) contains the optimal allocation of only risky asset and no risk-

free assets. Let the S1 be the Sharpe ratio of this market portfolio. There exists a risk-free asset. Initially, an investor is fully (100%) invested in M with a portfolio Sharpe ratio of S1. Subsequently, the investor borrows 30% at the risk-free rate, such that she is 130% invested in the market portfolio (M) where this leverage portfolio has a Sharpe ratio of S2。After the leverage (i.e., borrowing at the risk-free rate to invest +30% in M, is the investor still on the efficient frontier and how do the Sharpe ratios?

A. No (no longer efficient), and S2<S1.
B. No, but S2 = S1.
C. Yes (still efficient), but S2<S1.
D. Yes and S2 = S1.

Q-23. Assume that you are only concerned with systematic risk. Which of the following would be the best measure to use to rank order funds with different betas based on their risk-return relationship with the market portfolio?

A. Treynor ratio
B. Sharpe ratio
C. Jensen's alpha
D. Sortino ratio

Q-24. Donaldson Capital Management, a regional money management firm, manages nearly $400 million allocated among three investment managers. All portfolios have the same objective, which is to produce superior risk-adjusted returns (by beating the market) for their clients. You have been hired as a consultant to measure the performance of the portfolio managers. You have collected the following information based on the last ten years of returns.

Portfolio Manager	Mean Annualized Rate of Return	Beta	Standard Deviation of Return
a	0.18	1.35	0.24
b	0.21	1.95	0.25
c	0.24	2.10	0.22

During the same time period the average annual rate of return on the market portfolio was 13% with a standard deviation of 19%. In order to assess the portfolio performance of the above managers, you should use:

A. The Treynor measure of performance
B. The Sharpe measure of performance
C. The Jensen measure of performance
D. The Sortino measure of performance

Q-25. A high net worth investor is monitoring the performance of an index tracking fund in which she has invested. The performance figures of the fund and the benchmark portfolio are summarized in the table below:

Year	Benchmark Return	Fund Return
2005	9.00%	1.00%
2006	7.00%	3.00%
2007	7.00%	5.00%
2008	5.00%	4.00%
2009	2.00%	1.50%

What is the tracking error volatility of the fund over this period?

A. 0.09%
B. 1.10%
C. 3.05%
D. 4.09%

Q-26. Gregory is analyzing the historical performance of two commodity funds tracking the Reuters/Jefferies-CRB Index (CRB) as benchmark. He collated the data on the monthly returns and decided to use the information ratio (IR) to assess which fund achieved higher returns more efficiently and presented his findings.

	Fund I	Fund II	Benchmark returns
Average monthly returns	1.488%	1.468%	1.415%
Average excess return	0.073%	0.053%	0.000%
Standard deviation of returns	0.294%	0.237%	0.238%
Tracking error	0.344%	0.341%	0.000%

What is the information ratio for each fund and what conclusion can be drawn?

A. IR for Fund I = 0.212, IR for Fund II = 0.155; Fund II performed better as it has a lower IR.
B. IR for Fund I = 0.212, IR for Fund II = 0.155; Fund I performed better as it has a higher IR.
C. IR for Fund I = 0.248, IR for Fund II = 0.224; Fund I performed better as it has a higher IR.
D. IR for Fund I = 0.248, IR for Fund II = 0.224; Fund II performed better as it has a lower IR.

Q-27. Portfolio A has an expected return of 8%, volatility of 20%, and beta of 0.5. Assume that the market has an expected return of 10% and volatility of 25%. Also assume a risk-free rate of 5%. What is Jensen's alpha for portfolio A?

A. 0.5%
B. 1.0%
C. 10%
D. 15%

Q-28. An analyst is evaluating the performance of a portfolio of Mexican equities that is benchmarked to the IPC Index. The analyst collects the information about the portfolio and the benchmark index shown in the table below:

Expected return on the portfolio	6.6%
Volatility of returns on the portfolio	13.1%
Expected return on the IPC Index	4.0%
Volatility of returns on the IPC Index	8.7%
Risk-free rate of return	1.5%
Beta of portfolio relative to IPC Index	1.4

What is the Sharpe ratio for this portfolio?

A. 0.036
B. 0.047
C. 0.389
D. 0.504

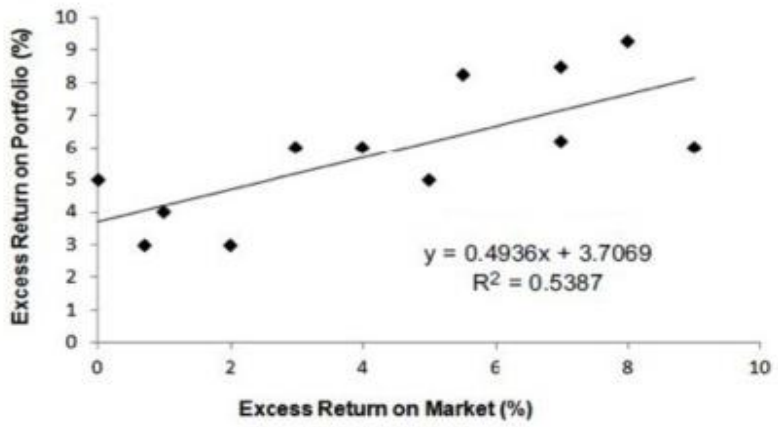
Q-29. A portfolio has an average return over the last year of 13.2%. Its benchmark has provided an average return over the same period of 12.3%. The portfolio's standard deviation is 15.3%, its beta is 1.15, its tracking error volatility is 6.5% and its semi-standard deviation is 9.4%. Lastly, the risk-free rate is 4.5%. Calculate the portfolio's information Ratio (IR).

A. 0.569
B. 0.076
C. 0.139
D. 0.096

Q-30. Market portfolio's sharpe ratio is 40%, the correlation between the market portfolio and the stock is 0.7, the stock's sharpe ratio is:

A. 12%
B. 28%
C. 32%
D. 30%

Q-31. A risk manager is evaluating a portfolio of equities with an annual volatility of 12.1% per year that is benchmarked to the Straits Times Index. If the risk-free rate is 2.5% per year, based on the regression results given in the chart below, what is the Jensen's alpha of the portfolio?



A. 0.4936%
B. 0.5387%
C. 1.2069%
D. 3.7069%

1.9. APT Model and Multi-factor Model

1.9.1. 重要知识点

1.9.1.1. **APT** is a general theory of asset pricing that holds that the expected return of a financial asset can be modeled as a linear function of various macro-economic factors or theoretical market indices, where sensitivity to changes in each factor is represented by a factor-specific beta coefficient.

1.9.1.2. **Multi-Factor Model**

Inputs:

1) Expected return for the stock.

2) Factor betas, also known as factor sensitivities or factor loadings.

3) Deviation of macroeconomic factors from their expected values.

4) Firm-specific return.

$$E(r_j) = r_f + \beta_{j1}RP_1 + \beta_{j2}RP_2 + \ldots + \beta_{jn}RP_n$$

r_f = risk-free rate

RP_k = risk premium of the factor

1.9.1.3. **APT vs. CAPM**

1) The APT differs from the CAPM in that it is less restrictive in its assumptions.

2) The CAPM can be considered a "special case" of the APT in that the securities market line represents a single-factor model of the asset price, where beta is exposed to changes in value of the market.

3) While they demonstrate how exposure to systematic risk factors should influence expected returns, they do not provide much guidance regarding with risk factors, or sources of risk, should result in risk premiums.

4) APT: no arbitrage chance. CAPM: risk-return dominance arguments.

1.9.2. 基础题

Q-32. Which of the following is least likely to be one of the inputs to a multifactor model?

A. The mean-variance efficient market portfolio
B. Factor betas
C. Deviation of factor values from their expected values
D. Firm-specific returns

Q-33. Suppose an analyst examines expected return for the Broad Band Company (BBC) base on a 2-factor model. Initially, the expected return for BBC equals 10%. The analyst identifies GDP and 10-year interest rates as the two factors for the factor model. Assume the following data is used:

GDP growth consensus forecast = 6%
Interest rate consensus forecast = 3%
GDP factor beta for BBC = 1.5
Interest rate factor beta for BBC = -1.00

Suppose GDP ends up growing 5% and the 10-year interest rate ends up equaling 4%. Also assume that during the period, the Broad Band Company unexpectedly experiences shortage of key inputs, causing its revenues to be less than originally expected. Consequently, the firm-specific return is -2% during the period. Using the 2-factor model with the revised data, which of the following expected returns for BBC is correct?

A. 1.5%
B. 3.5%
C. 5.5%
D. 6.5%

Q-34. Which of the following statements is least likely a requirement for an arbitrage opportunity? The arbitrage situation leads to a:

A. Risk-free opportunity
B. Zero net investment opportunity
C. Profitable opportunity
D. Return in excess of the risk-free rate opportunity

Q-35. Suppose Portfolio P has factor beta of 0.40 and 0.50 on two risk factors (risk factors 1 and 2, respectively). Assume a portfolio manager wishes to hedge away all of the exposure to the two risk factors, yet does not want to sell the portfolio. Which of the following strategies is expected to achieve the desired result?

A. Short sell a hedge portfolio that allocates 40% to the first factor portfolio, 50% to the second factor portfolio, and 10% to the risk-free asset.
B. Short sell a hedge portfolio that allocates 90% to the market portfolio and 10% to the risk-free asset.
C. Buy a hedge portfolio that allocates 40% to the first factor portfolio, 50% to the second factor portfolio, and 10% to the risk-free asset.
D. Buy a hedge portfolio that allocates 90% to the market portfolio and 10% to the risk-free asset.

Q-36. An analyst is estimating the sensitivity of the return of stock A to different macroeconomic factors. He prepares the following estimates for the factor betas:

$$\beta_{\text{Industrial production}} = 1.3 \quad \beta_{\text{Interest rate}} = -0.75$$

Under baseline expectations, with industrial production growth of 3% and an interest rate of 1.5%, the expected return for Stock A is estimated to be 5%.

The economic research department is forecasting an acceleration of economic activity for the following year, with GDP forecast to grow 4.2% and interest rates increasing 25 basis points to 1.75%.

What return of Stock A can be expected for next year according to this forecast?

A. 4.8%
B. 6.4%
C. 6.8%
D. 7.8%

1.10. Financial Disasters

1.10.1. 重要知识点

1.10.1.1. Metallgesellschaft:

- Stack-and-roll hedging strategy (Long futures)
  - Basis risk, Liquidity risk

1.10.1.2. LTCM:

- **Relative value strategies:** arbitraging price difference among similar securities and profiting when the prices converged.
- **Credit spread:** betting that the credit spread tended to revert to average historical levels.
- **Equity volatility:** betting that the volatility on equity options tended to revert to long-term average levels.
  - Reasons for failure: Extreme leverage, a lack of diversification, inadequate risk models, liquidity risk.

1.10.1.3. Barings (Nick Leeson)

- Selling straddles on the Nikkei 225: selling calls and puts.

- Arbitraging price differences on Nikker 225 futures contracts that were trading on different exchanges: long-long futures position on both exchanges in hope of profiting from an increase in the Nikkei 225.
  - Operational risk, dual roles

1.10.1.4. Kinder Peabody (Orlando Joseph Jett 交易员吉特)

- Artificially inflating reported profits.
- When ultimately corrected in April 1994, $350 million in previously reported gains had to be reversed.
  - Operational risk, not account for a forward contract's present value.

1.10.1.5. Société Générale

- To hide the size and riskiness of unauthorized positions in futures contracts and equity securities, Kerviel created fake transactions that offset the price movements of the actual positions.
- Created close to 1,000 fictitious trades before the fraud was finally discovered.
  - Operational risk, the inability of the bank's trading system to consider gross positions.

1.10.2. 基础题

Q-37. The collapse of Long Term Capital Management (LTCM) is a classic risk management case study. Which of the following statements about risk management at LTCM is correct?

A. LTCM had no active risk reporting.
B. At LTCM, stress testing became a risk management department exercise that had little influence on the firm's strategy.
C. LTCM's use of high leverage is evidence of poor risk management.
D. LTCM failed to account properly for the illiquidity of its largest positions in its risk calculations.

Q-38. Which of the following is a common attribute of the collapse at both Metallgesellschaft and Long-Term Capital Management (LTCM)?

A. Cash flow problems caused by large mark to market losses.
B. High leverage.
C. Fraud.
D. There are no similarities between the causes of the collapse at Metallgesellschaft and LTCM.

Q-39. In late 1993, Metallgesellschaft reported losses of approximately USD 1.5 billion in connection with the implementation of a hedging strategy in the oil futures market. In 1992, the company had begun a new strategy to sell petroleum to independent retailers, on a monthly basis, at fixed prices above the prevailing market price for periods of up to 5 and even 10 years. At the same time, Metallgesellschaft implemented a hedging

strategy using a large number of short-term derivative contracts such as swaps and futures on crude oil, heating oil, and gasoline on several exchanges and markets. Its approach was to buy on the derivatives market exposure to one barrel of oil for each barrel it had committed to deliver. Because of its choice of a hedge ratio, the company suffered significant losses with its hedging strategy when oil market conditions abruptly changed to:

A. Contango, which occurs when the futures price is above the spot price.
B. Contango, which occurs when the futures price is below the spot price.
C. Normal backwardation, which occurs when the futures price is above the spot price.
D. Normal backwardation, which occurs when the futures price is below the spot price.

Q-40. Metallgesellschaft Refining and Marketing offered customers long-term contracts with fixed prices for petroleum contracts. Their strategy to hedge this exposure:

A. Did not account for funding risk created by a mismatch between the timing of the hedge cash flows and the contract cash flows.
B. Failed because of improper internal controls.
C. Was based on fraudulent reporting.
D. Suffered from poor diversification.

Q-41. Which of the following are examples of model risk illustrated in the Long-Term Capital Management case?

I. Poor management oversight.
II. Financial reporting standards.
III. Ignoring autocorrelation of economic shocks.
IV. Underestimating correlations among asset classes during economic crises.

A. II, III, and IV only
B. III and IV only
C. I, II, III, and IV
D. I only

Q-42. All of the following are reasons that Nick Lesson engaged in aggressive speculative trading in the Barings Bank collapse except:

A. He was attempting to recover previous trading losses.
B. Barings' lack of risk management oversight.
C. Barings' risk management models were flawed.
D. His authority over settlement operations allowed him to hide trading losses.

Q-43. Barings was forced to declare bankruptcy after reporting over USD 1 billion in unauthorized trading losses by a single trader, Nick Leeson. Which of the following statements concerning the collapse of Barings is correct?

A. Leeson avoided reporting the unauthorized trades by convincing the head of his back office that they did not need to be reported.
B. Management failed to investigate high levels of reported profits even though they were associated with a low-risk trading strategy.
C. Leeson traded primarily in OTC foreign currency swaps which allowed Barings to delay cash payments on losing trades until the first payment was due.
D. The loss at Barings was detected when several customers complained of losses on trades that were booked to their accounts.

Q-44. In October 1994, General Electric sold Kidder Peabody to Paine Webber, which eventually dismantled the firm. Which of the following led up to the sale?

A. Kidder Peabody had its primary dealer status revoked by the Federal Reserve after it was found to have submitted fraudulent bids at US Treasury auctions.
B. Kidder Peabody reported a large quarterly loss from highly leveraged positions, which left the company insolvent and on the verge of bankruptcy.
C. Kidder Peabody suffered a large loss when counterparties to its CDS portfolio could not honor their contracts, which left the company with little equity.
D. Kidder Peabody reported a sudden large accounting loss to correct an error in the firm's accounting system, which called into question the management team's competence.

1.11. The Credit Crisis of 2007-2008

1.9.1. 重要知识点

1.9.2 基础题

Q-45. Which of the following factors do not contribute to the housing bubble?

A. Tight monetary policy.
B. Financial securitization.
C. Increasing demand from foreign investors for US securities.
D. Originate-to-distribute banking model.

Q-46. Which of the following statements correctly describes the Asset-liability mismatch phenomenon during the credit crisis of 2007-2008?

A. Asset-liability maturity mismatch refers to the purchase of short-term assets through short-term financing
B. Banks use commercial paper and long-term bonds to finance the purchase of long-term assets.
C. Use short-term repurchase agreements, or commercial paper for financing long-term assets.
D. Management of asset-liability maturity mismatch does not face funding liquidity risk.

Q-47. Which of the following statements is not a consequence of the securitization?

A. Securitization makes originating banks approve and monitor loans carefully.
B. Securitization transfers the default risk of the underlying assets to investors.
C. Securitization enabled the originating institutions offer lower interest rates on mortgages.

D. Securitization may allow institutional investors to indirectly hold assets that they are prevented from holding directly.

Q-48. Which of the following statements related to counterparty credit risk is most accurate?

A. Having a clearinghouse can eliminate network risk.
B. Financial products, such as CDOs, interest rate swaps, are standardized exchange-traded products.
C. Financial systems are a network of obligations distributed in numerous places.
D. Even in the absence of a clearinghouse, because the financial network is so big, it can absorb the counterparty risk itself.

1.12. Risk Management Failures

1.12.1. 重要知识点

1.10.1.1. Risk Management Failures:

- Measure risks correctly.
- Recognize some risk (taking known and unknown risk into account).
- Communicate risks to top management.
- Monitor and manage risks.
- Use appropriate metrics.

1.12.2. 基础题

Q-49. Which of the following is not necessarily considered a failure of risk management?

A. Incorrect measurement of known risks
B. Failure in communicating risk issues to top management
C. Failure to minimize losses on credit portfolios
D. Failure to use appropriate risk metrics

1.13. Effective data aggregation and risk reporting

1.13.1. 重要知识点

1.13.1.1. Basel Principles for Effective Risk Data Aggregation:

1) Governance
2) Data Architecture and Infrastructure
3) Accuracy and Integrity
4) Completeness
5) Timeliness
6) Adaptability
7) Accuracy
8) Comprehensive-ness
9) Clarity and Usefulness
10) Frequency
11) Distribution

1.11.2 基础题

Q-50. A risk analyst is reconciling customer account data held in two separate databases and wants to ensure the account number for each customer is the same in each database. Which dimension of data quality would she be most concerned with in making this comparison?

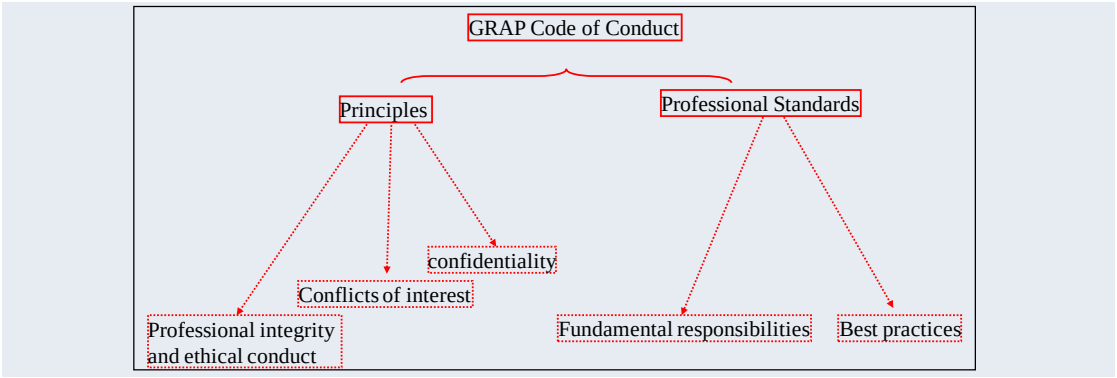
A. Completeness
B. Accuracy
C. Consistency
D. Currency

Q-51. In characterizing various dimensions of a bank's data, the Basel Committee has suggested several principles to promote strong and effective risk data aggregation capabilities. Which statement correctly describes a recommendation that the bank should follow in accordance with the given principle?

A. The integrity principle recommends that data aggregation should be completely automated without any manual intervention.
B. The completeness principle recommends that a financial institution should capture data on its entire universe of material risk exposures.
C. The adaptability principle recommends that a bank should frequently update its risk reporting systems to incorporate changes in best practices.
D. The accuracy principle recommends that the risk data be reconciled with management's estimates of risk exposure prior to aggregation.

1.14. GARP Code of Conduct

1.14.1. 重要知识点



1.14.2. 基础题

Q-52. Which of the following are potential consequences of violating the GARP Code of Conduct once a formal determination that such a violation has occurred is made?

I. Suspension of the GARP Member from GARP's Membership roles.

II. Suspension of the GARP Member's right to work in the risk management profession.

III. Removal of the GARP Member's right to use the FRM designation or any other GARP granted designation.

IV. Required participation in ethical training.

A. I and II only
B. I and III only
C. II and IV only
D. III and IV only

Q-53. Isabelle Burns, FRM, is an investment advisor for a firm whose client base is composed of high net worth individuals, in her personal portfolio, Burns has an investment in Torex, a company that has developed software to speed up Internet browsing. Burns has thoroughly researched Torex and believes the company is financially strong yet currently significantly undervalued. According to the GARP Code of Conduct, Burns may:

A. Not recommend Torex as long as she has a personal investment in the stock.
B. Not recommend Torex to a client unless her employer gives written consent to do so.
C. Recommend Torex to a client, but she must disclose her investment in Torex to the client.
D. Recommend Torex to a client without disclosure as long as it is a suitable investment for the client.

Q-54. Beth Anderson, FRM, is a portfolio manager for several wealthy clients including Reuben Carlyle. Anderson managers Carlyle's personal portfolio of stock and bond investments. Carlyle recently told Anderson that he is under investigation by the IRS for tax evasion related to his business, Carlyle Concrete (CC). After learning about the investigation,

Anderson proceeds to inform a friend at a local investment bank so that they may withdraw their proposal to take CC public. Which of the following is most likely correct? Anderson:

A. Violated the Code by failing to immediately terminate the client relationship with Carlyle.
B. Violated the Code by failing to maintain the confidentiality of her client's information.
C. Violated the Code by failing to detect and report the tax evasion to the proper authorities.
D. Did not violate the Code since the information she conveyed pertained to illegal activities on the part of her client.

Q-55. Over the past two days, Lorraine Quigley, FRM, manager of a hedge fund, has been purchasing large quantities of Craeger Industrial Products' common stock while at the same time shorting put options on the same stock. Quigley did not notify her clients of the trades although they are aware of the fund's general strategy to generate returns. Which of the following statements is most likely correct? Quigley:

A. Did not violate the Code.
B. Violated the Code by manipulating the prices of publicly traded securities.
C. Violated the Code by failing to disclose the transactions to clients before they occurred.
D. Violated the Code by failing to establish a reasonable and adequate basis before making the trades.

Q-56. Jack Scbleifer, FRM, is an analyst for Brown Investment Managers (BIM). Schleifer has recently accepted an invitation to visit the facilities of ChemCo, a producer of chemical compounds used in a variety of industries. ChemCo offers to pay for Schlelfer's accommodations in a penthouse suite at a luxury hotel and allow Schleifer to use the firm's private jet to travel to its three facilities located in New York, Hong Kong, and London. In addition, ChemCo offers two tickets to a formal high-society dinner in New York. Schleifer declines to use ChemCo's corporate jet or to allow the firm to pay for his accommodations but accepts the tickets to the dinner (which he discloses to his employer) since he will be able to market his firm's mutual funds to other guests at the dinner. Has Schieifer violated the CARP Code of Conduct?

A. Yes.
B. No, since he is using the gifts accepted to benefit his employer's interests.
C. No, since the gifts he accepted were fully disclosed in writing to his employer.
D. No, since the gift he accepted is of nominal value and he declined to accept the hotel accommodations and the use of ChemCo's jet.

Q-57. Beth Bixby, FRM, oversees a mid-cap fund that is required to invest in a minimum of 40 and a maximum of 60 different issues. Bixby uses a quantitative approach to actively manage the assets. In promotional materials, she states that "through our complex

quantitative approach, securities are selected that have similar exposures to a number of risk factors that are found in the S&P 500 Index. Thus the fund is designed to track the performance of the S&P 500 Index but will receive a return premium of between 2% and 4% according to our model's risk-return measures." This statement is:

A. Permissible since the assertion is supported by modern portfolio theory and estimates from the firms' model.
B. Not permissible since Bixby is misrepresenting the services that she and/or her firm are capable of performing.
C. Not permissible since Bixby is misrepresenting the investment performance she and/or her firm can reasonably expect to achieve.
D. Permissible since the statement describes the basic characteristics of the fund's risk and return objectives.