

3.02 Portfolio Risk And Return Part II

Question 1

An investor's optimal portfolio is *most likely* to be determined by the:

- A. portfolio with the highest return.
- B. current borrowing and lending rates.
- C. indifference curve with the highest utility.

Question 2

Portfolios on the capital market line are *most likely* constructed using a combination of:

- A. a global market index and US Treasury bills.
- B. the optimal risky portfolio and the risk-free asset.
- C. the global minimum variance portfolio and US Treasury bills.

Question 3

If a portfolio is fully diversified, it *most likely* eliminates which type of risk(s)?

- A. Systematic and nonsystematic risk
- B. Nonsystematic risk but not systematic risk
- C. Systematic risk but not nonsystematic risk

Question 4

The security market line shows an asset's expected return based on the asset's:

- A. total risk.
- B. systematic risk only.
- C. nonsystematic risk only.

Question 5

The market model is *most likely* used for determining the:

- A. expected return of a security.
- B. asset allocation of a portfolio.
- C. nonsystematic risk of an asset.

Question 6

The capital market line (CML) represents portfolios that consist of a stock market index and US Treasury bills, whereas the capital allocation line (CAL) is *best described* as representing portfolios that consist of:

- A. the optimal risky portfolio and the risk-free asset.
- B. the global minimum variance portfolio and the risk-free asset.
- C. the market portfolio and short-term government securities.

Question 7

Which of the following portfolio performance measures is a meaningful standalone metric?

- A. M-squared
- B. Sharpe ratio
- C. Treynor ratio

Question 8

According to the assumptions of the capital asset pricing model, which of the following *best describes* why all investors are price takers?

- A. Investors have different expectations.
- B. Traders cannot influence the value of an asset.
- C. Market participants use different holding periods.

Question 9

An analyst gathers the following information on three stocks:

Stock	Expected Standard Deviation	Beta
A	20%	1.3
B	13%	0.8
C	31%	-0.3

The market's expected return is 12%. Based on the CAPM, if the risk-free rate is 2%, then the stock with an expected return greater than the market's expected return is *most likely*:

- A. Stock A.
- B. Stock B.
- C. Stock C.

Question 10

Assume the capital asset pricing model (CAPM) sets the expected return for fairly valued securities. If an analyst determines a stock's expected return by another method and that return is higher than the stock's expected return as determined by the CAPM, then the analyst *most likely* should:

- A. buy the stock since it undervalued.
- B. sell the stock since it is overvalued.
- C. postpone action until the stock is fairly valued.

Question 11

Using the capital asset pricing model, if a security's expected return is 20%, its beta is 1.3, and the risk-free rate is 4%, then the market risk premium is *closest* to:

- A. 8.3%
- B. 12.3%
- C. 16.0%

Question 12

The market portfolio's systematic variance is most likely:

- A. less than its nonsystematic variance.
- B. equal to its nonsystematic variance.
- C. greater than its nonsystematic variance.

Question 13

If an asset has a beta that is equal to the average beta of all assets, then its risk level is *most likely*:

- A. less than market risk.
- B. equal to market risk.
- C. greater than market risk.

Question 14

Which of the following is *most likely* an assumption of CAPM?

- A. Investments are infinitely divisible.
- B. Investors have the same risk appetite.
- C. Investors are rewarded only for diversifiable risk.

Question 15

A portfolio manager is considering three funds to add to a portfolio and gathers the following data:

	Fund X	Fund Y	Fund Z
Actual average return (%)	5.13	4.98	7.29
Expected return (%)	5.59	4.83	7.81
Beta	1.18	0.95	1.85

The manager will add only funds with Jensen's alpha above -0.5% and a, ex post Treynor ratio greater than 3% . If the risk-free rate is 1.7% and the market has averaged a 5% return, the manager's *most appropriate* choice is:

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

Question 16

Which of the following performance measures is most appropriate for a portfolio that has diversified all nonsystematic risk?

- A. M-squared
- B. Sharpe ratio
- C. Jensen's alpha

Question 17

A state pension fund employs three investment managers; their fund performance data for the past year is shown below:

	Return	Standard Deviation (σ)	Beta (β)
Manager 1	13%	18%	1.4
Manager 2	7%	12%	0.8
Manager 3	14%	22%	1.5
Market	8%	14%	1.0

If the risk-free rate is 2%, then the manager with the highest total risk-adjusted return is:

- A. Manager 1.
- B. Manager 2.
- C. Manager 3

Question 18

A mid-cap portfolio has the following performance this past year:

Portfolio return	18.0%
Market return	7.0%
Risk-free rate	2.0%
Standard deviation of portfolio returns	23.0%
Standard deviation of market returns	20.0%
Beta	0.90

The M-squared value for the portfolio is *closest* to:

- A. 11.57%
- B. 15.91%
- C. 20.40%

Question 19

An analyst collects the following data:

	Sharpe Ratio	Return	Standard Deviation
Portfolio A	1.06		13%
Market		12%	9%

The risk-free rate is 2%. The M-squared value of Portfolio A is *closest* to:

- A. 11.5%
- B. 12.0%
- C. 15.8%

Question 20

The expected return on the market is 8% and the risk-free rate is 3%. If a security has a beta of 1.2, its expected return is *closest* to:

- A. 9.0%
- B. 9.6%
- C. 12.6%

Question 21

An analyst collects the following data for three portfolios over the past five years:

	Return	Standard Deviation (σ)	Beta (β)
Manager 1	10%	18%	1.2
Manager 2	9%	12%	0.8
Manager 3	11%	22%	1.5
Market	8%	14%	
Risk-free rate	3%		

Which portfolio has the *highest* Sharpe ratio?

- A. Portfolio 1
- B. Portfolio 2
- C. Portfolio 3

Question 22

According to the capital asset pricing model, beta best measures the sensitivity of an asset's return to:

- A. total risk.
- B. market risk.
- C. nonsystematic risk.

Question 23

An analyst collects the following data to calculate the Treynor ratio for a fund:

Market return	10.0%
US Treasury bill return	4.0%
Standard deviation of portfolio returns	22.9%
Fund return	16.0%
Beta	1.15

The Treynor ratio for the four-year period is *closest* to:

- A. 0.10
- B. 0.14
- C. 0.52

Question 24

A manager collects the following data on three investments:

Investment	Expected return (%)	Expected standard deviation (%)	Beta
A	19	30	1.4
B	16	26	1.1
C	6	13	0.7
Market	8	18	1.0

Which investment has the *lowest* correlation with the market?

- A. Investment A
- B. Investment B
- C. Investment C

Question 25

An analyst gathers the following information:

	Portfolio	Market
Expected return	10.4%	8%
Beta	1.4	1.0
Standard deviation	15%	12%

If the risk-free rate is 2%, the portfolio's Sharpe ratio is *closest* to:

- A. 0.06
- B. 0.56
- C. 0.70

Question 26

An analyst provides the following performance information for three portfolios over the past year:

Selected Portfolio Performance Data

	Mean Annual Return	Sharpe Ratio	Treynor Ratio
Portfolio 1	18.0%	0.83	0.11
Portfolio 2	10.0%	0.34	0.13
Portfolio 3	7.5%	0.50	0.06

Based only on this information, if the risk-free rate is 1.5%, which portfolio has the *highest* systematic risk?

- A. Portfolio 1
- B. Portfolio 2
- C. Portfolio 3

Question 27

A portfolio consisting of the S&P 500 Index ETF and US Treasury bills is *most likely* on the:

- A. efficient frontier.
- B. capital market line.
- C. security market line.

Question 28

The following information on three portfolios is collected:

Portfolio	Jensen's Alpha (%)	Sharpe Ratio	Treynor Ratio
X	6.50	0.48	0.07
Y	5.50	0.79	0.10
Z	5.75	0.75	0.14

All portfolios have an actual return of 15%. According to the capital asset pricing model (CAPM), which of the following is most likely to be the *best performing* portfolio based on the difference between its actual return and its expected return?

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

Question 29

Which of the following performance measures is *most appropriate* for evaluating the risk-adjusted returns of a fully diversified portfolio?

- A. M-Squared
- B. Sharpe ratio
- C. Treynor ratio

Question 30

An analyst gathers information about three investments:

Investment	Expected return (%)	Expected variance	Correlation between investment and the market
A	15.0	0.1296	0.5
B	7.0	0.0081	0.9
C	11.0	0.0625	0.8
Market	8.5	0.0256	1.0

Which investment has the *greatest* amount of systematic risk?

- A. A
- B. B
- C. C

Question 31

A portfolio on the capital market line with higher risk than that of the market portfolio is *most likely*:

- A. unachievable.
- B. created through lending.
- C. created through borrowing.

Question 32

In relation to other portfolios, unattainable portfolios are located:

- A. below the capital market line.
- B. on the capital market line.
- C. above the capital market line.

Question 33

A manager compiles the following data:

Investment	Beta	Expected standard deviation (%)
X	0.9	22
Y	1.0	24
Z	0.8	23

The market's expected standard deviation is 20%. Which of the following investments has the *highest* nonsystematic risk?

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

Question 34

An analyst collects the following information on a portfolio's performance over the past year:

	Mean Annual Return	Standard Deviation	Beta
Portfolio	12.0%	40.0%	1.8
Market	7.0%	20.0%	
Risk-free rate	1.5%		

The portfolio's M-squared value is *closest* to:

- A. 0.30
- B. 6.75
- C. 7.50

Question 35

The security market line is *best described* as:

- A. the graphical representation of the CAPM.
- B. relating to only portfolios on the efficient frontier.
- C. intersecting the y-axis at the market risk premium.

Question 36

Under the capital asset pricing model, the excess market return is *most likely*:

- A. less than the market risk premium.
- B. equal to the market risk premium.
- C. greater than the market risk premium.

Question 37

Which of the following has the *least impact* to a fully diversified portfolio?

- A. A portfolio holding misses its earnings expectations.
- B. A central bank unexpectedly raises interest rates by 1%.
- C. A labor report announces unemployment is at record highs.

Question 38

According to the capital asset pricing model, if a security is plotted below the security market line then it would be *most appropriate* for market participants to:

- A. buy the security since it is undervalued.
- B. not trade the security since it is mispriced.
- C. sell the security since its expected return is too low.

Question 39

An analyst collects the following information on a portfolio's performance over the past year:

Selected portfolio and market data

	Mean annual return	Standard deviation	Beta
Portfolio	5.5%	15.0%	0.8
Market	7.0%	20.0%	
Risk-free rate	1.5%		

The Jensen's alpha of the portfolio is *closest* to:

- A. -0.40
- B. 0.27
- C. 1.10

Question 40

According to capital market theory, the market portfolio is *most accurately* described as including all:

- A. assets.
- B. risky assets.
- C. investable assets.

Question 41

The rationale for combining the risk-free asset with a risky portfolio is that the correlation between the two assets is:

- A. zero.
- B. positive.
- C. negative.

Question 42

When predicting the expected return of a security, the slope coefficient of the market model *most likely* represents the security's:

- A. beta.
- B. alpha.
- C. sigma.

Question 43

Investors should not expect additional returns for taking on nonsystematic risk since this risk *most likely* is:

- A. minimized in a well-diversified portfolio.
- B. the same for every asset in a given market.
- C. already included in an asset's systematic risk.

Question 44

An analyst believes the expected return of the market is -5.0% ; while the risk-free rate is 2.0% and a security's beta is 1.2 . According to the capital asset pricing model, the security's expected return is *closest* to:

- A. -6.4%
- B. -6.0%
- C. -1.6%

Question 45

A portfolio has the following performance over the past three years:

Year	20X1	20X2	20X3
Portfolio return	10.0%	13.0%	19.0%
Market return			7.0%
US Treasury bill return			3.0%
Standard deviation of portfolio returns			4.6%

The Sharpe ratio over the three-year period is *closest* to:

- A. 1.5
- B. 2.4
- C. 3.1

Question 46

Which of the following performance measures most likely ignores nonsystematic risk?

- A. M-squared
- B. Sharpe ratio
- C. Jensen's alpha

Question 47

A fund manager collects the following data for the firm's three top-performing portfolios over the past seven years.

	Return (%)	Standard Deviation (%)	Correlation Between Portfolio and the Market
Portfolio X	21	41	0.7
Portfolio Y	19	35	0.6
Portfolio Z	16	27	0.6
Market	10	17	
Risk-free rate	3		

Which portfolio has the *highest* Jensen's alpha?

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

Question 48

A manager converts a portfolio's excess return to match the market's risk and then compares it with the market's excess return. The manager is *most likely* calculating which of the following performance measures?

- A. M-squared
- B. Sharpe ratio
- C. Jensen's alpha

Question 49

An analyst gathers the following information on a fully diversified portfolio's performance over the past year:

Selected portfolio and market data

	Mean annual return	Standard deviation	Beta
Portfolio	8.0%	35.0%	1.5
Market	7.0%	25.0%	
Risk-free rate	1.0%		

Based on this information, the Treynor ratio for the portfolio is *closest* to:

- A. 0.020
- B. 0.047
- C. 0.060

Question 50

Under capital market theory, the *best explanation* for why investors eliminate nonsystematic risk is that the price of nonsystematic risk is:

- A. zero.
- B. positive.
- C. the expected return of an asset.

Question 51

The market has priced a security to have an expected return of 9.0%. The security's beta is 0.9, the risk-free rate is 2.5%, and the market's expected return is 7.5%. According to the capital asset pricing model (CAPM), the difference in expected return due to its mispricing is *closest* to:

- A. 0.65%
- B. 2.00%
- C. 4.50%

Question 52

Which of the following statements *best describes* the Sharpe ratio?

- A. It measures return without considering a portfolio's risk.
- B. It indicates the performance of an investment on a risk-adjusted basis.
- C. It is most appropriate for those portfolios that have only systematic risk.

Question 53

An advisor is evaluating an equity portfolio's risk-adjusted return for last year. It is most appropriate for the advisor to use the Sharpe ratio, rather than the Treynor ratio, if:

- A. last year's excess return is negative.
- B. the investor's portfolio is not fully diversified.
- C. the advisor is considering only systematic risk.

Question 54

According to the capital asset pricing model (CAPM), if the market's expected risk premium is positive and an asset's beta is negative, the asset's expected return is *most likely*:

- A. less than the risk-free rate.
- B. equal to the risk-free rate.
- C. greater than the risk-free rate.

Question 55

The following information is collected for three investments:

Investment	Expected return (%)	Expected standard deviation (%)	Correlation between investment and the market
A	9	17	0.9
B	10	14	1.0
C	13	18	0.8
Market	8	15	1.0

Which investment has the *highest* market risk?

- A. A
- B. B
- C. C

Question 56

Which of the following is an assumption of the capital asset pricing model (CAPM)?

- A. Investors use different estimates to value assets.
- B. Analysts independently appraise a company's price.
- C. Market participants use the same economic expectations.

Question 57

When estimating expected return, which of the following statements *most accurately* describes the alpha coefficient in the market model?

- A. Alpha is the intercept term of the market model.
- B. A security's systematic risk is expressed as alpha.
- C. Alpha is the best estimate of a security's market return.

Question 58

A manager collects the following data:

Investment	Beta	Expected Standard Deviation (%)
1	0.8	20
2	0.9	22
3	1.0	17

If the risk-free rate is 3.5% and the market risk premium is positive, which investment has the *lowest* expected return according to the capital asset pricing model?

- A. Investment 1
- B. Investment 2
- C. Investment 3