

25/03 600 FINANCIAL DATA

Group Discussion

Course Overview ▾

M1: Fixed Income Data ▾

M2: Equities and Cryptocurrencies ▾

M3: Working with Portfolios and Tick Data ▴

FD Forum M3

LESSON 1: PORTFOLIO RETURNS AND VARIANCE

☐ Required Readings

☐ Lesson Notes

LESSON 2: EFFICIENT FRONTIER, SHARPE RATIO AND DOWNSIDE RISK METRICS

☐ Required Readings

☐ Lesson Notes

LESSON 3: TICK DATA

☐ Required Readings

☐ Lesson Notes

LESSON 4: SINGULAR VALUE DECOMPOSITION OF MATRICES

☐ Required Readings

☐ Lesson Notes

ASSESSMENTS

☐ FD Practice Quiz M3

☒ FD Graded Quiz M3

M4: Alternative Data ▾

M5: News Data and Sentiment Analysis ▾

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FD Graded Quiz M3

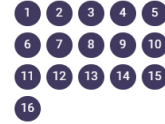
Question 2

Given that portfolio variance $\sigma_p^2 = w^T \Sigma w$ and correlation ρ_{ij} affects Σ , what would happen to the efficient frontier when all pairwise correlations simultaneously increase by a fixed amount $\Delta\rho$ (assuming variances and returns remain unchanged)?

- ☐ The efficient frontier remains unchanged
- ☐ The efficient frontier maintains its shape but shifts upward
- ☐ The efficient frontier shifts right and becomes more compressed horizontally
- ☒ The efficient frontier shifts left and becomes more dispersed

Incorrect

QUESTIONS



Question 5

What is the key property of singular values in the Σ matrix?

- ☐ They are arranged in descending order and are non-negative real numbers
- ☐ They must sum to the matrix trace and can be complex numbers
- ☐ They can be negative or positive and are arranged randomly
- ☒ They are always positive and arranged in ascending order

Incorrect

Question 8

Given daily percentage returns of 1%, -2%, and 3%, what is the cumulative logarithmic return over these periods?

- ☒ $\ln(0.01) - \ln(0.02) + \ln(0.03)$
- ☐ $\ln(1+0.01) + \ln(1-0.02) + \ln(1+0.03)$
- ☐ $0.01 - 0.02 + 0.03$
- ☐ Cannot be calculated due to negative return

Incorrect

Question 9

If a trade occurs at price 100 with volume 10 and is immediately followed by another trade at the same timestamp with price 102 and volume 5, what would be the VWAP for this split transaction?

- ☒ 101.33
- ☐ 101
- ☐ 100.33
- ☐ 100.67

Incorrect

