[BEAM036//BEFM015]

UNIVERSITY OF EXETER

BUSINESS SCHOOL

Mock Exam

Portfolio Management and Asset Allocation

Domestic and International Portfolio Management

Module Convenor: Linquan Chen

Duration: 2 hours + 30 minutes upload time

This is an **Open Book** exam

Answer ALL questions

Keep your answers complete, concise, and clear

Your answers will be subject to originality checks

Additional Materials needed:

None

Question 1 (45 Marks)

Suppose the returns of assets in the economy can be described by a single index model. There are three well-diversified portfolios:

Portfolio A with expected daily return 0.02% and beta 0.5

Portfolio B with expected daily return 0.04% and beta 1.2

Portfolio C with expected daily return 0.06% and beta 1.6

The daily return of the benchmark portfolio has a standard deviation of 1%.

(1) What is the expected return and beta of a portfolio which allocates 20% in A, 50% in B and 30% in C? (5 Marks)
(2) Estimate the 5 days 97.5% VaR of the portfolio in (1). Why is it important to insist that the underlying portfolios are well-diversified? (The 2.5-percentile of a standard normal distribution is Z=-1.96) (5 Marks)
(3) Estimate the covariance values for all the A-B, B-C and A-C pairs. (10 Marks)
(4) If A, B and C are no longer well-diversified, briefly describe how you can perform the calculation in (2). You are not required to provide a numerical answer. (10 Marks)
(5) Briefly discuss the three methods of VaR estimation. Which method would be more accurate in your opinion? (This is an open question. There is no absolutely 'right or wrong answer'. You have some degree of freedom to assume how you perform the VaR estimations). (15 Marks)

Question 2 (34 Marks)

We are given that the spot exchange rate of GBP/USD is 1.403. The US interest rate is 0.2% per annum and the UK interest rate is 0.1% per annum.

(1) Find the fair value of the 1-month forward exchange rate of GBP/USD. For interest rate computation, use 30/360 as the accrual factor over the horizon of 1 months. Quote your answer in terms of the forward premium measured in units of basis point. (10 Marks)
(2) If the actual quote (in basis points of forward premium) of the 1-month forward exchange rate of GBP/USD in the market is +5, what can you do to exploit the potential arbitrage opportunity? (14 Marks)
(3) What are the risks associated with carry trade? (10 Marks)

Question 3 (21 Marks)

(1) Briefly compare the advantage and disadvantage of limit order versus market order for trade execution. (7 Marks)
(2) When executing a large trade, execution algorithms like value-weighted average price (VWAP) or time-weighted average price (TWAP) orders are often employed to break down the large order over an entire trading session throughout the day. What is the main rationale behind this practice? (7 Marks)

(3) A recent research study has found that the odds that a human resource manager rejects a candidate applying for an internship in the company are higher if the manager has approved the previous case, with everything else being equal. How would you explain the stated phenomenon from a behavioural perspective? (7 Marks)

*****End of Exam*****