BEAM036

UNIVERSITY OF EXETER

BUSINESS SCHOOL

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DOMESTIC AND INTERNATIONAL PORTFOLIO MANAGEMENT

Module Convenor: Zhenxu Tong

Duration: 90 minutes.

Answer 3 out of 4 questions.

This is a closed-book exam.
All questions carry 25 marks.
Only approved calculators are permitted.

Question 1 (25 Marks)

1.1.

a) Explain the Top-Down strategy and the Bottom-Up strategy for share selection.

(7 Marks)

b) Describe three techniques to construct a passive portfolio. (3 marks)

1.2.

Given a three-factor arbitrage pricing theory APT model, what is the expected return on the following fund?

- The factor risk premiums to factors 1, 2, and 3 are 10%, 7% and 6%, respectively.
- The fund has sensitivities to the factors 1, 2, and 3 of 1.0, 2.0 and 0.0, respectively.
- The risk-free rate is 6.0%. (3 Marks)

1.3.

An analyst has collected the following data for three possible investments.

Stock	Price Today	Forecasted Price one year from today	Dividend	Beta
A	25	31	2	1.6
B	105	110	1	1.2
C	10	10.80	0	0.5

The expected return on the market is 12% and the risk-free rate is 4% over the upcoming year. The market portfolio's standard deviation is 40%.

a) What is the forecasted 12-month return for Stock A?

(3 Marks)

b) Are Stock A, Stock B, and Stock C overvalued or undervalued? Explain.

(6 Marks)

c) What is the covariance of Stock B with the market portfolio?

(3 Marks)

Question 2 (25 Marks)

2.1.

a) If the spot exchange rate between the British pound and the U.S. dollar is 0.7775 £/$, and the spot exchange rate between the Canadian dollar and the British pound is 1.8325 CAD/£, what is the U.S. dollar/Canadian dollar spot cross exchange rate?

(3 Marks)

b) The nominal interest rate in Country A is 10.2 percent and inflation is currently at 7 percent. What is the real interest rate?

(3 Marks)

2.2.

Suppose S is the spot exchange rate (DC/FC) at time 0. DC is the domestic currency. FC is the foreign currency. R_D is the domestic interest rate for both borrowing and lending the DC. R_F is the foreign interest rate for both borrowing and lending the FC.

By using the above notations:

a) Construct a synthetic forward purchase by listing the relevant transactions at time 0 and time 1.

(5 Marks)

b) Derive the implied or synthetic forward rate. Explain under what condition an investor can make a speculative profit through the synthetic forward purchase.

(4 Marks)

c) How can this investor remove the risk by using a forward contract? List the relevant transactions at time 0 and time 1.

(4 Marks)

2.3.

List the factors that can be regarded as barriers to international capital flows.

(6 Marks)

Turn over/…

Question 3 (25 Marks)

3.1.

a) If the indirect quote for U.S. dollars in Sydney is 0.7927, what is the equivalent indirect quote in New York City for Australian dollars?

(3 Marks)

b) Suppose the GBP trades for CHF 2.20279 in Zurich and USD 1.62699 in London. The USD trades for CHF 1.2755 in Zurich. What will be the profits from triangular arbitrage, starting with 1.62699 USD?

(6 Marks)

3.2.

A U.S. investor is interested in investing in securities in Grenada. The currency of Grenada is the Eastern Caribbean Dollar (ECD). The current exchange rate is 2.50 USD/ECD. The ratio of the price levels of American goods to Grenadian goods is also 2.50. Inflation in the U.S. is expected to be 2 percent and 3 percent in Grenada. The end-of-year expected spot exchange rate is 2.75 USD/ECD. The one-year U.S. (risk free) interest rate is 4 percent, and in Grenada it is 8 percent.

a) What is the beginning of period real exchange rate and the end of period real rate, respectively?

(4 Marks)

b) What is the foreign currency risk premium?

(4 Marks)

c) Assume that PPP holds. If the U.S. investor wants to buy a bond in Grenada, what would be the approximate expected return of this bond?

(4 Marks)

3.3.

What factors are linked by the International Fisher Relation?

(4 Marks)

Question 4 (25 Marks)

4.1.

a) Explain the major differences between forward and futures contracts.

(5 Marks)

b) What are the elements in the Black-Scholes formula for a European call option on a non-dividend paying stock?

(3 Marks)

4.2.

a) A Hong Kong company needs to pay one of its suppliers 8,000,000 Indian rupees 90 days from now. The company is worried that rupees will appreciate during this time and decides to partially hedge its exchange rate risk by entering a contract to purchase half of the rupees 90 days into the future for a price of 5.9364 INR/HKD. The current exchange rate is 5.7921 INR/HKD.

90 days later, the exchange rate is 5.8764 INR/HKD. What is the gain/loss (measured in HKD) of entering this forward contract?

(3 Marks)

b) A currency trader has compiled the following currency quotes:

	USD/EUR ($/€)	USD/GBP ($/£)	JPY/USD (¥)
Spot rate	$1.2139	$1.7730	115.674
6-month forward rate	$1.2067	$1.7894	114.867

Calculate the annualized forward premium/discount on the currency in the denominator of the quote. Identify the strong currency in each quote.

(6 Marks)

4.3.

A $10 million 1-year semi-annual-pay LIBOR-based interest-rate swap was initiated 90 days ago when LIBOR was 4.8 percent. The fixed rate on the swap is 5 percent, current 90-day LIBOR is 5 percent and 270-day LIBOR is 5.4 percent. What is the value of the swap to the fixed-rate payer?

(8 Marks)

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