

# Exam: International Finance (FNCE30003\_2022\_SM2)

Started: Nov 3 at 15:00

## Quiz Instructions

### Academic Integrity Declaration

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I also agree that:

1. Unless paragraph 2 applies, the work I submit will be original and solely my own work (cheating);
2. I will not seek or receive any assistance from any other person (collusion) except where the work is for a designated collaborative task, in which case the individual contributions will be indicated; and,
3. I will not use any sources without proper acknowledgment or referencing (plagiarism).
4. Where the work I submit is a computer program or code, I will ensure that:
  - a. any code I have copied is clearly noted by identifying the source of that code at the start of the program or in a header file or, that comments inline identify the start and end of the copied code; and
  - b. any modifications to code sourced from elsewhere will be commented upon to show the nature of the modification.

#### Section A (Multiple Choice Questions):

- *There is only one right answer per question.* Choose the best and most complete answer to the question which is asked.
- Each of the following 20 questions is worth 2 marks for a total of 40 marks

#### Question 1

1 pts

An Australian firm holds an asset in France and faces the following scenario regarding its value next period:

	State 1	State 2	State 3
Probability	40%	20%	40%
Spot Rate	A\$ 2.1000	A\$ 1.8000	A\$ 1.1000
$P^*$	€ 2,543.33	€ 2,967.22	€ 4,855.45

$P^*$  = £ price of the asset held by the Australian firm

The CFO decides to hedge his exposure by selling forward the expected value of the euro-denominated cash flow at  $F_1(\text{A\$/€}) = \text{A\$}1.64/\text{€}$ . As a result,

- none of the other answers. 代考咨询微信ri sepaper
- the firm now has a nearly perfect hedge.
- the firm's exposure to the exchange rate is made worse by hedging.
- the firm now has a perfect hedge.

## Question 2

1 pts

XYZ Corporation, located in the United States, has an accounts payable obligation of ¥750 million payable in one year to a bank in Tokyo. Which of the following is NOT part of a money market hedge?

- None of the other answers.
- Find the present value of ¥750 million at the Japanese interest rate.
- Buy the ¥750 million at the forward exchange rate.
- Buy that much yen at the spot exchange rate.
- Invest in risk-free Japanese securities with the same maturity as the accounts payable obligation.

**Question 3****1 pts**

A firm issues a 6-year convertible bond paying interest annually at a coupon rate of 5% on a par value of \$1,000. After one year, the discount rate on other-wise identical non-convertible debt is 6.5%. The bond is convertible into shares of common stock at a conversion price of \$25 per share (i.e. the bond is exchangeable for 40 shares). Today's closing stock price was \$22. What is the floor value of this bond 代考咨询微信ri sepaper?

- \$937.66
- \$1,000
- None of the other answers
- \$880.00
- \$ 1064.94

**Question 4****1 pts**

In the London market, Rolls-Royce stock closed at £0.875 per share. On the same day, the British Pound sterling to the U.S. dollar spot exchange rate was £0.6366/\$1.00. Rolls Royce trades as an ADR in the OTC market in the United States. Five underlying Rolls-Royce shares are packaged into one ADR. If the Rolls Royce ADRs were trading at \$5.75 when the underlying shares were trading in London at £0.875, ignoring transaction costs, the arbitrage trading profit (in USD) of trading one ADR would be:

- \$0.00
- None of the other answers.
- \$2.12
- \$3.12
- \$1.12

**Question 5****1 pts**

XYZ Corporation enters into a 6-year interest rate swap with a swap bank in which it agrees to pay the swap bank a fixed-rate of 9 percent annually on a notional amount of SFr10,000,000 and receive LIBOR - ½ percent. The initial value of swap is zero. As of the third reset date (i.e. mid-way through the 6 year agreement), calculate the value of the swap to XYZ immediately after the interest payments, assuming that the fixed-rate at which XYZ can borrow has increased to 10% and LIBOR rate is 11%. Assume the term structure is flat and there has been no change in credit spreads from the inception of the swap until the new pricing date.

- SFr 50,000
- SFr 248,685
- None of the other answers.
- SFr 50,000
- SFr 248,685

**Question 6****1 pts**

An Italian investor invested €10,000 into a British stock with a price of £50. Two years after investment, the stock pays a £1 dividend, and sells for £54. The exchange rate has changed from €1.25 per pound when he bought the shares to €1.30 per pound when he sold it, although he sold £10,000 forward at the forward rate of €1.28 per pound. The Holding Period Return is:

- 12.40% p.a.
- None of the other answers
- 7.89% p.a.
- 6.02% p.a.

- 16.40% p.a.

**Question 7****1 pts**

A classic example for trade barrier-motivated FDI is

- US switches from an export country of new products to an import country
- Honda's investment in Ohio.
- Bridgestone's investment in Japan.
- None of the other answers.
- Coca-Cola withdrawal from India

**Question 8****1 pts**

In the real world, many firms that have cross-listed their shares on overseas markets have experienced a reduction in the cost of capital. This effect was likely greater for

- bonds than for stocks
- German firms than Japanese firms
- United States firms than for Mexican firms
- Australian firms than for Canadian firms
- None of the other answers.

**Question 9****1 pts**

The spot exchange rate is ¥125 = \$1. The U.S. discount rate is 10%; inflation over the next three years is 3% per year in the U.S. and 2% per year in Japan. Calculate the dollar NPV of this project generating the following cash flows. Assume purchasing power parity relationship holds.

T=0	T=1	T=2	T=3
-¥1,000,000	¥500,000	¥500,000	¥500,000

(I did not round my intermediate steps, if you did, select the answer closest to yours. )

- \$267,181.87
- \$14,176.67
- \$2,137.46
- \$2,536.59

### Question 10

1 pts

A Japanese exporter has a €1,000,000 receivable due in six-month. Detail a strategy using a money market hedge that will eliminate any exchange rate risk. (I didn't round intermediate steps, if you did, select the answer closest to yours)

6-month interest rates:

	Borrowing	Lending
Dollar	4.50 % p.a.	4.00 % p.a.
Euro	6.00 % p.a.	5.25 % p.a.
Yen	1.00 % p.a.	0.75 % p.a.

Spot exchange rates

1-year Forward Rates

\$1.25 = €1.00

\$1.2262 = €1.00

\$1.00 = ¥ 100

\$1 = ¥96.88

- None of the other answers.
- Borrow €943,396.22 today. Convert the euro to dollars at the spot exchange rate, receive \$1,179,245.28. Convert these dollars to yen at the spot rate, receive ¥.
- Convert ¥117,924,528 to dollars at the spot rate; convert dollars to euro at the spot rate; lend €943,396.22 at 5.25 percent.
- Borrow €970,873.79 today. Convert the euro to dollars at the spot exchange rate, convert these dollars to yen at the spot rate, receive ¥121,359,223.3.
- Lend €943,396.22 today. Convert the euro to dollars at the spot exchange rate, convert these dollars to yen at the spot rate.

**Question 11****1 pts**

In May 1995 when the exchange rate was 80 yen per dollar, Japan Life Insurance Company invested ¥800,000,000 (i.e., \$10,000,000) in zero coupon U.S. bonds. The investment was liquidated one year later when the exchange rate was 100 yen per dollar. If the rate of return earned on this investment was 46 percent in terms of yen, calculate the dollar amount that the bonds were sold at.

- \$11,680,000
- \$14,600,000
- \$10,618,182
- \$10,720,000
- None of the other answers.

**Question 12****1 pts**

Consider a fixed-for-fixed currency swap. Firm A is a U.S.-based multinational. Firm B is a U.K.-based multinational. Firm A wants to finance a £32 million expansion in Great Britain. Firm B wants to finance a \$64 million expansion in the

U.S. The spot exchange rate is £1.00 = \$2.00. Firm A can borrow dollars at 12 percent and pounds sterling at 14 percent. Firm B can borrow dollars at 7 percent and pounds sterling at 9 percent. Which of the following swaps is mutually beneficial to each party and meets their financing needs? Neither party should face exchange rate risk.

- Firm A should borrow \$64 million in dollars, pay 13 percent in pounds to Firm B, who in turn borrows £32 million and pays 6 percent in dollars to A.
- Firm A should borrow \$64 million in dollars, pay 13 percent in pounds to Firm B, who in turn borrows £32 million and pays 10 percent in dollars to A.
- Firm A should borrow \$32 million in dollars, pay 13 percent in pounds to Firm B, who in turn borrows £64 million and pays 6 percent in dollars to A.
- None of the other answers.
- There is no mutually beneficial swap that has neither party facing exchange rate risk.

### Question 13

1 pts

Consider an American investor and an Australian investor. Which of the following statements about the optimal international portfolio (OIP) is true?

- They have the same OIP, but different OIP in terms of local currency.
- None of the other answers.
- They have the same OIP and the same OIP in terms of local currency.
- They have different OIP, but the same OIP in terms of local currency.
- They have different OIP and different OIP in terms of local currency.

### Question 14

1 pts

The original product life-cycle theory predicts that

- over time the United States switches from a comparative advantage in R&D to a service



economy

- over time the United States switches from an exporting country of new products to an importing country
- none of the other answers.
- over time the United States education system maintains the country's dominant position in the world economy

**Question 15**

**1 pts**

You entered into a long  $3 \times 6$  forward rate agreement on a notional amount of \$10,000,000 at an agreement rate of 3 percent. Suppose at the settlement date of the FRA, the settlement rate is 3.5 percent. What is the cash settlement of the FRA? (Assume 30-day per month for 12 month)

- Net payment of \$12,391.57 from you
- Net payment of \$24,570.02 from you
- Net payment of \$12,391.57 to you
- None of the other answers
- Net payment of \$24,570.02 to you

**Question 16**

**1 pts**

Suppose that the Australian stock market is segmented from the rest of the world. Using the CAPM and a risk-free rate of 5 percent, estimate the equity cost of capital for a local firm BigMelb

Correlation Coefficients

	BigMelb	ASX	World	SD(%)	E(R) (%)
BigMelb	1.00	0.90	0.60	20	?

ASX	1.00	0.80	18	14
World		1.00	15	12

- 14%
- 10.60%
- None of the other answers
- 9%
- 12%

**Question 17****1 pts**

According to the *internalization theory* of FDI

- property rights in intangible assets are difficult to establish and protect, especially in foreign countries where legal recourse may not be readily available
- None of the other answers
- firms that have intangible assets with a public good property tend to invest directly in foreign countries
- firms that have intangible assets with a public good property tend to invest directly in foreign countries. Additionally, property rights in intangible assets are difficult to establish and protect, especially in foreign countries where legal recourse may not be readily available

**Question 18****1 pts**

Adler and Simon (1986) examined the exposure of a sample of foreign equity and bond index returns to exchange rate changes. They found that

- changes in exchange rates generally explained a larger portion of the variability of foreign bond indexes than foreign equity indexes
- None of the other answers.

- changes in exchange rates generally explained a larger portion of the variability of foreign equity indexes than foreign bond indexes
- changes in exchange rates generally explained a smaller portion of the variability of foreign bond indexes than foreign equity indexes
- changes in exchange rates generally explained none of the variability of foreign bond indexes but completely explained the variability in foreign equity indexes

**Question 19****1 pts**

Generally, the higher the turnover ratio,

- the less liquid the secondary stock market, indicating ease in trading
- None of the other answers
- the more liquid the secondary stock market, indicating ease in trading
- the more liquid the primary stock market, indicating ease in trading
- the less liquidity the primary stock market, indicating ease in trading

**Question 20****1 pts**

In an efficient market without barriers to capital flows, the cost-savings argument of the QSD

- is difficult to accept, because it implies that an arbitrage opportunity exists because of some mispricing of the exchange rates on different maturities of forward contracts
- is easy to accept, because it implies that an arbitrage opportunity does NOT exist because of some mispricing of the exchange rates on different maturities of forward contracts.
- None of the other answers
- is easy to accept, because it implies that an arbitrage opportunity does NOT exist because of some mispricing of the default risk premiums on different types of debt instruments.
- is difficult to accept, because it implies that an arbitrage opportunity exists because of

some mispricing of the default risk premiums on different types of debt instruments

### Section B (Upload Answers):

- This section consists of **FOUR** questions. Attempt **ALL** questions.
- Write each answer in the space provided in the answer booklet.
- Marks per question are as indicated for a total of 60 marks.

**Answers MUST BE WRITTEN in the distributed answer booklet. You must make sure to scan ALL the ordered pages in ONE pdf file, upload the file to THE GRADECOPE Shell.**

**You can NOT upload here at Quiz Shell.**

### **B1 (Short Answer Questions)**

Provide a brief **explanation** in the space provided to justify your answer.

**[5 marks each; 15 marks total]**

1a. Consider the following security for a Japanese firm traded on an exchange: A two-year dual-currency bond with annual coupon rate 5% on the notional par ¥10,000 and \$100 principal. In the OTC market there is an one-year forward with forward price  $\$1 = ¥100$ , a two-year forward with forward price  $\$1 = ¥110$  and a two-year 4% Euroyen bond sells at par. What's the ¥ price of the dual-currency ?

1b. In the Disney Yen case, briefly discuss the market's belief about JPY-USD rates and their supporting evidence. Why did Disney insist on hedging the JPY income?

1c. Investing in foreign bonds and equities involves risks from price movements in the underlying securities and also the exchange rates. Write down an expression for the variance of the portfolio return as a function of these sources of risk, and discuss their likely relative magnitudes for a typical stock or bond for an Australian investor

**B2: [15 marks]**

XYZ Company from Australia is considering investing domestically for a project with pure equity financing and the hurdle rate is 6% p.a., even though it can issue a three-year par-valued bond traded on ASX with coupon rate 5% p.a..

At this time, XYZ receives a proposal from its British subsidiary ABC to build a new plant in the United Kingdom. It has the same risk as the project XYZ is considering and the cash flow generated are as follows:

Year	0	1	2	3
Cashflow (1,000£)	-551	200	300	350

The current spot rate is 1.80A\$/£. The firm's tax rate is 25% in Australia and 19% in UK. XYZ will shoulder all the financial risk of ABC. ABC managed to obtain a three-year loan of £200k from British government at a coupon rate of 4.5% p.a.

2a) ABC forecasts that over the next three years, the expected inflation for UK and Australia are 5% p.a. and 2% p.a. respectively and it believes PPP holds. Would ABC recommend going ahead with the project or not based on this information? Show the detailed calculation to justify the recommendation. **(10 marks)**

2b) Separately, the board of XYZ, is worried about the consequences of uncertainty associated with the Brexit. It seeks the consultation of Professor Markt. Prof. Markt points out that over the next three years, the British economy is going to be worse, and the forecasted spot rates will be 1.7000 \$/£, 1.6900\$/£, 1.6400\$/£ respectively according to his estimation. Would the board recommend taking on the project or not based on this information? Show the detailed calculation to back up the recommendation. **(3 marks)**

2c) The board looks at the two recommendations and wants to make sense of two results. Discuss the reasons why they are the same or different. **(2 marks)**

### B3. [15 marks total]

In December 2021, an Australian retailing company Big Retail Ltd. decided to expand its own current digital platform. The investment is financed through debt and the borrowing would be for one year. Big Retail was very concerned about a potential increase of interest rates from RBA, thus it wanted to lock in fixed interest payment.

B3a) From its current bank DBA, Big Retail can borrow \$10m AUD with a one-year coupon bond at coupon rate of 2% p.a. paid semi-annually and par \$10m. DBA further charges 30k AUD fee upfront for processing the loan.

At this time, Big Retail was approached by a renowned investment bank Frontier Bank on the possible swap transaction to fund the investment.

Frontier noted that Big Retail can issue a 1-year FRN (6-month coupon payments) at BBSW p.a. without fee on ASX, and Frontier offered the following swap quotes (all against 6-month BBSW)代考咨询微信ri sepaper 002128789860:

	Bid (% p.a.)	Ask (% p.a.)
1 year	2.02	2.04
2 year	2.03	2.06
3 year	2.04	2.09

Should Big Retail accept this offer? Provide detailed reasoning and calculations to justify your recommendation. **(8 marks)**.

B3b) Suppose Big Retail decides to enter into a swap contract with Frontier. Six-month later, in July 2022, immediately after the first reset date, CPI had been getting worse. It is likely the RBA will increase rates. In fact, if Big Retail were to borrow at fix rate 6-month then, the rate would be 2.9% p.a. How much is the value of Big Retail's swap then? **(7 marks)** Assume Big Retail's credit risk hasn't changed.

#### **B4[15 marks total]**

Suppose that you hold a stock portfolio in London Stock Exchange that you may want to liquidate in one year. The investment is \$4000. As an Australian resident, you are concerned with the AUD value of the portfolio. The spot rate  $S_0 = 2.00$  \$/£. Assume that if the British economy booms in the future, the portfolio will not change in £ value, and one British pound will be worth \$1.80. If the British economy slows down, on the other hand, the portfolio will be worth less, say, decreases by 25% in £ value, but the pound will be stronger, say, \$2.20/£. You feel that the British economy will experience a boom with a 60 percent probability and a slowdown with a 40 percent probability.

Show your detailed working for full marks of this question.

B4a) Estimate your exposure (b) to the exchange risk. **(5 marks)**

B4b) Compute the variance of the dollar value of your portfolio that is attributable to exchange rate uncertainty. **(2 marks)**

**B4c)** Discuss how you can hedge your exchange risk exposure using forward contract. Assume the forward rate is equal to the expected spot rate. Examine the consequences of hedging and compare the resulting cash flow patterns in different states with the unhedged position. Furthermore, compare the expected \$ value of the portfolio before and after the hedging. **(8 marks)**

Not saved

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