

Key

YOU HAVE 80 MINUTES TO COMPLETE BOTH PARTS OF THIS EXAM

Instructions:

- 1) The part of the exam is closed book and closed notes. No scrap paper is allowed; use the back of the exam if necessary.
- 2) Partial points are based on readily observable evidence that you know at least part of the solution concept. The more evidence presented (and the clearer the evidence), the better the chance for partial points. In other words, SHOW ALL WORK!
- 3) True/False questions are worth 3 points. Multiple-choice questions are worth 4 points. Short answer questions usually take less than three sentences and are worth 5 points.

1. Give the basic definition of a lease.

rental agreement for one year or longer

↑ describes 3 (lease, lessor, use)

2. If certain guidelines are met, the lessee can deduct for tax purposes the full amount of each lease payment, and the lessor is entitled to the tax deductions and tax credits of asset ownership. These guidelines include which of the following?

- a. The term of the lease cannot exceed 50% of the useful life of the asset.
- b. The lessor must maintain a minimum equity investment in the asset of no less than 40% of the asset's original cost throughout the term of the lease.
- c. The lessor can grant the lessee a purchase option.
- d. The lessee pays a portion of the purchase price of the asset.
- e. all of the above

C

3. Leasing offers a number of disadvantages. List two of them.

- 1. forfeits residual value
- 2. Lose tax deductions associated with ownership (depre)

4. The project's NPV is \$2M (M = million) and the net advantage of leasing (NAL) is -\$5M. Should the project be undertaken?

- a. No, but only because the NAL is negative.
- b. Yes. When the NPV is positive it does not matter if the NAL is negative.
- c. No, but only because (NPV + NAL) is negative.
- d. Yes, but only because (NPV + NAL) is positive.
- e. We do not enough information to make a correct judgment on undertaking the project.

B

5. A debt repayment schedule that bunches the firm's debt repayment obligations within a few brief periods involves less insolvency risk than a debt repayment schedule that spreads these repayment obligations over a longer period.

- a. True
- b. False

B

6. Stated coupon rate of interest is _____.
- a. the same as the effective rate of interest, when applied to bonds issued in the United States.
 - b. the date the borrower must repay the money it borrowed.
 - c. the amount the borrower must repay.
 - d. usually a variable rate.
 - e. none of these. *Best*

7. What is a Eurobond?

8. A currency trades at a forward premium whenever more of it can be bought at the forward rate as compared with the spot rate.

- a. True
- b. False

9. An American depository receipt, or ADR, is a receipt that represents ownership of shares of a foreign corporation's _____.

- a. convertible debt
- b. preferred stock
- c. common stock
- d. bonds.
- e. CDOs
- f. None of the above.

10. The foreign exchange market is _____.

- a. a market that trades greater dollar amounts than the stock market. ✓
- b. an over-the-counter market ✓
- c. a market where central banks are principal market participants ✓
- d. a market that helps importers who need foreign currency to pay for the goods they import ✓
- e. all of these *Best is e*

11. The objective of the managers of a multinational corporation is to maximize the wealth of shareholders.

- a. True
- b. False

12. A _____ covers the purchase and sale of an item, such as a currency, for future delivery based on

- a. Price (the exchange rate) that is agreed to today.
- b. LIBOR contract
- c. forward contract
- d. a currency swap
- e. Fisher effect
- f. International Fisher effect.

Key

Sybil Danielle Bossus
4/3/08

Exam 2 Spring 2008 FINC 4532 Your Name

YOU HAVE 80 MINUTES TO COMPLETE BOTH PARTS OF THIS EXAM

Instructions:

- 1) The part of the exam is open book and open notes.
- 2) Point values are listed with the question.
- 3) Look over the entire exam before starting. The best strategy is generally to "cherry pick". In other words, solve the easiest (and/or most familiar) problems first. This will save time (and energy) that can be expended on the more difficult problems.
- 4) Partial points are based on readily observable evidence that you know at least part of the solution concept. The more evidence presented (and the clearer the evidence), the better the chance for partial points. In other words, **SHOW ALL WORK!**
- 5) If you have additional time remaining, give your work one last check.

-0

5 year
20
32
19.2
11.52
11.52
5.76

1. YellowRock Corporation is considering a leasing arrangement to finance some special manufacturing tools that it needs for production during the next four years. A planned change in the firm's production technology will make the tools obsolete after 4 years. The firm will depreciate the cost of the tools using the MACRS 5 year schedule. The firm can borrow \$9,500, which is 100% of the purchase price, at 9.4 percent on an amortized loan to buy the tools, or it can make three equal beginning-of-year lease payments of \$3,300. The firm's tax rate is 40 percent. If the firm buys the equipment, the annual maintenance costs associated estimated at \$450. If the item is leased, the lessor will pay the annual maintenance costs. The salvage value of the machine at the end of 4 years is \$1000. The firm's pre-tax cost of all types of debt is 9.4%, weighted average cost of capital 11.4%, and the levered cost of equity is 14%. Should the firm lease or buy the piece of equipment (1 point)? Numerical evidence that your answer is correct (16 points)

$$kd(1-T) = 0.094(1-.4) = 0.0564$$

	0	1	2	3	4
1	+9500				
2	-3300	-3300	-3300	-3300	
2		+450	+450	+450	+450
					-1000
3		+1900	+3040	+1824	+1094.4
	-3300	+950	+190	-1026	+1544.4
	1320	+380	-76	+410.4	-617.76
	-1980	-570	+114	-615.6	926.64
	+9500	-1900	-3040	-1824	-1094.4
2B	+7520	-2470	-2926	-2439.6	-167.76

Terminal
-(C(1641.6 - 1000)) x .4
= -256.64
-1000
-1256.64

$CF = NPV(5.64, 7520, -2470, -2926, -2439.6, -167.763) = 355.91$
 $Term CF = NPV(11.4, 0, -1256.64, 926.64, 13) = -815.96$
 at Buy + Buy = -460.05

2. For a conventional project, the NPV is -\$10. Leasing generates the following after-tax cash flows: cost of the new equipment at time 0 is \$91. The after-tax cash flows associated with the lease are \$12, and the after-tax residual value (RV) of the equipment at $t = 10$ is \$10. The after tax cost of secured debt is 11%. The WACC is 8%.

a. (3 points) What is the NAL?

$$NAL = NPV(11, 91, \{ -12 \}, \{ 10 \}) + NPV(8, 0, \{ 0, -10 \}, \{ 9, 13 \})$$

$$= 120.329 + (-4.631934) = 115.697$$

b. (2 points) Should we accept this project? Why?

$$NPV + NAL = -10 + 15.697 = 5.697$$

* Yes because NPV + NAL is positive.

3. (3 points) A \$1,000 par value bond, matures in 15 years, has a coupon rate of 9.5% and the coupon is paid semi-annually. Currently the bond is trading at \$857.42. What is the yield to maturity?

$$ytm = 11.51858\%$$

$$N = 15 \times 2 \quad PMT = \frac{0.095}{2} \times 1000$$

$$I = ? = 5.75\% \times 2 = ytm$$

$$PV = -857.42 \quad FV = 1000$$

4. (4 points) Modata corp is planning to raise \$10,000,000 in funds by issuing 6% \$1,000 par value bonds with a 20-year maturity. Assuming that Modata is able to issue these bonds at cost of debt of 10%, how many bonds must they issue?

$$N = 20$$

$$I = 10$$

$$PV = ? = -659.457452$$

$$PMT = .06 \times 1000 = 60$$

$$FV = 1000$$

$$\frac{10000000}{659.457452} = 15163.98$$

15164 bonds

5. (3 points) The Japanese yen-Swiss franc exchange rate is 165.90 per SFr1. The euro-Swiss franc exchange rate is Euro1.10 = SFr1. How many yens will one euro buy?

$$\frac{165.9 \text{ yen}}{1.10 \text{ Euro}} = 150.81 \text{ yen} \text{ per Euro} \quad \text{or} \quad \frac{150.82 \text{ yen}}{\text{Euro}}$$

150.82 yen

Law of One Price

6. (3 points) The Economist publishes annually the "hamburger standard" by which they compare the prices of the McDonalds Corporation Big Mac hamburger around the world. The index estimates the exchange rates for currencies based on the assumption that the burgers in question are the same across the world and therefore, the price should be the same. If a Big Mac costs \$2.29 in the United States and 2400 yen in Japan, what is the estimated exchange rate of yen per dollar as hypothesized by the Hamburger index?

$$\frac{\$2.29 \text{ per } 1 \text{ BM}}{2400 \text{ yen per } 1 \text{ BM}} \text{ so } \$2.29 \text{ per } 2400 \text{ yen} \text{ so } \frac{2400 \text{ yen}}{\$2.29} = 1048.035 \text{ yen per } \$1$$

$$2400 \text{ yen per } 1 \text{ BM}$$

1048.035 yen

7. (4 points) Suppose British pounds are trading at a price of SFr2.60 / £1 in Switzerland and \$1.70 / £1 in New York while Swiss francs are trading for SFr1.50 / \$1 in New York. Which of the following statements is true?

a. A foreign exchange trader who purchases \$100 worth of pounds in New York would obtain about 50.82£. b. Selling 100 pounds in Switzerland would yield about SFr238.

c. Selling 100 Swiss francs in New York would yield about \$56.67.

d. A riskless arbitrage profit of about \$1.96 per \$100 invested can be made.

e. none of the above is true.

$$\frac{100}{1.7} = £58.82$$

$$100 \times 2.6 = 260 \text{ SFr}$$

$$\frac{100}{1.5} = 66.67$$

$$58.82 \times 2.6 = 152.94 / 1.5 = \$101.96$$

8. Using the Currency Trading Table in the textbook, answer the following (2 points each).

a. (2 points) How many Japanese Yen would be needed to buy \$345,000 U.S. Dollars in 6 months?

$$123.11 = \$/\text{¥} \quad 345000 \times 123.11 = \boxed{42,472,950 \text{ yen}}$$

b. (3 points) What is the cross rate between Australian Dollar and Uruguay Peso?

$$\underline{9.9222} \text{ Peso} = 1 \text{ Australian Dollar} \quad \begin{array}{l} 1.7487 \text{ AU} \text{ : } \$ \\ 17.3514 \text{ UP} \text{ : } \$ \end{array} \text{ so } \frac{17.3514}{1.7487}$$

c. (3 points) How many Australian could your buy with 2,000,000 Uruguay Peso?

$$\frac{2,000,000}{9.9222} = \boxed{201,567.63 \text{ AU}} \quad = 9.922$$

d. (3 points) Based on the spot and 1-month forward rates in the currency table, the dollar is appreciating versus the following currencies.

Britain, Canada,

Use the below information to answer the next six questions. 2 points for each blank and appreciate/depreciate (12 points).

Spot rate is \$1=102.42 yen. $\$.00976/\text{yen}$

The one-year futures price is \$.01=1 yen $100 \text{ yen}/\$$

The 1-year Japanese Treasury rate is .8%

Inflation in the United States is expected to be 3.1%.

9. A Japanese person investing 100,000 yen in the United States expects to invest

$\underline{976.37}$ Dollars today in United States Treasury Bonds. They would earn $\underline{3.23\%}$ on their United States

Treasury Bonds. At the end of one year, they would redeem their bond for $\underline{1008}$

dollars and convert their \$ back into $\underline{100800}$ yen. During this period, the yen

appreciated / depreciated (2 points) $\underline{2.42}$ % against the \$.

a) $\frac{100000}{102.42} = \976.37

c) $100800 \times .01 = 1008$

b) $\frac{1008 - 976.37}{976.37} = .0323955$

d) $100000 \times .008 = 800 + 100000 = 100800 \text{ yen}$

e) $\frac{102.42 - 100}{100} = .0242$