

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. The project's NPV is -\$44M (M = million) and the net advantage of leasing (NAL) is \$51M. Should the project be undertaken?
 - a. No, but only because the NPV is negative.
 - b. Yes. When the NAL is positive it does not matter if the NPV 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.
2. If the lessee fails to make timely lease payments, the lessee does not run the risk of bankruptcy.
 - a. True
 - b. False
3. An advantage of leasing is that the lessee must usually forgo residual value.
 - a. True
 - b. False
4. Which of the following statement is true?
 - a. With a full-service lease, the lessee is responsible for maintaining and insuring the assets, and paying any property taxes due on them.
 - b. Operating leases represent an important source of long-term financing. Entering into a financial lease is like entering into a loan agreement.
 - c. Financial leases represent an important source of short-term financing.
 - d. all of the above.
 - e. none of the above.
5. As discussed in the text, list three good reasons why a company might lease an asset rather than buying it?
6. For United States issued bonds that are issued using dollars, the stated principal amount is _____.
 - a. the date the borrower must repay the money it borrowed.
 - b. the amount the borrower must repay.
 - c. usually a fixed rate, but it can be a variable rate that's adjusted according to a specified formula.
 - d. another name for the trustee.
 - e. None of the above.
7. The _____ the time to maturity for a bond, the _____ is its price change in response to a given change in interest rates.
 - a. Longer; smaller
 - b. Longer; greater
 - c. The relationship between the time to maturity and price sensitivity of bonds depends on how stock prices change upon a change in interest rates.
 - d. The relationship between the time to maturity and price sensitivity of bonds depends on how the par value of the bond changes upon a change in interest rates.
 - e. There exists no relationship between time to maturity and price sensitivity of bonds.

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.

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 3 years. The firm will depreciate the cost of the tools using the MACRS 5 year schedule. The firm can borrow \$7,500, which is 100% of the purchase price, at 8.4 percent on an amortized loan to buy the tools, or it can make three equal beginning-of-year lease payments of \$3,100. The firm's tax rate is 34 percent. If the firm buys the equipment, the annual maintenance costs associated estimated at \$270. If the item is leased, the lessor will pay the annual maintenance costs. The salvage value of the machine at the end of 3 years is \$750. The firm's pre-tax cost of all types of debt is 8.4%, weighted average cost of capital 9.9%, 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)

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 \$10, 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 14%.

a. (3 points) What is the NAL?

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

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 \$1,197.93. What is the yield to maturity?

4. (4 points) Modata corp is planning to raise \$10,000,000 in funds by issuing zero coupon, \$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?

5. (2 points) In London an investor can buy a U.S. dollar for £0.5356. In New York the £/\$ exchange rate is the same as found in London. Given this information, what is the \$/£ exchange rate in New York?

- a. \$1.8671/£
- b. £0.5356/\$
- c. £1.8671/\$
- d. \$0.5356/£

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 \$2.54 in the United States and 294 yen in Japan, what is the estimated exchange rate of yen per dollar as hypothesized by the Hamburger index?

- a. \$0.0086/¥
- b. 124¥/\$
- c. \$0.0081/¥
- d. 115.75¥/\$

7. (4 points) Assuming no transaction costs, suppose 1 Swiss Franc = 1.3 U.S. Dollars in Zurich, 1 U.S. Dollar = 1.11 Euros in New York, and 1 Swiss Franc = .97 Euros in Paris. Explain in detail how you take profitable advantage of these rates. If you started with \$100,000 Euros, how much profit (in U.S. Dollars) would you have after one round trip through the currencies?

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

a. (2 points) How many Japanese Yen would be needed to buy \$115,000 U.S. Dollars in 6 months?

b. (3 points) What is the cross rate between New Zealand Dollar and Peru new Sol?

c. (3 points) How many New Zealand Dollar could you buy with 2,000,000 Peru new Sol?

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

Use the below information to answer the next 4 questions. 2 points for each blank (12 points).

Spot rate is $\$.0095691=1$ yen.

The one-year futures price is $\$.009381=1$ yen

The 1-year Japanese Treasury rate is 2.4%

Inflation in the United States is expected to be 1.1%.

9. A Japanese person investing 100,000 yen in the United States expects to invest _____ Dollars today in United States Treasury Bonds. They would earn _____% on their United States Treasury Bonds. At the end of one year, they would redeem their bond for _____ dollars and convert their \$ back into _____ yen. During this period, the yen appreciated/depreciated (2 points) _____% against the \$.