

YOU HAVE 80 MINUTES TO COMPLETE BOTH PARTS OF THIS EXAM

Instructions: This part of the exam is closed book and closed notes. No scrap paper is allowed; use the back of the exam if necessary. 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! 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 4 points. Other questions are worth the points listed.

1. (10 points, 2 points for each blank and 2 points for the concept question) For a lease, we use two discount rates. The rate we use to analyse the lease payments is AT semi debt, while the rate used to analyze residual payments is WACC. The higher of these two rates is typically the WACC. Why do we use these rates in our analysis?

set rate based on perceived risk of cash flows, A.T. as analysis is A.T.

2. (6 points) The IRS has guidelines to distinguish a true lease from an installment sales agreement. 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. List any three guidelines that would allow for full deduction of the lease payment.

1. | no more than 80% of asset value
2. | lessor min on 20% investment
3. | purchase option must be "fair market" value of asset
4. | lessee pays no part of purchase price
5. | lessor has title to property & expects profit

4. (16 points, 2 points for each blank). A Bond is a long-term debt instrument, typically with semi-annual payment, that is issued by a corporation or government. This debt instrument is can have either floating or fixed payments. The instrument will typically be issued at Par Face Principal (use a word not a number).

If market interest rates increase after the bond is issued the price will typically fall while the Coupon rate will not be affected. If the instrument can be repurchased by the issuer earlier than the maturity date, the instrument is said to be callable. If the issuer must set aside funds to redeem the instrument, before the instrument matures, this is called a sinking fund. A long-term debt instrument not secured by property is called debenture (three syllable word expected). A

Euro bond is a long-term debt instrument that is sold in a currency outside the country in whose currency it is denominated.

5. The objective of the managers of a multinational corporation is to maximize the wealth of shareholders.
a. True
b. False

6. A security issued in the United States that represents shares of a foreign stock and allows that stock to be traded in the United States is called a(n):
A. Eurostock.
B. Yankee bond.
C. Yankee stock.
D. American Depository Receipt.
E. foreign obligation trust certificate.

7. The rate most international banks charge one another for overnight Eurodollar loans is called the:
A. Eurodollar yield to maturity.
B. London Interbank Offer Rate.
C. Paris Opening Interest Rate.
D. United States Treasury bill rate.
E. international prime rate.

8. The exchange rate on a spot trade is called the _____ exchange rate.
A. cross
B. forward
C. triangle
D. spot
E. open

9. From the currency table, List all countries with inflation rates lower than the United States.

Canada Japan Switzerland

1, $1\frac{1}{2}$, $1\frac{1}{2}$

Key

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Instructions: The part of the exam is open book and open notes. Point values are listed with the question. 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. 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! 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 three years. The equipment will cost \$10,000. 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 7 year schedule. The firm can issue 10 senior secured 3-year bonds at par to fund the purchase with each bond having semi-annual payments of \$40. Alternately, the firm can lease the equipment, with three equal beginning-of-year lease payments of \$3,550. The firm's tax rate is 25%. The firm must pay the annual maintenance and insurance costs, with maintenance estimated at \$500 and insurance estimated at \$200. The salvage value of the machine at the end of 3 years is \$2000. The firm's weighted average cost of capital 9.4%, and the levered cost of equity is 12%. All of the firm's senior secured debt has the same pre-tax interest rate as the current offered loan. Should the firm lease or buy the piece of equipment (1 point)? Numerical evidence that your answer is correct (18 points)

~~19~~

677.57 → 14831.95

2. (4 points) Modata corp is planning to raise \$10,000,000 in funds by issuing 5% \$1,000 par value bonds with a 15-year maturity. Assuming that Modata is able to issue these bonds at yield to maturity of 9%, how many bonds must they issue?

$AV = 677.57$
 $FV = 1000$

$N = 15$
 $I = 9\%$
 $PMT = 50$

$\frac{10,000,000}{677.57} = 14758 \text{ bonds}$

3. For a conventional project, the NPV is negative \$8. A 10-year operating lease generates the following after-tax cash flows: cost of the new equipment at time 0 is \$100. The beginning of the year after-tax cash flows associated with the lease are \$13, and the after-tax residual value (RV) of the equipment at t = 10 is \$10. The

NPV

23/76

pre-tax cost of secured debt is 9.0%, and the tax rate is 40%. The WACC is 10%. The signs of the cash flows, negative or positive, are the traditional signs associated with a lease.

a. (3 points) What is the NALP?

$$NPV(95,100, -13, (13, 11.75)) = -3.77$$

$$+ NPV(10,0, 10-10, (9, 13)) = -3.85$$

$$= -7.62$$

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

reject = NPV < 0
+ NAL < 0

4. (3 points) A \$1,000 par value bond, matures in 16 years, has a coupon rate of 8.5% and the coupon is paid semi-annually. Currently the bond is trading at 106.4% of par. What is the yield to maturity?

PV = -1064 N = 32 I = 3.5844 x 2 = 7.1688% ≈ 7.17%

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

a. (2 points) How many Swiss Franc would be needed to buy \$255,000 U.S. Dollars in three months?

0.7542 275,914 or 275,910 1.0820 ?

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

7.52 $\frac{\text{Aus Dollar}}{\text{Vietnam Dong}} = 1$

c. (3 points) How many Dongs could you buy with 500,000 Australian Dollars?

6,647,470,000

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

UK Pound

6. Use the below information to answer the next six questions. 2 points for each blank and appreciate/depreciate (14 points, 2 points for each blank and appreciated/depreciated).
 Spot rate is \$.9188 = 1 Swiss Franc.
 The one-year futures price is \$.9328 = 1 Swiss Franc
 The 1-year United States Interest rate is 2.1%.
 Inflation in the Switzerland is expected to be 1.0%.

7. A Swiss person investing 100,000 Swiss France in the United States expects to invest 91,880 Dollars today in United States Treasury Bonds. They would earn 2.1% % on their United States Treasury Bonds. At the end of one year, they would redeem their bond for 93,809.48 dollars and convert their \$ back into 100,567.62 Swiss francs. During this period, the \$ appreciated/depreciated (2 points) 1.5% % against the Swiss Franc. The inflation rate in the United States is 2.54 %.

The interest rate on 1-year Swiss treasury bonds is .56% %

$$2.1 = \text{real} + 2.54$$

$$.56 = \text{real} + 1.0$$

198 107 +3