

### Quiz 1: Equity Instruments

Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam.

1. Jarlisco Enterprises is a firm that is incorporated in Mexico, but with substantial US operations. You have obtained the following information on its exposure in the two countries:

	<i>Mexico</i>	<i>United States</i>
Currency	Pesos	US \$
Ten-year government bond rate (in local currency)	8% (in pesos)	3.5% (in US dollars)
Sovereign rating (for local currency borrowing)	A2	Aaa
Default spread associated with sovereign rating	2.0%	0.0%
Proportion of revenues for Jarlisco from country	30%	70%
Proportion of revenues for average company in country	60%	80%
$\frac{\text{Std Deviation of Equity}}{\text{Std Deviation of Govt bond}}$	1.8	1.6

The equity risk premium for mature equity markets is 5% and the beta for Jarlisco, based upon its business mix is 0.90. Using the lambda approach, estimate the cost of equity for the company in Mexican pesos. (4 points)

2. You have been given the assignment of computing the after-tax cost of debt to use in the cost of capital computation for Lavella Inc, a publicly traded firm. You have obtained the following information on its outstanding debt:

<i>Loan Type</i>	<i>Face Value</i>	<i>Interest Rate</i>	<i>Remaining Maturity</i>
Secured bank loan	\$ 200 million	7.0%	7 years
Subordinated bank loan	\$ 150 million	8.0%	10 years
Unsecured short term bank loan	\$ 150 million	6.0%	0.5 years

All of the debt has been on the books for at least a year. The current treasury bill rate is 4% and the 10-year US treasury bond rate is 5%. Key numbers from Lavela's income statement for the most recent year are summarized below:

Revenues	\$ 1,000 million
EBITDA	\$ 200 million
EBIT	\$ 140 million
Net Income	\$ 73.5 million

The effective tax rate for the most recent year was 30% and the marginal tax rate was 40%. The following table summarizes the current relationship between coverage ratios and ratings, if you want to use it:

<i>If interest coverage ratio is</i>		<i>Rating is</i>	<i>Spread is</i>
<i>&gt;</i>	<i>≤ to</i>		
8.50	100000	AAA	1.25%
6.5	8.499999	AA	1.75%
5.5	6.499999	A+	2.25%
4.25	5.499999	A	2.50%
3	4.249999	A-	3.00%
2.5	2.999999	BBB	3.50%
2.25	2.499999	BB+	4.25%
2	2.2499999	BB	5.00%
1.75	1.999999	B+	6.00%
1.5	1.749999	B	7.25%
1.25	1.499999	B-	8.50%
0.8	1.249999	CCC	10.00%
0.65	0.799999	CC	12.00%
0.2	0.649999	C	15.00%
-100000	0.199999	D	20.00%

Estimate the after-tax cost of debt. ( 3 points)

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Name:

3. FASB, the accounting standards board, is considering requiring that technology and pharmaceutical firms capitalize R&D expenses and has approached you for advice on the consequences for some widely used accounting and valuation numbers. Respond to each of the following multiple-choice questions, with your response (only one choice, please...)
- a. **Effect on earnings:** If you capitalize R&D expenses at technology and pharmaceutical firms, which of the following would you expect to happen to the adjusted earnings for these firms?
    - A. There will be no effect on earnings.
    - B. The reported earnings for all these firms will increase
    - C. The reported earnings for all these firms will decrease
    - D. The reported earnings will increase for firms that have seen R&D expenses increase over time
    - E. The reported earnings will increase for firms that have seen R&D expenses decrease over time.
  
  - b. **Effect on book value:** If you capitalize R&D expenses at technology and pharmaceutical firms, which of the following consequences would you expect for the adjusted book value for these firms?
    - A. The book value of assets and the book value of debt will increase
    - B. The book value of assets and the book value of equity will increase
    - C. The book value of assets and the book value of debt will decrease
    - D. The book value of assets and the book value of equity will decrease
    - E. None of the above.
  
  - c. **Effect on cost of capital:** If you capitalize R&D expenses at technology and pharmaceutical firms, which of the following consequences would you expect for the cost of capital for the firms?
    - A. The cost of capital for the firms will increase
    - B. The cost of capital for the firms will decrease
    - C. The cost of capital for the firms will be unchanged