**Section I: Computational Problems**

1. Big Sky Montana Corporation must install $1.875 million of new machinery in its bottling operation. It can obtain a bank loan for 100% of the purchase price or it can lease the machinery. **[**

Assume the following apply:

1. The machinery falls into the MACRS – 3 year class

2. Under either the lease or the purchase Big Sky Montana must pay for insurance, property taxes, and maintenance

3. The firm’s tax rate is 30%

4. The loan would have an interest rate of 12%

5. The lease terms call for $575,000 payments at the end of each of the next 4 years.

6. Assume that Big Sky Montana has no use for the machine beyond the expiration of the lease. The machine has an estimated residual value of $700,000 at the end of the 4th year.

2. Applex plans to issue $10 million of 20 year bonds in June to finance a new product. The bonds will pay interest semiannually. It is now November and the current cost of debt to the high risk electronics company is 11%. The firm’s CFO is concerned that interest rates will rise and climb even in higher before the June issuance of debt. **[]** The following data are available:

Future Prices: Treasury Bonds - $100,000; Pts. 32nds of 100%

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Delivery Month  (1) | Open  (2) | High  (3) | Low  (4) | Settle  (5) | Change  (6) | Open Interest  (7) |
| Dec | 94-28 | 95-13 | 94-22 | 95-05 | +7 | 591,944 |
| Mar | 96-03 | 96-03 | 95-13 | 95-25 | +8 | 120,353 |
| Jun | 95-03 | 95-17 | 94-03 | 94-8 | -27 | 13,597 |

(a). What type of hedge will the CFO execute to protect Applex from rising interest rates?

(b). How many contracts will be needed to hedge the interest rate risk?

(c). Assume that interest rates increase in general increase by 400 basis points, how much will Applex receive with interest rates at this level and how well did the hedge perform?

(d). Without hedging how much will Applex stand to lose on the bond issuance?

3. As discussed in Chapter 25, the free cash flows, tax shields and horizon value

should all be discounted at the unlevered cost of equity. This cost should be calculated based on the target’s risk, not the acquirer’s risk. Consider this situation H Corporation’s investment bankers have estimated that the target company’s beta is currently 1.3. The horizon value should be calculated using the target company’s WACC, which is based on the costs of debt and equity after any change in leverage.**[]**

(a). To obtain the unlevered required rate of return calculate the levered required rate of return for the target company. Key assumptions: Risk free rate = 7% and market risk premium = 4%, beta = 1.3.

rsL(target firm) = rrf + (rm - rrf)btarget firm

=

The unlevered cost of equity, based on a 20% debt ratio, cost of debt of 9%, and a levered cost of equity of rsL(above) is:

rsU = wdrd + wsrsl

=

(b). Calculate the unlevered value of operations based on the following cash flows and the unlevered cost of equity calculated above in 11(a).

2008 2009 2010 2011 2012

Annual free cash flow $11.7 $10.5 $16.5 $ 20.7 $21.9

Unlevered horizon value 418.3

Total $11.7 $10.5 $16.5 $20.7 $440.2

The PV of these cash flows discounted at the unlevered cost of equity = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.

Franklin Company headquartered in France acquired 100% of the outstanding shares of Jefferson Inc. by issuing 1,000,000 shares of Euro 1 par common stock (Euro 20 market value).

Immediately before the transaction, the two companies compiled the following information:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Franklin BV | Jefferson BV | Jefferson Fair Value |
| Cash & Receivables | 10,000 | 300 | 300 |
| Inventory | 12,000 | 1,700 | 4,000 |
| PP&E (Net) | 27,000 | 2,500 | 3,500 |
| Subtotal | 49,000 | 4,500 | 7,800 |
| Current Payable | 8,000 | 600 | 1,000 |
| LT Debt | 16,000 | 2,000 | 2,000 |
| Subtotal | 24,000 | 2,600 | 2,400 |
| Net Assets | 25,000 | 1,900 | 5,800 |
|  |  |  |  |
| Stockholder’s Equity: |  |  |  |
| Capital Stock | 5,000 | 400 |  |
| Add’l Paid in Capital | 6,000 | 700 |  |
| Retained Earnings | 14,000 | 800 |  |

1. Calculate the Excess Purchase Price
2. Calculate the amount of Goodwill associated with this transaction

5. Within the last 15 months identify a US based Fortune 500 merger (horizontal or vertical) and clearly list management’s primary reason for the transaction (i.e. Motives for Merger page 261). What was the acquiring firm’s stock price at the announcement and what is that stock currently trading at today?

6. Tutwiler is acquiring Caldwell Industries and is planning to adjust its capital structure to a mx of 50% equity and 50% debt. Based on the following information, calculate the corresponding debt level, interest expense, and tax shield for each year. The required rate of return on the debt is 9.5% (before tax). Tax rate =30%.



7. Chapter 24 Bankruptcy []



Complete the missing information in order to determine the pro rate distribution percentage.

