ESI 5359

Industrial Financial Decisions

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Chapter 2 Homework

**2. The Loann Le Milling Company is going to purchase a new piece of testing equipment for $28,000 and a new machine for $53,000. The equipment falls in the three-year property class, and the machine is in the five-year class. What annual depreciation will the company be able to take on the two assets?**

**Testing Equipment $28,000**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Yr** | | **Depr. %** | **Depr.** | **Book Value** |
| 0 |  | |  | $28,000 |
| 1 | | 33.33% | $9,332 | $18,668 |
| 2 | | 44.45% | $12,446 | $6,222 |
| 3 | | 14.81% | $4,147 | $2,075 |
| 4 | | 7.41% | $2,075 | $0 |

**New machine $53,000**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Yr** | | **Depr. %** | **Depr.** | **Book Value** |
| 0 |  | |  | $53,000 |
| 1 | | 20.00% | $10,600 | $42,400 |
| 2 | | 32.00% | $16,960 | $25,440 |
| 3 | | 19.20% | $10,176 | $15,264 |
| 4 | | 11.52% | $6,106 | $9,158 |
| 5 | | 11.52% | $6,106 | $3,052 |
| 6 | | 5.76% | $3,052 | $0 |

**3. Tripex Consolidated Industries owns $1.5 million in 12 percent bonds of Solow Electric Company. It also owns 100,000 shares of preferred stock of Solow, which constitutes 10 percent of all outstanding Solow preferedr shares. In the past year, Solow paid the stipulated interest on its bonds and dividends of $3 per share on its preferred stock. The marginal tax rate of Tripex is 34 percent. What taxes must Tripex pay on this interest and dividend income?**

1. Tripex pay on interest should be

$1,500,000 \* 12% = $180,000

The taxes Tripex pay on interest should be

$180,000 \*34% = $61,200

1. Tripex pay on dividend income should be

100,000 \* $3 = $300,000

It takes up 10 percent of all so the taxes should be

$300,000 \* 30% \* 34% = $30,600

**4. The Castle Cork Company was founded in 20X1 and had the following taxable income through 20X5:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **20X1** | **20X2** | **20X3** | **20X4** | **20X5** |
| **$0** | **$35,000** | **$68,000** | **-$120,000** | **$52,000** |

**Compute the corporate income tax refund in each year, assuming the graduated tax rates discussed in the chapter.**

|  |  |  |  |
| --- | --- | --- | --- |
| Years | 20X1 | 20X2 | 20X3 |
| Income | $0 | $35,000 | $68,000 |
| Taxes | **$0** | $35,000\*15%=**$5,250** | $7,500+$18,000\*25%=**$12,000** |

|  |  |  |
| --- | --- | --- |
| Years | 20X4 | 20X5 |
| Income | $-120,000 | $52,000 |
| Taxes | -$(5,250+12,000)= **-$17,250(refund)** | ($35,000+$68,000-$120,000+$52,000=$35,000)  $35000\*15%=**$5,250** |

**5.Loquat Foods Company is able to borrow at an interest rate of 9 percent for one year. For the year, market participants expect 4 percent inflation.**

**a. What approximate real rate of return does the lender expect? What is the inflation premium embodied in the nominal interest rate?**

**b. If inflation proves to be 2 percent for the year, does the lender suffer? Does the borrower suffer? Why?**

**c. If inflation proves to be 6 percent, who gains and who loses?**

1. The real rate of return is 5%. The inflation premium embodied in the nominal interest rate is 4%.
2. The lender will gain more 2% than expect. The borrower loses 2% compared with the expectation.
3. The lender only get 3% real interest, loses 2% in contrast to expect. The borrower gains 2% compare with the expectation.