Student name

Institution of learning

Course title and number

Date of submission

**Business Finance Critical Thinking Assignment**

**Evaluation skill**

1. Contribution by self = $1000

Employer matching contribution = dollar to dollar = 1000

Total contribution = $2000

After a year, the return for this $2000 is; 2000 x (1.06) = 2120

Return from her own contribution is therefore $\frac{2120-1000}{1000}$ = 112% per annum

The participation in employer’s 401(K) plan is therefore justifiable

1. the amount of money that Emily needs to set aside from her bonus this year to cover the down payment on a new car, assuming she can earn 4% on her savings.

We find the present value of the down payment

PV of $10,000 = $\frac{10,000}{\left(1.04\right)^{3}}$ = $8,889.96.

She needs to set aside $8,889.96 from her bonus to finance the $10,000 down payment in 3 years

What if she could earn 10% on her savings?

We find the present value of the $10,000 down payment at 10% interest rate

PV of $10,000 = $\frac{10,000}{\left(1.1\right)^{3}}$ = $7,513.15

If she could earn 10%, she needs to set aside $7,513.15 from her bonus to finance the $10,000 down payment in 3 years

1. the value of Emily’s trust fund in 36 years, assuming she takes possession of $20,000 in 2 years for her wedding, and leaves the remaining amount of money untouched where it is currently invested

we first find the value of the trust fund in 2 years

= 80,000 x (1.052) = $88,200

When he takes possession of $20,000 in 2 years for her wedding, the remainder in the trust fund is ($88,200-20,000) = $68,200

The value of Emily’s trust fund in 34 years more years = $68,200 x 1.0534 = $358,278.33

1. Two conditions that Emily and Paul could take to accumulate more for their retirement.

Investing higher percentage per annum

Investing in a retirement plan earning more

1. Emily and Paul purchase a $200,000 home in 5 years and make $40,000 down payment immediately. The monthly mortgage payment assuming that the remaining balance is financed at a 3% fixed rate for 15 years would be;

Monthly mortgage payment = $\frac{(0.25\%) x (200,000-50,000)}{1-(1.0025^{-\left(15x12\right)}}$ = $1,035.87 per month

Monthly mortgage payment assuming mortgage term is 30 years

Monthly mortgage payment = $\frac{(0.25\%) x (200,000-50,000)}{1-(1.0025^{-\left(30x12\right)}}$ = $632.41 per month

1. Conclusion about the relationship between the mortgage term and the amount of the monthly payment

The longer the mortgage repayment period, the lower the monthly repayment amount

Question 5, the monthly payment with the 30-year term is more than half as large as the monthly payment with the 15-year term

This is because, the effective payment for 30 years is more than for 15 years because of the interest rate imposed.

**(2) Deductive reasoning skill**

**1. Current ratio and acid test ratio for the firm**

Current ratio = $\frac{current assets }{current liabilities }$ $\frac{28,500 }{31,350 }$ 0.91

Acid test ratio = $\frac{current assets-inventories }{current liabilities }$ $\frac{28,500-8,700 }{31,350 }$ 0.63

**2. DSO, fixed assets turnover, and total asset turnover for the firm**

Days Sales Outstanding (DSO) = $\frac{accounts receivable }{total credit sles}$ 365 days

 = $\frac{17,800 }{200,000}$ 365 days = 32 days

fixed assets turnover = $\frac{Net sales }{Net Fixed assets }$ = $\frac{200,000}{43,500}$ = 4.6

total asset turnover = $\frac{Net sales }{Total assets }$ = $\frac{200,000}{72,000}$ = 2.78

**3. liabilities-to-assets ratio and times-interest-earned ratio for the firm.**

Liabilities-to-assets ratio = $\frac{Total Liabilities}{Total assets }$ = $\frac{39,600}{72,000}$ = 0.55= 55%

Times-interest-earned ratio = $\frac{EBIT}{Interest expense }$ = $\frac{4,000}{1,000}$ = 4 times

4. net profit margin and return on equity for the firm.

Net profit margin = $\frac{net Profit }{Sales }$ = $\frac{1,950}{200,000 }$ = 0.975%

Return on equity = $\frac{net Profit }{Equity }$ = $\frac{1,950}{32,400 }$ = 6.02%

**5. Evaluate the performance of the firm in the following areas:**

**Liquidity management**: The firm has a poor liquidity management; the current ratio and the acid test ratio are less than one meaning the company does not well cover its current obligations. The two ratios for the company too are below the industry average of 1.1 and 0.60 respectively and hence the liquidity management of the firm is poorer than the industry average.

**Asset management**: The company is slightly effective in asset management. However, the firm’s asset management is poorer than the industry because its net fixed assets and total assets turnover ratios are lower than the industry average.

**Debt management**: The firm is effective in debt management. This is because, it has kept a lower level of debt ratio (55%) compared to the industry’s 66%. The firm also covers the interest expense better than the industry average shown by a higher times interest earned ratio of 4, compared to industry’s 3.2.

**Profitability management:** The firm has a poorer profitability management than industry average. This is because, its net profit margin and return on equity (0.975% and 6.02%) respectively are lower than the industry’s 1.3% and 7.32% respectively.

**6. Explain the deductive reasoning process applied to analyze the firm’s performance.**

**Liquidity management:** According to Bodie, (2013), If the current ratio and the acid test ratio for a firm are lower than the industry average, then the liquidity management of the firm is poor than that of the industry as the current obligations are not well covered.

**Asset management:** Asset turnover ratio shows the effectiveness of a firm to generate sales from assets. A high net fixed assets and total assets turnover indicates a good asset management. If a firm has a lower net fixed assets and total assets turnover than the industry, then the conclusion is that, the firm has a poorer asset management compared to the industry (Leary, & Roberts, 2014).

**Debt management:** A high debt ratio indicates poor debt management (Leary, & Roberts, 2014). A high times interest earned ratio shows that, a firm’s debt is well covered using earnings before interest and tax. A firm that has a low debt ratio and a high times interest earned ratio than a benchmark therefore has a better debt management than the benchmark.

**Profitability management:** If a firm has a higher net profit margin and return on equity than a benchmark, then the firm has a better profitability than the benchmark. The converse is true.

References

Bodie, Z. (2013). *Investments*. McGraw-Hill.

Leary, M. T., & Roberts, M. R. (2014). Do peer firms affect corporate financial policy?. *The Journal of Finance*, *69*(1), 139-178.