

ASSIGNMENT1

a. Return on equity

It measures the performance of the company, which shows how much the company can generate the income by using the shareholders equity. The higher the value implies the better performance of the company.

$$\begin{aligned}\text{Return on Equity} &= \text{Net Income/Shareholder's Equity} \\ &= 5000/28000 \\ &= \mathbf{0.1786}\end{aligned}$$

b. Return on assets

It measures the profitability of the company relative to its total asset. It shows how much the company can earn by investing in the asset. In other words, it can imply the efficiency in management of the company.

$$\begin{aligned}\text{Return on asset} &= \text{Net income/ Total Asset} \\ &= 5000/183000 \\ &= \mathbf{0.0273}\end{aligned}$$

On this calculation, we took the interest payment in account. However if we went to see the real performance of the company, we need to add the interest expense back (we want to get rid of the effect from the cost of borrowing)

$$\begin{aligned}\text{Return on asset} &= \text{Net income + Interest Expense / Total Asset} \\ &= (5000+ 11000) / 183000 \\ &= \mathbf{0.0874}\end{aligned}$$

c. Asset utilization

It measures the efficiency of the company in managing the usage of asset to generate the revenue. In other words, the ratio indicates how much the company can generate the revenue by using one dollar of its asset.

$$\begin{aligned}\text{Asset utilization} &= \text{Net Revenue / Total Asset} \\ &= \text{Interest income + Noninterest income – Provision for loan loss} \\ &\quad / \text{Total Asset} \\ &= 20000 + 2000 – 2000 / 183000 \\ &= \mathbf{0.1093}\end{aligned}$$

d. Equity multiplier

The ratio of a company's total assets to its stockholder's equity, this indicator is a measurement of a company's financial leverage; it shows how the company finances the operation by using debt and equity. The higher the number means that the company uses larger portion of debt to finance company comparing to the equity.

$$\begin{aligned}\text{Equity multiplier} &= \text{Total asset / Total Equity} \\ &= 183000/28000 \\ &= \mathbf{6.5357}\end{aligned}$$

e. Profit margin

It is the profitability indicator, the ratio measures how much out of every one-dollar of sales the company can keep in income. The higher the value implies the efficiency of the company in keeping the revenue in net earning.

$$\begin{aligned}\text{Profit margin} &= \text{Net income} / \text{Net revenue} \\ &= \text{Net income} / (\text{Noninterest income} + \text{Interest income} - \text{Provision for loan loss}) \\ &= 5000 / (2000 + 20000 - 2000) \\ &= \mathbf{0.25}\end{aligned}$$

f. Interest expense ratio

The ratio measures how much the company uses their income to pay for the interest payment. The lower the number means the stronger of the ratio because the company uses lesser amount of income to pay on the interest expense.

$$\begin{aligned}\text{Interest expense ratio} &= \text{Interest expense} / \text{Gross income} \\ &= \text{Interest expense} / \text{EBIT} \\ &= 11000 / 19000 \\ &= \mathbf{0.5789}\end{aligned}$$

g. Provision for loan loss ratio

Provision for loan loss is an expense set aside for the bad loans. To construct the asset quality indication, we use the formula of the provision for loan loss over the net loans. The higher of the value implies the more problematic of the loans.

$$\begin{aligned}\text{Loan loss ratio} &= \text{Provision for loan loss} / \text{Net loans} \\ &= 2000 / 90000 \\ &= \mathbf{0.0222}\end{aligned}$$

h. Noninterest expense ratio

It is the efficiency indicator, the ratio measures how much the overhead cost of the company relative to total income of company or how much the company spend to generate a dollar of income.

$$\begin{aligned}\text{Noninterest expense ratio} &= \text{Noninterest expense} / (\text{Total revenue} - \text{Interest expense}) \\ &= 1000 / (22000 - 11000) \\ &= \mathbf{0.0909}\end{aligned}$$

i. Tax ratio

It measures how much the earning is reduced by tax amount. In other words, it determines how much the company spends the tax relative to gross earning.

$$\begin{aligned}\text{Tax ratio} &= \text{Tax expense} / \text{EBIT} \\ &= 3,000 / 19,000 \\ &= \mathbf{0.1579}\end{aligned}$$