

Solution:

The preferred dividends declared for the 2012 is given by:

$$\text{Preferred Dividends} = 0.1 \times \$4 \text{ million} = \$0.4 \text{ million}$$

The dividends paid by the company can be calculated as follows:

$$\begin{aligned}\text{Dividends Paid} &= \text{Beginning Retained Earnings} + \text{Income} \\ &\quad - \text{Ending Retained Earnings} \\ &= \$1.4 + \$2.8 - \$3 = \$1.2 \text{ million}\end{aligned}$$

The dividends that are paid to common stock is given by:

$$\text{Common stock dividends} = \$1.2 - \$0.4 = \$0.8 \text{ million}$$

The average common stockholders' equity is given by:

$$\text{Average Common SE} = \frac{((20 - 4) + (18.4 - 4))}{2} = \$15.2 \text{ million}$$

Now, we define the return on common stock equity as:

$$\begin{aligned}\text{ROCE} &= \frac{\text{Net income} - \text{Preferred Dividends}}{\text{Average Common Stockholders' Equity}} \\ \text{ROCE} &= \frac{2.8 - 0.4}{15.2} = 15.79\%\end{aligned}$$

The earnings per share is given by:

$$\begin{aligned}\text{EPS} &= \frac{\text{Net income}}{\text{Average number of common shares outstanding}} \\ \text{EPS} &= \$ \frac{2.8 - 0.4 \text{ million}}{4 \text{ million}} = \$0.6 \text{ per share}\end{aligned}$$

The price earning ratio is given by:

$$\begin{aligned}\text{P.E. Ratio} &= \frac{\text{Market price per share}}{\text{Earning per share}} \\ \text{P.E. Ratio} &= \frac{13.20}{0.6} = 22\end{aligned}$$

The dividend-payout ratio is given by:

$$\text{Dividend} - \text{Payout} = \frac{\text{Common dividend per share}}{\text{EPS}}$$

$$\text{Dividend} - \text{Payout} = \frac{0.2}{0.6} = 33.3\%$$

The dividend yield ratio is given by:

$$\text{Dividend} - \text{Yield} = \frac{\text{Common dividend per share}}{\text{Market price}}$$

$$\text{Dividend} - \text{Yield} = \frac{0.2}{13.2} = 1.52\%$$