funds are tied up in noncurrent assets. The effect of earning activities on liquidity is highlighted by comparing cash flow from operations to net income.

If accounts receivable and inventory turn over quickly, the cash flow received from customers can be invested for a return, increasing profit.

**Leverage (Solvency, Long-term Debt) Ratios**

*Solvency* is the company’s ability to satisfy its long-term debt as it becomes due. An evaluation of solvency emphasizes the long-term financial and operating structure. Excessive long-term debt in the capital structure means greater risk. Additionally, solvency is dependent upon profitability since in the long-term a company will not be able to satisfy its debts unless it is earning money.

When liabilities are excessive, additional financing should be obtained primarily from equity sources. The company might also contemplate lengthening the maturity of its debt and staggering the debt repayment dates.

Some leverage ratios are indicated below.

**Debt Ratio.** The debt ratio looks at total liabilities relative to total assets. It reveals the percentage of total funds obtained from creditors. Creditors would prefer to see a low debt ratio since there is a better cushion for creditor losses if the company goes bankrupt.

\[
\text{Debt Ratio} = \frac{\text{Total liabilities}}{\text{Total assets}}
\]

In 20X3, the debt ratio is:

\[
\frac{\$135,400}{220,000} = 0.62
\]

In 20X2, the ratio was 0.63. There was a minor improvement in the ratio over the year as indicated by the lower degree of debt to total assets. However, it should be noted that an optimum debt/assets ratio may exist. At the optimum debt/assets ratio, the weighted average cost of capital is less than at any other debt to asset level. If in this example, the optimum was 0.65, 20X3 would not be an improvement.

**Debt/Equity Ratio.** The debt/equity ratio is a major solvency measure because a high degree of debt in the capital structure may make it difficult for the company to satisfy interest charges and principal payments at maturity. Further, running out of cash under adverse business conditions will cause less financial flexibility and more difficulty obtaining further financing.

\[
\text{Debt/equity ratio} = \frac{\text{Total liabilities}}{\text{Total equity}}
\]

In 20X3, the ratio was 1.6. The ratio remained fairly stable in 20X2, but it depended on numerous factors: industry, the access to debt, and the company’s financial condition.

**Times-Interest-Earned Ratio (In Earnings Before Interest and Taxes)**

This ratio represents a safety margin in the event of a drop in profits the company might experience. The ratio is calculated as follows:

\[
\text{Times-interest-earned ratio} = \frac{\text{Earnings before interest and taxes}}{\text{Interest charges}}
\]

In 20X3, interest was $175,000 while in 20X2 it was $170,000. Coverage is a negative sign because it represents a safety margin that is used up by higher interest charges.

Other useful ratios to measure the company’s ability to meet its fixed charges are:

- **Net income before tax**
- **Minimize the debt/assets ratio**
- **Noncurrent assets to noncurrent liabilities ratio**
- **Can be used to determine whether the company has enough funds to meet its fixed charges.**

In looking at these ratios, it is important to note that the company’s ability to meet fixed charges is affected by its stability and quality.