

## Analysis of Financial Statements

In this chapter you will learn to use financial ratios to analyze a company's financial statements, including comparing the company's ratios to industrial averages. This includes adapting commonly used ratios to the unique characteristics of the construction industry. Analysis of the financial statements helps the financial manager identify problems before they become a crisis. These problems may be life threatening to the company (such as realizing that the company will not be able to pay its bills in the upcoming months) or simple planning issues (such as identifying that the company's equipment is aging and that funds need to be set aside to replace this equipment in the next few years).

The most common tools used to track and measure a company's financial health are the company's balance sheet and the income statement. The financial health of a company is determined by not only the values shown on the financial statements but also the relationships among these values. These relationships are known as financial ratios. Good construction financial management includes monitoring the critical financial ratios and comparing them to other companies in the industry. In this chapter we look at ratios that are commonly used to measure the performance of a company, regardless of its industrial segment. Where necessary, these ratios are adapted to the unique characteristics found in the construction industry. We also look at recommended target ratios for the construction industry.

Analysis of financial statements is done by dividing one category or group of categories on the company's financial statements by another category or group of categories on the company's financial statements. By making this calculation we create a ratio that can be compared to other companies within the industry. These ratios represent the relationship between the two categories or among groups of categories and are often expressed as the ratio to 1, as in 2.00 to 1. At other times the ratios are expressed as a percentage or may represent the number of times an event occurs during a period, such as the number of times a company turns over working capital during the year. These ratios can provide insights into a company's ability to pay bills, how efficiently it uses its financial resources, profitability, and the capital structure of the company.

When calculating ratios that include categories on the income statement and categories on the balance sheet, one must use the average balance for the categories from the balance sheet rather than the ending balance. This is necessary because the income statement represents all transactions between two points in time, whereas the balance sheet represents the separate points in time. The most common method of obtaining the average balance for a category on the balance sheet is to take the average of the balance of the category at the beginning of the period represented by the income statement and the balance of the category at the end of the period represented by the income statement.

Sometimes the amounts reported on the balance sheet at the beginning and ending of the year are not representative of the average balance for the year. This is the case for excavation companies whose fiscal year is the same as the calendar year and who shutdown for the winter months because of poor working conditions. While the company is shut down, its accounts receivable and accounts payable are significantly lower than they were during the construction season, as are many other accounts on the balance sheet. To get a more accurate picture of the company's financial health, one should use the average monthly balance for the accounts. The monthly average balance is calculated as follows:

$$\text{Average} = A_1/24 + A_2/12 + \dots + A_{12}/12 + A_{13}/24 \quad (6-1)$$

where

$A_1$  through  $A_{12}$  = Amounts at the beginning of the 12 months during the year

$A_{13}$  = Amount at the beginning of the next year or end of this year

As ratios are discussed, when data are available, typical ratios for construction companies in the single-family residence, commercial, heavy and highway, and specialty trades sectors are given. These data are based on the data from financial statements for over 125,000 companies for the years 1996 through 2005 as reported by Dun & Bradstreet, Inc.<sup>26</sup> Data are also published by the Risk Management Association, Standard and Poor's, Robert Morris Associates, and others. When comparing ratios to industrial averages, companies should obtain current data for their sector of the construction industry.

The data reported include a typical median and a typical range for the years studied. The median is the point where half of the companies are above the median and half are below the median, which should not be confused with the average or mean. The typical range is based on the upper and lower quartiles and represents the range of values into which half of the construction companies fall, with 25% of the companies performing better than the range and 25% of the companies performing below the range.

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<sup>26</sup>Dun & Bradstreet, Inc., *Industrial Norms and Key Business Ratios One Year—Desk Top Edition SIC #0100-8999*, years 1997 through 2005.

Single-family residential includes construction of new single-family homes and remodels, repairs, and additions to single-family homes performed by construction companies. Single-family residential excludes the construction of single-family homes built by speculative builders and developers.<sup>27</sup>

Commercial<sup>28</sup> construction includes the construction of multifamily housing, hotels, industrial buildings, warehouses, and other commercial construction by construction companies. Commercial construction excludes construction projects built by developers. Data on more specific classes of commercial construction are available from Dun & Bradstreet, Inc., as well as other sources.

Heavy and highway construction<sup>29</sup> includes the construction of streets, highways, elevated highways, bridges, tunnels, water lines, sewers, pipelines, communications, and power lines. Data on specific classes of heavy and highway construction are available from Dun & Bradstreet, Inc., as well as other sources.

Specialty trades<sup>30</sup> includes most subcontractor work and includes the following specific classes of specialty trades: plumbing, heating, and air-conditioning; paint and paper hanging; electrical work; masonry, stone setting, and other stone work; plastering, drywall, acoustical, and insulation work; terrazzo, tile, marble, and mosaic work; carpentry work; floor laying and other floor work not elsewhere classified; roofing, siding, and sheet metal work; concrete work; water well drilling; structural steel erection; glass and glazing work; excavation work; wrecking and demolition work; installing or erecting building equipment not elsewhere classified; and specialty trade not elsewhere classified. Data on specific classes of specialty trades are available from Dun & Bradstreet, Inc., as well as other sources.

## DEPRECIATION AND FINANCIAL ANALYSIS

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In Chapter 5 we saw that there were a variety of ways a company may depreciate a piece of equipment. When preparing financial statements the depreciation method used should be the method that best matches the equipment's actual loss in value. When the depreciation method used differs greatly from the actual loss in value, the depreciation of the fixed assets is overstated in the financial statements. When the depreciation is overstated or understated, the net fixed assets are understated or overstated as well as the total assets and owners' equity. For example, let's look at a small company that purchases only one piece of depreciable equipment during the year for \$130,000. The purchase takes place during the eighth month of the 2006 tax year and the company pays cash for the equipment. By using the Section 179 deduction, the company depreciates \$108,000 of

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<sup>27</sup>Includes all of U.S. Standard Industrial Classification (SIC) 1521.

<sup>28</sup>Weighted average for SIC 1522, 1541, and 1542.

<sup>29</sup>Includes all of SIC 16.

<sup>30</sup>Includes all of SIC 17.

the cost of the equipment, or 83% of the purchase price, in 2006. The actual depreciation of the equipment is closer to 10% for this four-month period. If the company were to use the depreciation calculated for tax purposes the depreciation on the income statement would be overstated by about \$95,000, whereas the net fixed assets, total assets, and owner's equity would be understated by about \$95,000. For a small company, this would be a significant change in its financial statements.

Because the depreciation method can have a great impact on the financial statements, it is important to know which depreciation method is being used. When looking at financial ratios any ratio that includes depreciation, net fixed assets, total assets, or owners' equity is affected by the depreciation method used when preparing the financial statements. In this chapter, eight of the financial ratios include depreciation, net fixed assets, total assets, or owners' equity in the calculations. They are current liabilities to net worth ratio, debt to equity ratio, fixed assets to net worth ratio, current assets to total assets ratio, assets to revenues ratio, return on assets, return on equity, and the degree of fixed asset newness.

## QUICK RATIO

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The quick ratio is a measurement of a company's ability to pay current (short-term) liabilities with cash or other near cash assets—assets that can quickly be turned into cash. The quick ratio may also be referred to as the acid test ratio. The quick ratio is calculated as follows:

$$\text{Quick Ratio} = (\text{Cash} + \text{Accounts Receivable}) / \text{Current Liabilities} \quad (6-2)$$

When calculating the quick ratio a company should not include accounts receivable in the form of retention because often retention cannot be converted to cash quickly. Similarly, accounts receivable that are unlikely to be collected—often recorded as an allowance for bad debt—should not be included in the accounts receivable.

A company with a quick ratio of 1.00 to 1 or greater is considered liquid. A company with a ratio below 1.00 to 1 will need to convert inventory, notes receivable, other current or long-term assets to cash or raise cash through debt or equity financing to pay its current liabilities. A ratio greater than 1.50 to 1 may be an indication that the company has too much cash and should be investing its capital elsewhere or should be disbursing it to its shareholders. A quick ratio greater than 1.00 to 1 does not guarantee that a company can pay its current liabilities on time because its current liabilities may be due before its accounts receivable are received. Typical quick ratios for construction companies are found in Table 6-1.

**Example 6-1:** Determine the quick ratio for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**TABLE 6-1** Typical Quick Ratios

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	0.9	1.9–0.3
Commercial	1.2	1.9–0.6
Heavy and Highway	1.2	2.0–0.7
Specialty Trades	1.4	2.4–0.8

**Solution:** The accounts receivable-retention should not be used in the calculation of the quick ratio because they may not be converted to cash quickly. The quick ratio is calculated using Eq. (6-2) as follows:

$$\text{Quick Ratio} = (\$200,492 + \$402,854) / \$423,907 = 1.42$$

The quick ratio is slightly higher than the median for a commercial construction company but well within the typical range. Because the quick ratio is less than 1.50 to 1 it does not appear that the company has too much cash or near cash assets.

## CURRENT RATIO

The current ratio is a measurement of a company's ability to use current assets to pay for current liabilities. The current ratio is calculated as follows:

$$\text{Current Ratio} = \text{Current Assets} / \text{Current Liabilities} \quad (6-3)$$

A current ratio of 2.00 to 1 is considered a strong indication that a company is able to pay current liabilities. If a company's current ratio is below 1.00 to 1 it is an indication that the company does not expect to receive enough revenue over the next year to pay its current liabilities. To pay these liabilities the company needs to sell long-term assets or raise cash through debt or equity financing. If a company's current ratio is below 1.50 to 1 the company is undercapitalized and may run into financial problems during the next year. If a company's current ratio is over 2.50 to 1, the company may have too much of its assets tied up in current assets and should possibly be investing its assets in other long-term ventures or distributing them to its shareholders. Typical current ratios for construction companies are found in Table 6-2.

**TABLE 6-2** Typical Current Ratios

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	1.5	3.0–1.1
Commercial	1.5	2.8–1.2
Heavy and Highway	1.7	2.8–1.2
Specialty Trades	1.9	3.3–1.3

**Example 6-2:** Determine the current ratio for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** The current ratio is calculated using Eq. (6-3) as follows:

$$\text{Current Ratio} = \$690,720/\$423,907 = 1.63$$

The current ratio is slightly higher than the median for a commercial construction company but well within the typical range. Because the current ratio is greater than 1.00 to 1 it appears that the company will meet its short-term cash needs and because the current ratio is less than 2.50 to 1 it does not appear that the company has too much of its assets tied up in current assets.

## CURRENT LIABILITIES TO NET WORTH RATIO

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The current liabilities to net worth ratio is a measurement of the risk that short-term creditors are taking by extending credit to the company compared to the risk the company's owners are taking in the company. For example, in the case of a construction company with current liabilities greater than the company's net worth or equity, the short-term creditors would have more capital at risk than the owners. Short-term creditors include suppliers and subcontractors who provide materials, labor, and equipment on credit. The current liabilities to net worth ratio is often expressed as a percentage of net worth and is calculated as follows:

$$\text{Current Liabilities to Net Worth} = \text{Current Liabilities}/\text{Net Worth} \quad (6-4)$$

For most industries it is recommended that care be taken when short-term credit is extended to companies with a current liabilities to net worth ratio of 67%. The construction industry consistently exceeds this recommended level because of the construction industry's heavy reliance on trade financing from suppliers and subcontractors. Typical current liabilities to net worth ratios for construction companies are found in Table 6-3.

Commercial construction companies have a higher current liabilities to net worth ratio because of their extensive use of suppliers and subcontractors to perform their work.

**TABLE 6-3** Typical Current Liabilities to Net Worth Ratios (percentages)

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	98	33–257
Commercial	123	38–259
Heavy and Highway	67	30–134
Specialty Trades	72	31–156

**Example 6-3:** Determine the current liabilities to net worth ratio for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** The current liabilities to net worth ratio is calculated using Eq. (6-4) as follows:

$$\begin{aligned}\text{Current Liabilities to Net Worth} &= \$423,907/\$446,917 = 0.95 \\ \text{Current Liabilities to Net Worth} &= 95\%\end{aligned}$$

The current liabilities to net worth ratio is slightly worse than the median for a commercial construction company but well within the typical range. Because the ratio is less than 100% the short-term creditors do not have more capital at risk than the owners of the construction company, which is a good position to be in.

## DEBT TO EQUITY RATIO

The debt to equity ratio is a measurement of the risk in the company all creditors are taking compared to the risk the company's owners are taking. It is also known as the debt to worth ratio or the total liabilities to net worth ratio. The debt to equity ratio is calculated as follows:

$$\text{Debt to Equity} = \text{Total Liabilities/Net Worth} \quad (6-5)$$

The desired range for the debt to equity ratio is less than 2.00 to 1. If the debt to equity ratio exceeds 2.00 to 1, one begins to question whether the company can service its debt, particularly during a downturn in the industry. A debt to equity ratio that is less than 1.00 to 1 may indicate that the company is averse to debt financing and is not using debt to expand the company's business. Typical debt to equity ratios for construction companies are found in Table 6-4.

**Example 6-4:** Determine the debt to equity ratio for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**TABLE 6-4** Typical Total Liabilities to Net Worth Ratios

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	1.3	0.5–3.2
Commercial	1.4	0.5–2.8
Heavy and Highway	1.0	0.4–2.0
Specialty Trades	0.9	0.4–2.0

**Solution:** The debt to equity ratio is calculated using Eq. (6-5) as follows:

$$\text{Debt to Equity} = \$577,122 / \$446,917 = 1.30$$

The debt to equity ratio is slightly below the median for a commercial construction company. Because the ratio is less than 2.00 to 1, it appears that the company will be able to service their debt.

## FIXED ASSETS TO NET WORTH RATIO

The fixed assets to net worth ratio is a measurement of the amount of the owner's equity that is tied up in fixed assets, such as construction equipment, buildings, and vehicles. The fixed assets to net worth ratio is often expressed as a percentage and is calculated as follows:

$$\text{Fixed Assets to Net Worth} = \text{Net Fixed Assets} / \text{Net Worth} \quad (6-6)$$

A high number indicates a company has a heavy investment in fixed assets. Fixed assets require a constant stream of income to offset their loss in value. Construction companies—especially those in the heavy and highway sectors—that have significant investment in construction equipment are more dependent on maintaining a constant flow of work than those companies that have little invested in construction equipment. During a downturn in the industry, companies with a large investment in construction equipment usually suffer the most. Typical fixed assets to net worth ratios for construction companies are found in Table 6-5.

As expected, the heavy and highway sector, which uses a lot of expensive excavating equipment, has the highest fixed assets to net worth ratios—nearly double the next closest sector.

**Example 6-5:** Determine the fixed assets to net worth ratio for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** The fixed assets to net worth ratio is calculated using Eq. (6-6) as follows:

$$\text{Fixed Assets to Net Worth} = \$154,775 / \$446,917 = 0.35 \text{ or } 35\%$$

**TABLE 6-5** Typical Fixed Assets to Net Worth Ratios (percentages)

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	36	13–84
Commercial	23	8–60
Heavy and Highway	65	35–111
Specialty Trades	33	16–68

The fixed assets to net worth ratio is higher than the median for a commercial construction company but well within the typical range. Because the ratio is greater than the median the company has more fixed assets than the average company and therefore is more dependent on maintaining a steady stream of work to pay for these fixed assets.

## CURRENT ASSETS TO TOTAL ASSETS RATIO

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The current assets to total assets ratio is a measurement of how liquid a construction company's assets are. The current assets to total assets ratio is calculated as follows:

$$\text{Current Assets to Total Assets} = \text{Current Assets/Total Assets} \quad (6-7)$$

A company with a high ratio would have most of its assets in the form of current assets and would be very liquid. A company with a low ratio would have most of its assets tied up in long-term assets, such as fixed and other assets. The ratio varies by sector. For single-family residential, commercial, and most specialty trades the average current assets to total asset ratio runs between 0.70 and 0.80. For heavy and highway the average runs between 0.55 and 0.65 because of their large investment in excavation equipment. Notable exceptions from the specialties trades are concrete work with an average of 61, wrecking and demolition with an average of 55, and excavation with an average of 46.

Remembering that fixed assets require a constant stream of income to offset their loss in value, construction companies that have significant investments in construction equipment are more dependent on maintaining a constant flow of work than those companies that have little invested in construction equipment. During a downturn in the industry, companies with a large investment in construction equipment usually suffer the most.

**Example 6-6:** Determine the current assets to total assets ratio for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** The current assets to total assets ratio is calculated using Eq. (6-7) as follows:

$$\text{Current Assets to Total Assets} = \$690,720/\$1,024,039 = 0.67$$

The current assets to total assets ratio is slightly outside and below the range for a commercial construction company. This indicates that the company has a heavier investment in fixed assets than most commercial construction companies.

## COLLECTION PERIOD

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The collection period is a measurement of the average time it takes a company to collect its accounts receivable or the average number of days that capital is tied up in accounts receivable. The collection period is also a measure of how long the company's capital is being used to finance client's construction projects. It may also be referred to as the average age of accounts receivable. The collection period is calculated as follows:

$$\text{Collection Period} = \text{Accounts Receivable (365)/Revenues} \quad (6-8)$$

For the construction industry the collection period is affected by retention. Retention held is recorded as an accounts receivable when the work is completed but will not be available for release until the project is completed. This has the effect of lengthening the collection period. The greater the percentage of retention being held and the longer the project the greater this effect is. For an accurate measure of how long capital is being used to finance client's construction projects it is necessary to include the accounts receivable that are in the form of retention because retention is a source of capital to the project's owner. However, including the accounts receivable that are in the form of retention in the calculation of the collection period distorts the collection period as a measure of how well a company is collecting the accounts receivable that are due to it. This is because no matter how aggressive a company collects its accounts receivable it cannot collect the retention until the project is complete. A better measure of how well a company is collecting its accounts receivable is to exclude the accounts receivable that are in the form of retention from the calculations. When a company has met the requirement for receipt of the retention, the retention should be moved to the accounts receivable trade account, thus reflecting that the retention is now collectable.

A company's collection period should be less than 45 days. A collection period of more than 45 days indicates that the company has poor collection policies or has extended generous payment terms to its clients. For a company whose clients do not hold retention, this time should be reduced to 30 days. Reducing the collection period reduces a company's need for cash and may reduce the company's need for debt and the interest charges that accompany debt. Generous payment terms and slow collections often increase a company's reliance on debt, which increases its interest expenses and thereby reduces its profitability. Typical collection periods for construction companies are shown in Table 6-6 and include accounts receivable in the form of retention.

A closely related ratio is the receivable turns. The receivable turns represent the number of times the receivables are turned over during a year and is calculated as follows:

$$\text{Receivable Turns} = 365/\text{Collection Period} \quad (6-9)$$

Because of the mathematical relationship between the collection period and the receivable turns it is unnecessary to measure both ratios.

**TABLE 6-6** Typical Collection Period (days)

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	24	8–48
Commercial	48	23–75
Heavy and Highway	51	32–73
Specialty Trades	52	33–74

**Example 6-7:** Determine the collection period—with and without retention—and receivable turns for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** Because we are comparing the value of an account on the balance sheet to an account on the income statement, we need to use the average of the beginning and ending balance for the accounts on the balance sheet. Including retention, the average for the accounts receivable is calculated as follows:

$$\begin{aligned} \text{Accounts Receivable} \\ &= [(\$402,854 + \$25,365) + (\$308,253 + \$21,885)]/2 \\ \text{Accounts Receivable} &= \$379,178 \end{aligned}$$

The collection period is calculated using Eq. (6-8) as follows:

$$\text{Collection Period} = \$379,178(365)/\$3,698,945 = 37.4 \text{ days}$$

The receivable turns is calculated using Eq. (6-9) as follows:

$$\text{Receivable Turns} = 365/37.4 = 9.8$$

Excluding retention, the average for the accounts receivable is calculated as follows:

$$\text{Accounts Receivable} = (\$402,854 + \$308,253)/2 = \$355,554$$

The collection period is calculated using Eq. (6-8) as follows:

$$\text{Collection Period} = \$355,554(365)/\$3,698,945 = 35.1 \text{ days}$$

The receivables turns is calculated using Eq. (6-9) as follows:

$$\text{Receivable Turns} = 365/35.1 = 10.4$$

The collection period is better than the median for a commercial construction company and is within the typical range. It is also below the recommended 45 days. On average, the company is funding the construction costs to the client for 37.4 days. On average, it takes the company 35 days to collect the payment on a bill sent to a client.

## AVERAGE AGE OF ACCOUNTS PAYABLE

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The average age of accounts payable represents the average time it takes a company to pay its bills and is a measure of how extensively a company is using trade financing. The average accounts age of accounts payable is the average amount of accounts payable divided by the total of the invoices that pass through the accounts payable for the period. The average age of accounts payable is often calculated as follows:

$$\begin{aligned} \text{Average Age of Accounts Payable} \\ = \text{Accounts Payable (365)} / (\text{Materials} + \text{Subcontract}) \quad (6-10) \end{aligned}$$

The underlying assumption is that the bulk of the invoices that pass through the accounts payable for the period are material and subcontract construction costs. When a significant amount of invoices for equipment, other construction costs, or general overhead pass through the accounts payable, they will lengthen out the average age of accounts payable because they will increase the numerator in Eq. (6-10) without changing the denominator. To get a realistic measure of the average age of accounts payable a company may need to increase the materials and subcontract amount by the estimated amount of invoices from equipment, other construction costs, and general overhead that pass through the accounts payable account.

When the average age of accounts payable is greater than 45 days this is an indication that the construction company is slow to pay its bills and may receive less favorable credit terms and pricing from its suppliers and subcontractors. When the average age of accounts payable is shorter than 20 days—unless a construction company is taking advantage of trade discounts—it may be an indication that a company is underutilizing trade financing. If the average age of accounts payable is equal to or slightly greater than the collection period—calculated with retention—it is an indication that the construction company is using its suppliers and subcontractors to fund the construction work. If the average age of accounts payable is much greater than the collection period it may be an indication that the construction company is withholding payments from its suppliers and subcontractors even after it has received payment for the work. If the average age of accounts payable is less than the collection period, the construction company is in the habit of using its working capital to pay bills before it has received payment from the owner. It is desirable for the average age of accounts payable to be equal to or slightly greater than the collection period.

A closely related ratio is the payable turns. The payable turns represent the number of times the payables are turned over during a year and is calculated as follows:

$$\text{Payable Turns} = 365 / \text{Average Age of Accounts Payable} \quad (6-11)$$

Because of the mathematical relationship between the payable turns and average age of accounts payable it is unnecessary to measure both ratios.

**Example 6-8:** Determine the average age of accounts payable and payable turns for the commercial construction company in Figures 2-2 and 2-3. Use only the material and subcontract construction costs to calculate the average of accounts payable. What insight does this give you into the company's financial operations?

**Solution:** Because we are comparing the value of an account on the balance sheet to an account on the income statement, we need to use the average of the beginning and ending balance for the account on the balance sheet. The average for the accounts payable is calculated as follows:

$$\begin{aligned} \text{Accounts Payable} &= [(\$325,458 + \$22,546) + (\$228,585 + \$18,254)]/2 \\ \text{Accounts Payable} &= \$297,442 \end{aligned}$$

The average age of accounts payable is calculated using Eq. (6-10) as follows:

$$\begin{aligned} \text{Average Age of Accounts Payable} &= \$297,422(365)/(\$712,564 + \$1,452,352) \\ \text{Average Age of Accounts Payable} &= 50.1 \end{aligned}$$

The payable turns are calculated using Eq. (6-11) as follows:

$$\text{Payable Turns} = 365/50.1 = 7.3$$

The average age of accounts payable is greater than 45 days, indicating that the company is slow to pay its bills. The average age of accounts payable is 15 days greater than its collection period—with retention included—which is an indication that the construction company is withholding payments from its suppliers and subcontractors even after the project's owner has paid them for the work. It is likely that the average age of accounts payable is overstated because the accounts receivable includes bills other than material and subcontractor construction costs. From Figure 2-3 we see that there were \$21,254 in equipment repairs and maintenance costs and \$29,245 in fuel and lubrication equipment costs. If we include these costs in our calculations, the average age of accounts payable drops to 49.0. Other costs that pass through the accounts payable account may be hidden in the general overhead and other areas of the income statement. The company needs to work on paying suppliers and subcontractors in a more timely fashion.

## ASSETS TO REVENUES RATIO

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Assets to revenues ratio is a measurement of how efficiently the company is using its assets. It is also known as the assets to sales ratio. The assets to revenues ratio is often expressed as a percentage and is calculated as follows:

$$\text{Assets to Revenues} = \text{Total Assets}/\text{Revenues} \quad (6-12)$$

**TABLE 6-7** Typical Assets to Revenues Ratios (percentages)

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	30	18–50
Commercial	30	20–55
Heavy and Highway	46	34–62
Specialty Trades	33	25–45

The recommended range for the ratio varies from industry to industry. Typical assets to revenues ratios for construction companies are shown in Table 6-7.

Companies with assets to revenues ratios above the upper end of the typical range may be performing too much work for their assets, which may be a sign of pending financial difficulties if left uncorrected. Companies with assets to revenues ratios below the lower end of the range are underutilizing their assets and should consider taking on more work. Heavy and Highway have a higher median assets to revenues ratio because of its extensive investment in construction equipment.

**Example 6-9:** Determine the assets to revenues ratio for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** Because we are comparing the value of an account on the balance sheet to an account on the income statement, we need to use the average of the beginning and ending balance for the account on the balance sheet. The average for the total assets is calculated as follows:

$$\text{Total Assets} = (\$1,024,039 + \$835,190)/2 = \$929,614$$

The assets to revenues ratio is calculated using Eq. (6-12) as follows:

$$\text{Assets to Revenues} = \$929,614/\$3,698,945 = 0.25 \text{ or } 25\%$$

The assets to revenues ratio is midway between the median and upper limit of the range for a commercial construction company. It does not appear that the company is performing too much work with its assets.

## WORKING CAPITAL TURNS

Working capital turns is a measurement of how efficiently a company is using its working capital. Working capital is defined as current assets less current liabilities and is calculated as follows:

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities} \quad (6-13)$$

**TABLE 6-8** Typical Working Capital Turns

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	11.4	25–5.8
Commercial	12.0	23–5.1
Heavy and Highway	8.7	16–4.9
Specialty Trades	8.3	15–5.1

The working capital represents those funds available for future operations or for the reduction of long-term liabilities. The working capital turns is also known as the revenues to net working capital ratio or sales to net working capital ratio. The working capital turns is calculated as follows:

$$\text{Working Capital Turns} = \text{Revenues/Working Capital} \quad (6-14)$$

When a company passes payments on from the owners to subcontractors, working capital is not used to pay subcontractors, and a better measurement of working capital turns is obtained by subtracting the subcontractor payments from the revenues as follows:

$$\begin{aligned} \text{Working Capital Turns} \\ = (\text{Revenues} - \text{Subcontractor})/\text{Working Capital} \end{aligned} \quad (6-15)$$

A firm with a high number of turns is undercapitalized and needs to reduce its level of sales or increase the availability of current assets. Typical working capital turns for construction companies are shown in Table 6-8.

**Example 6-10:** Determine the working capital turns for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** Because we are comparing the value of an account on the balance sheet to an account on the income statement, we need to use the average of the beginning and ending balance for the account on the balance sheet. The average of the company's working capital is calculated using Eq. (6-13) as follows:

$$\begin{aligned} \text{Working Capital} \\ = (\$690,720 + \$501,676)/2 - (\$423,907 + \$367,213)/2 \\ \text{Working Capital} = \$200,638 \end{aligned}$$

The working capital turn is calculated using Eq. (6-15) as follows:

$$\begin{aligned} \text{Working Capital Turns} &= (\$3,698,945 - \$1,452,352)/\$200,638 \\ \text{Working Capital Turns} &= 11.2 \end{aligned}$$

The working capital turns is slightly less than the average but well within the typical range. The company appears to be properly capitalized.

## ACCOUNTS PAYABLE TO REVENUES RATIO

The accounts payable to revenues ratio is a measurement of how much a company is using its suppliers and subcontractors as a source of funds. It is also known as accounts payable to sales. The accounts payable to revenues ratio is calculated as follows:

$$\text{Accounts Payable to Revenues} = \text{Accounts Payable} / \text{Revenues} \quad (6-16)$$

When calculating the accounts payable to revenues ratio, the accounts payable in the form of retention should be included because retention held from a supplier or subcontractor is a form of funding to the contractor.

The higher the percentage the greater the funding the company is receiving from its suppliers and subcontractors. Typical accounts payable to revenues ratios for construction companies are shown in Table 6-9.

**Example 6-11:** Determine the accounts payable to revenues ratio for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** Because we are comparing the value of an account on the balance sheet to an account on the income statement, we need to use the average of the beginning and ending balances for the account on the balance sheet. We include both accounts payable trade and accounts payable retention. The average for the accounts payable is calculated as follows:

$$\begin{aligned} \text{Accounts Payable} \\ &= [(\$325,458 + \$22,546) + (\$228,585 + \$18,254)] / 2 \\ \text{Accounts Payable} &= \$297,422 \end{aligned}$$

The accounts payable to revenues ratio is calculated using Eq. (6-16) as follows:

$$\begin{aligned} \text{Accounts Payable to Revenues} &= \$297,422 / \$3,698,945 = 0.080 \\ \text{Accounts Payable to Revenues} &= 8.0\% \end{aligned}$$

The accounts payable to revenues ratio is approximately equal to the median for a commercial construction company. The company is properly using its suppliers and subcontractors as a source of funding.

**TABLE 6-9** Typical Accounts Payable to Revenues Ratios (percentages)

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	4.2	2.0–7.6
Commercial	8.2	3.1–13.3
Heavy and Highway	5.7	2.8–9.7
Specialty Trades	4.7	2.6–8.0

**TABLE 6-10** Typical Gross Profit Margins (percentages)

INDUSTRY SECTOR	MEDIAN
Single-Family Residential	24
Commercial	16
Heavy and Highway	24
Specialty Trades	30

## GROSS PROFIT MARGIN

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The gross profit margin is the percentage of the revenues left after paying construction costs and equipment costs and is a measure of what percentage of each dollar of revenue is available to cover general overhead expenses and provide the company with a profit. It is also known as the gross profit ratio. The gross profit margin is calculated as follows:

$$\text{Gross Profit Margin} = \text{Gross Profit/Revenues} \quad (6-17)$$

Typical gross profit margins for construction companies are shown in Table 6-10.

**Example 6-12:** Determine the gross profit margin for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** The gross profit margin is calculated using Eq. (6-17) as follows:

$$\text{Gross Profit Margin} = \$512,488/\$3,698,945 = 0.139 \text{ or } 13.9\%$$

In this case, the gross profit margin may be read directly off of the income statement in Figure 2-3.

The company spent 86.1% of its revenues on construction costs and retained 13.9% of its revenues to cover overhead expenses and provide a profit for the company's shareholders. The company's gross profit margin is less than the median for commercial construction companies. The company needs to increase its profit and overhead markup or exercise better control over its construction costs.

## GENERAL OVERHEAD RATIO

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General overhead ratio is the percentage of the revenues used to pay the general overhead expense. It is also known as the general and administrative cost ratio. The general overhead ratio is calculated as follows:

$$\text{General Overhead} = \text{General Overhead/Revenues} \quad (6-18)$$

As a rule of thumb, the general overhead ratio for commercial construction companies should be less than 10%. Single-family residential construction companies' ratios would be higher when sales commissions are included in the general overhead.

**Example 6-13:** Determine the general overhead ratio for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** The general overhead ratio is calculated using Eq. (6-18) as follows:

$$\text{General Overhead Ratio} = \$422,562 / \$3,698,945 = 0.114 \text{ or } 11.4\%$$

In this case, the general overhead ratio may be read directly from the income statement in Figure 2-3.

The company spent 11.4% of its revenues on general overhead. Because the general overhead percentage is over 10% the company needs to decrease its general overhead expenses or increase its revenues without increasing the general overhead.

## PROFIT MARGIN

The profit margin is the percentage of the revenues that becomes profit and may be measured before or after income taxes. It is also known as the return on revenues or return on sales. The profit margin is a measurement of how well a construction company can withstand changes in the construction market, such as reduced prices, higher costs, and less demand. The pretax profit margin is calculated as follows:

$$\text{Pretax Profit Margin} = \text{Net Profit Before Taxes} / \text{Revenues} \quad (6-19)$$

A good target for a pretax profit margin is 5%. The pretax profit margin is discussed further in Chapter 10.

The after-tax profit margin is calculated as follows:

$$\text{After-Tax Profit Margin} = \text{Net Profit After Taxes} / \text{Revenues} \quad (6-20)$$

Typical after-tax profit margins for construction companies are shown in Table 6-11.

**TABLE 6-11** Typical After-Tax Profit Margins (percentages)

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	3.0	7.5–0.8
Commercial	1.9	8.1–0.5
Heavy and Highway	2.8	6.6–0.7
Specialty Trades	2.3	5.9–0.5

**Example 6-14:** Determine the pretax and after-tax profit margins for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** The pretax profit margin is calculated using Eq. (6-19) as follows:

$$\text{Pretax Profit Margin} = \$111,447 / \$3,698,945 = 0.030 \text{ or } 3.0\%$$

The after-tax profit margin is calculated using Eq. (6-20) as follows:

$$\text{After-Tax Profit Margin} = \$78,013 / \$3,698,945 = 0.021 \text{ or } 2.1\%$$

In this case, the pretax profit margin and after-tax profit margin may be read directly off of the income statement in Figure 2-3.

The pretax profit margin for the company is less than the recommended 5%. The after-tax profit margin is slightly less than the median for a commercial construction company but well within the range. The company needs to work on its profitability. This may be done by cutting costs or increasing the profit and overhead markup.

## RETURN ON ASSETS

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The return on assets is a measurement of how efficiently a construction company is using its assets and is often expressed as a percentage. The return on assets is calculated as follows:

$$\text{Return on Assets} = \text{Net Profit After Taxes} / \text{Total Assets} \quad (6-21)$$

Efficiently run companies will have a high return on assets, whereas companies that are poorly run will have a low return on assets. Typical returns on assets ratios for construction companies are shown in Table 6-12.

**Example 6-15:** Determine the return on assets for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** Because we are comparing the value of an account on the balance sheet to an account on the income statement, we need to use the average

**TABLE 6-12** Typical Return on Assets Ratios (percentages)

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	8.2	22-2.1
Commercial	5.6	21-1.5
Heavy and Highway	5.8	14-1.5
Specialty Trades	6.5	17-1.4

of the beginning and ending balances for the account on the balance sheet. The average for the total assets is calculated as follows:

$$\text{Total Assets} = (\$1,024,039 + \$835,190)/2 = \$929,614$$

The return on assets ratio is calculated using Eq. (6-21) as follows:

$$\text{Return on Assets} = \$78,013/\$929,614 = 0.084 \text{ or } 8.4\%$$

The return on assets for the company is better than the median for a commercial construction company but well below the upper end of the range. Improvement in the after-tax profit margin will help increase this percentage.

## RETURN ON EQUITY

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Return on equity is the return the company's shareholders received on their invested capital. It is also known as return on investment. The return on equity may be measured before or after income tax. The pretax return on equity is calculated as follows:

$$\text{Pretax Return on Equity} = \text{Net Profit Before Taxes/Equity} \quad (6-22)$$

A good target for the pretax return on equity is 15%. The after-tax return on equity is calculated as follows:

$$\text{After-Tax Return on Equity} = \text{Net Profit After Taxes/Equity} \quad (6-23)$$

Typical after-tax returns on equity ratios for construction companies are shown in Table 6-13.

Pretax and after-tax returns for a construction company should be greater than the pretax or after-tax returns of investing the capital in the stock market or other saving instruments.

**Example 6-16:** Determine the pretax return on equity and after-tax return on equity for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** Because we are comparing the value of an account on the balance sheet to an account on the income statement, we need to use the average of

**TABLE 6-13** Typical Return on Equity (percentages)

INDUSTRY SECTOR	MEDIAN	RANGE
Single-Family Residential	24.7	60–7.4
Commercial	15.1	53–4.2
Heavy and Highway	12.8	29–3.5
Specialty Trades	14.3	37–3.6

the beginning and ending balances for the account on the balance sheet. The average for the equity is calculated as follows:

$$\text{Equity} = (\$446,917 + \$368,904)/2 = \$407,910$$

The pretax return on equity is calculated using Eq. (6-22) as follows:

$$\text{Pretax Return on Equity} = \$111,447/\$407,910 = 0.273 \text{ or } 27.3\%$$

The after-tax return on equity is calculated using Eq. (6-23) as follows:

$$\text{After-Tax Return on Equity} = \$78,013/\$407,910 = 0.191 \text{ or } 19.1\%$$

The after-tax return on equity for the company is better than the median for a commercial construction company but well below the upper end of the range. Improvement in the after-tax profit margin will help increase this percentage.

## DEGREE OF FIXED ASSET NEWNESS

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The degree of fixed asset newness is a measurement of how new a company's assets are. The degree of fixed asset newness is calculated as follows:

$$\text{Degree of Fixed Asset Newness} = \text{Net Fixed Assets}/\text{Total Fixed Assets} \quad (6-24)$$

Remembering that the net fixed assets equals the total assets at their purchase price less the depreciation taken, the degree of fixed asset newness represents the percentage of the asset's original value that has not depreciated. Land should not be used in these calculations because land does not depreciate. The depreciation method used for the financial statement will have a great effect on this ratio, the faster the depreciation the lower the ratio. For a company with a single fixed asset, when the asset is first purchased the company's degree of fixed asset newness would be 100%. When the asset has been completely depreciated, the company's degree of asset newness would be 0%. A good target range for a construction company is between 60% and 40% or near the middle. A company with a degree of fixed asset newness ratio greater than 60% would have a lot of new, shiny equipment, which is often accompanied by large loan payments and represents a large investment of capital in equipment. A company with a degree of fixed asset newness ratio less than 40% would have a lot of older equipment, often indicating that the company will need to invest heavily in fixed assets to maintain its operations. As a reminder, the depreciation method used when preparing the financial statements should be matched to the actual depreciation of the equipment. It is possible to replace all of a company's equipment in the eighth month of its tax year, use the special depreciation allowances, and end the year with a degree of fixed asset newness ratio near zero—even though its equipment is only four months old—by using its tax depreciation when preparing the financial statements.

**Example 6-17:** Determine the degree of fixed asset newness for the commercial construction company in Figures 2-2 and 2-3. What insight does this give you into the company's financial operations?

**Solution:** Deducting the value of the land from the net fixed assets, we get

$$\text{Net Fixed Assets} = \$154,775 - \$72,000 = \$82,775$$

Deducting the value of the land from the total fixed assets, we get

$$\text{Total Fixed Assets} = \$379,287 - \$72,000 = \$307,287$$

The degree of fixed asset newness is calculated using Eq. (6-24) as follows:

$$\text{Degree of Fixed Asset Newness} = \$82,775 / \$307,287 = 0.269$$

$$\text{Degree of Fixed Asset Newness} = 26.9\%$$

The degree of fixed asset newness is below 40%. The company's fixed assets are getting old and will need to be replaced soon.

## CONCLUSION

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The withholding of retention is common in the construction industry. When retention is withheld, the accounts receivable is separated into two categories, one for retention and for the rest of the accounts receivable. Accounts payable are similarly split into two accounts. The standard financial ratios must be modified to take retention into account. The retention portion of the accounts receivable is ignored when calculating the quick ratio and the collection period used measuring the effectiveness of the company's collection efforts.

Subcontractors are used as a source of capital for construction companies. As a result, when calculating the working capital turns, the revenues are reduced by the amount of money that is paid to the subcontractor when the contractor gets paid by the owner.

## PROBLEMS

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1. Determine the quick ratio for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
2. Determine the current ratio for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
3. Determine the current liabilities to net worth ratio for the construction company in Figure 6-1 and 6-2. What insight does this give you into the company's financial operations?
4. Determine the debt to equity ratio for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?

<b>WEST MOUNTAIN CONSTRUCTION</b>		
<b>BALANCE SHEET</b>		
	Current Year	Last Year
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash	32,387	34,826
Accounts Receivable - Trade	74,526	38,212
Accounts Receivable - Retention	6,888	4,235
Inventory	0	0
Costs and Profits in Excess of Billings	9,177	4,549
Notes Receivable	3,139	0
Prepaid Expenses	735	1,061
Other Current Assets	3,114	1,119
<b>Total Current Assets</b>	<b>129,966</b>	<b>84,002</b>
<b>FIXED AND OTHER ASSETS</b>		
Construction Equipment	39,229	39,229
Trucks and Autos	8,981	8,981
Office Equipment	8,057	8,057
<b>Total Fixed Assets</b>	<b>56,267</b>	<b>56,267</b>
Less Acc. Depreciation	46,562	39,889
Net Fixed Assets	9,705	16,378
Other Assets	45,996	50,462
<b>Total Assets</b>	<b>185,667</b>	<b>150,842</b>
<b>LIABILITIES</b>		
<b>Current Liabilities</b>		
Accounts Payable - Trade	38,682	35,772
Accounts Payable - Retention	3,768	3,536
Billings in Excess of Costs and Profits	1,424	2,022
Notes Payable	4,022	5,791
Accrued Payables	4,574	2,254
Accrued Taxes	2,718	2,405
Accrued Vacation	606	308
Other Current Liabilities	6,605	5,330
<b>Total Current Liabilities</b>	<b>62,399</b>	<b>57,418</b>
Long-Term Liabilities	61,544	48,916
<b>Total Liabilities</b>	<b>123,943</b>	<b>106,334</b>
<b>OWNER'S EQUITY</b>		
Capital Stock	10,000	10,000
Retained Earnings	51,724	34,508
Current Period Net Income	0	0
<b>Total Equity</b>	<b>61,724</b>	<b>44,508</b>
<b>Total Liabilities and Equity</b>	<b>185,667</b>	<b>150,842</b>

FIGURE 6-1 Balance Sheet for West Mountain Construction

**FIGURE 6-2** Income Statement for West Mountain Construction

<b>WEST MOUNTAIN CONSTRUCTION INCOME STATEMENT</b>	
REVENUES	789,839
<b>CONSTRUCTION COSTS</b>	
Materials	92,214
Labor	199,690
Subcontract	401,948
Equipment	20,833
Other	1,352
Total Construction Costs	<u>716,037</u>
<b>EQUIPMENT COSTS</b>	
Rent and Lease Payments	3,773
Depreciation	6,673
Repairs and Maintenance	2,734
Fuel and Lubrication	7,289
Taxes, Licenses, and Insurance	364
Equipment Costs Charged to Jobs	<u>20,833</u>
Total Equipment Costs	0
GROSS PROFIT	73,802
OVERHEAD	53,827
NET PROFIT FROM OPERATIONS	<u>19,975</u>
OTHER INCOME AND EXPENSE	1,162
PROFIT BEFORE TAXES	<u>21,137</u>
INCOME TAX	3,921
PROFIT AFTER TAXES	<u><u>17,216</u></u>

5. Determine the fixed assets to net worth ratio for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
6. Determine the current assets to total assets ratio for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
7. Determine the collection period—with and without retention—and receivable turns for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
8. Determine the average age of accounts payable and payable turns for the construction company in Figures 6-1 and 6-2. Use only the material and subcontract construction costs to calculate the average of accounts payable. What insight does this give you into the company's financial operations?

9. Determine the assets to revenues ratio for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
10. Determine the working capital turns for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
11. Determine the accounts payable to revenues ratio for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
12. Determine the gross profit margin for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
13. Determine the general overhead ratio for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
14. Determine the pretax and after-tax profit margins for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
15. Determine the return on assets for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
16. Determine the pretax return on equity and after-tax return on equity for the construction company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
17. Determine the degree of fixed asset newness for the commercial company in Figures 6-1 and 6-2. What insight does this give you into the company's financial operations?
18. Determine the quick ratio for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
19. Determine the current ratio for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
20. Determine the current liabilities to net worth ratio for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
21. Determine the debt to equity ratio for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
22. Determine the fixed assets to net worth ratio for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
23. Determine the current assets to total assets ratio for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?

<b>EASTSIDE CONTRACTORS BALANCE SHEET</b>		
	Current Year	Last Year
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash	118,626	78,470
Accounts Receivable-Trade	243,300	171,734
Accounts Receivable-Retention	12,905	12,929
Inventory	0	0
Costs and Profits in Excess of Billings	17,507	10,562
Notes Receivable	6,441	0
Prepaid Expenses	3,398	2,463
Other Current Assets	6,228	3,792
<b>Total Current Assets</b>	<u>408,405</u>	<u>279,950</u>
<b>FIXED AND OTHER ASSETS</b>		
Land	46,000	46,000
Buildings	60,006	60,006
Construction Equipment	56,727	56,727
Trucks and Autos	31,159	31,159
Office Equipment	35,193	35,193
<b>Total Fixed Assets</b>	<u>229,085</u>	<u>229,085</u>
Less Acc. Depreciation	133,314	112,393
<b>Net Fixed Assets</b>	<u>95,771</u>	<u>116,692</u>
Other Assets	110,345	115,952
<b>Total Assets</b>	<u><u>614,521</u></u>	<u><u>512,594</u></u>
<b>LIABILITIES</b>		
<b>Current Liabilities</b>		
Accounts Payable-Trade	191,046	142,789
Accounts Payable-Retention	14,945	10,159
Billings in Excess of Costs and Profits	2,961	7,935
Notes Payable	8,330	13,293
Accrued Payables	9,278	11,394
Accrued Taxes	6,294	4,985
Accrued Vacation	1,960	1,802
Other Current Liabilities	16,973	23,863
<b>Total Current Liabilities</b>	<u>251,787</u>	<u>216,220</u>
Long-Term Liabilities	81,668	49,781
<b>Total Liabilities</b>	<u>333,455</u>	<u>266,001</u>
<b>OWNER'S EQUITY</b>		
Capital Stock	10,000	10,000
Retained Earnings	271,066	236,593
Current Period Net Income	0	0
<b>Total Equity</b>	<u>281,066</u>	<u>246,593</u>
<b>Total Liabilities and Equity</b>	<u><u>614,521</u></u>	<u><u>512,594</u></u>

**FIGURE 6-3** Balance Sheet for Eastside Contractors

**FIGURE 6-4** Income Statement for Eastside Contractors

<b>EASTSIDE CONTRACTORS INCOME STATEMENT</b>	
REVENUES	2,225,379
<b>CONSTRUCTION COSTS</b>	
Materials	414,840
Labor	564,783
Subcontract	932,250
Equipment	68,506
Other	2,761
Total Construction Costs	1,983,140
<b>EQUIPMENT COSTS</b>	
Rent and Lease Payments	21,654
Depreciation	18,203
Repairs and Maintenance	10,805
Fuel and Lubrication	16,982
Taxes, Licenses, and Insurance	862
Equipment Costs Charged to Jobs	68,506
Total Equipment Costs	0
GROSS PROFIT	242,239
OVERHEAD	207,805
NET PROFIT FROM OPERATIONS	<u>34,434</u>
OTHER INCOME AND EXPENSE	7,813
PROFIT BEFORE TAXES	<u>42,247</u>
INCOME TAX	7,774
PROFIT AFTER TAXES	<u><u>34,473</u></u>

24. Determine the collection period—with and without retention—and receivable turns for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
25. Determine the average age of accounts payable and payable turns for the construction company in Figures 6-3 and 6-4. Use only the material and subcontract construction costs to calculate the average of accounts payable. What insight does this give you into the company's financial operations?
26. Determine the assets to revenues ratio for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
27. Determine the working capital turns for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?

28. Determine the accounts payable to revenues ratio for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
29. Determine the gross profit margin for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
30. Determine the general overhead ratio for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
31. Determine the pretax and after-tax profit margins for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
32. Determine the return on assets for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
33. Determine the pretax return on equity and after-tax return on equity for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
34. Determine the degree of fixed asset newness for the construction company in Figures 6-3 and 6-4. What insight does this give you into the company's financial operations?
35. Setup a spreadsheet to calculate the financial ratios for Examples 6-1 to 6-17 for the company in Figures 2-2 and 2-3.