

# Introduction

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This report presents a detailed but straightforward analysis of the financial and operational characteristics of NTCA firms. Results were based on the data provided by 59 participants. The tables and graphs contained in this report are designed to provide comprehensive, yet straightforward guidelines for analyzing profitability among NTCA tile contractors.

## Report Format

This report is organized into the following sections to assist specific areas of inquiry. Throughout this report, "N/A" designates results that are not available due to a limited sample size.

- **Executive Summary**

The summary presents an overview of study results with an emphasis on the differences between the typical firm and the high profit company.

- **Detailed Results**

Detailed results presents an in-depth analysis of return on investment, the income statement, the balance sheet, and financial and productivity ratios. Commentary and supporting graphs focus on these results.

- **Appendix**

The appendix presents an overview of survey methodology and a summary of ratio calculations.

## Explanation of Statistics

- **Medians**

Most of the figures presented in this report are based on median results. A median value is the middle value in the sorted list of all reported values. Unlike averages (means), medians are not influenced by extreme highs or lows. Medians are, therefore, the preferred statistic for this analysis since they best represent a typical firm's results.

- **High Profit Firms**

The high profit category includes the top firms based on pre-tax profitability.

- **FIFO Adjustment**

If LIFO reserve data were collected, firms were adjusted to FIFO impacting cost of goods, gross margin, and inventory.

- **Averages for Inventory, Accounts Receivable, and Accounts Payable**

If available, ratio calculations use average values for inventory, accounts receivable, and accounts payable.

# Executive Summary

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Financial performance varied widely within the industry in 2007. The results show that the typical firm had sales of \$2,875,532 and a pre-tax profit of 3.8 percent. High-profit firms had sales of \$6,576,803, and profit of 15.9 percent. Of greatest consequence, the typical firm had a pre-tax return on assets (profit before taxes expressed as a percentage of total assets) of 14.4 percent. For the high profit firm return on assets was 50.9 percent.

A number of factors led to the differences in results. In most instances these differences can best be illustrated by what are commonly called the critical profit variables (CPVs). The following exhibit compares the typical and the high profit firm on the critical profit variables.

## The Critical Profit Variables

	<b>Typical NTCA Contractor</b>	<b>High Profit NTCA</b>
<b>Sales per Employee</b> Measures employee productivity	\$130,595	\$141,143
<b>Gross Margin Percentage</b> Reflects the ability to manage COGS effectively	33.8%	38.3%
<b>Operating Expense Percentage</b> Focuses on expense control	29.7%	23.0%
<b>Average Collection Period (days)</b> Reflects accounts receivable collection practices	58.7	67.7

High profit firms seldom perform better in all of the critical profit variables. Instead, it is the sum-total of their CPV performance that produces better overall results. Since these differences can dramatically improve operating performance it is important that every firm is aware of their impact. The following exhibit presents the results for the typical firm compared with the results for high profit firms.

## An Overview of Financial Results

	<b>Typical NTCA Contractor</b>	<b>High Profit NTCA</b>
<b>Income Statement</b>		
<b>Net Sales</b>	\$2,875,532	\$6,576,803
<b>Cost of Goods Sold</b>	<u>1,903,602</u>	<u>4,057,888</u>
<b>Total Gross Margin</b>	971,930	2,518,915
<b>Operating Expenses</b>	<u>854,033</u>	<u>1,512,664</u>
<b>Operating Profit</b>	117,897	1,006,251
<b>Other Income/Expenses</b>	<u>-8,627</u>	<u>39,461</u>
<b>Profit Before Taxes</b>	\$109,270	\$1,045,712
<b>Assets</b>		
<b>Cash</b>	\$72,645	\$581,636
<b>Accounts Receivable</b>	460,136	1,219,862
<b>Inventory</b>	41,612	95,080
<b>All Other Assets</b>	<u>182,326</u>	<u>158,673</u>
<b>Total Assets</b>	\$756,719	\$2,055,251
<b>Return on Assets</b>	14.4%	50.9%

# Executive Summary

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	Typical NTCA <u>Contractor</u>	High Profit NTCA
<b>Typical Sales Volume</b>	\$2,875,532	\$6,576,803
<b>Sales Change</b> (2007 vs. 2006)	11.3%	14.5%

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## Strategic Profit Model Ratios

Profit Margin (pre-tax)	3.8%	15.9%
Asset Turnover	3.8	3.2
Return on Assets (pre-tax)	14.4%	50.9%
Financial Leverage	1.5	1.2
Return on Net Worth (pre-tax)	21.6%	61.1%

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## Income Statement

<b>Net Sales</b>	<b>100.0%</b>	<b>100.0%</b>
Cost of Goods Sold	<u>66.2</u>	<u>61.7</u>
<b>Gross Margin</b>	<b>33.8</b>	<b>38.3</b>
<b>Operating Expenses</b>		
Payroll Expenses	18.5	13.4
Occupancy Expenses	2.5	2.1
Other Operating Expenses	<u>8.7</u>	<u>7.5</u>
<b>Total Operating Expenses</b>	<b>29.7</b>	<b>23.0</b>
<b>Operating Profit</b>	<b>4.1</b>	<b>15.3</b>
Other Income/Expenses	<u>-0.3</u>	<u>0.6</u>
<b>Profit Before Taxes</b>	<b>3.8%</b>	<b>15.9%</b>

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## Financial Ratios

Current Ratio	2.8	6.5
Quick Ratio	2.5	5.9
Average Collection Period (days)	58.7	67.7
Accounts Payable Payout Period (days)	36.1	19.3
Debt to Equity	0.5	0.2
EBIT to Total Assets	16.0%	51.2%
Times Interest Earned	10.5	160.0

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## Cash Sufficiency Ratios

Cash to Current Liabilities	33.3%	226.4%
Defensive Interval (days)	15.0	31.9

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## Employee Productivity Ratios

Sales per Employee	\$130,595	\$141,143
Gross Margin per Employee	\$42,799	\$52,041
Payroll per Employee	\$50,506	\$38,898
Total Personnel Expenses	43.4%	34.2%
Personnel Productivity Ratios	33.3%	226.4%

# Return on Investment

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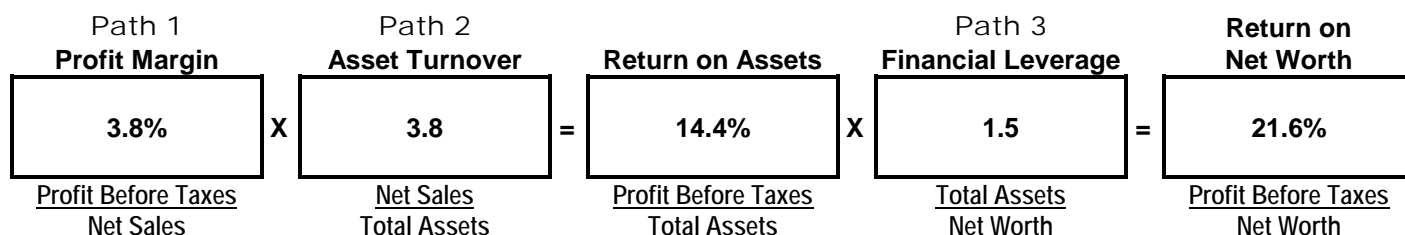
Return on investment is the most meaningful way to evaluate overall company profitability. It is important to understand how return on investment is calculated and how it can be improved. The elements of a complete return on investment analysis are shown in the table on the facing page.

## Strategic Profit Model

There are two distinct return on investment measures: return on assets and return on net worth. **Return on Assets** looks at the economic viability of the firm. **Return on Net Worth** (or Return on Owner Equity) examines the return being generated for the firm's owners. Each has its own value in analyzing performance.

These two return on investment ratios are driven by three performance ratios: **Profit Margin**, **Asset Turnover** and **Financial Leverage**. Each of these represents a different strategy, or profitability pathway, to improve return on investment.

These five ratios can be combined into what is commonly called the **Strategic Profit Model**. It is simply a graphical representation of a comprehensive return on investment analysis. The strategic profit model is shown below using figures for the typical NTCA member.



**Path 1: Profit Margin = Profit Before Taxes ÷ Net Sales x 100**—The first, and most important, profitability pathway is profit margin management. In the figure above, a profit margin of 3.8 percent means that for every \$1.00 of sales the company was able to produce 3.8¢ in profit before taxes. Profit margin management focuses on sales productivity, gross margin management and operating expense control.

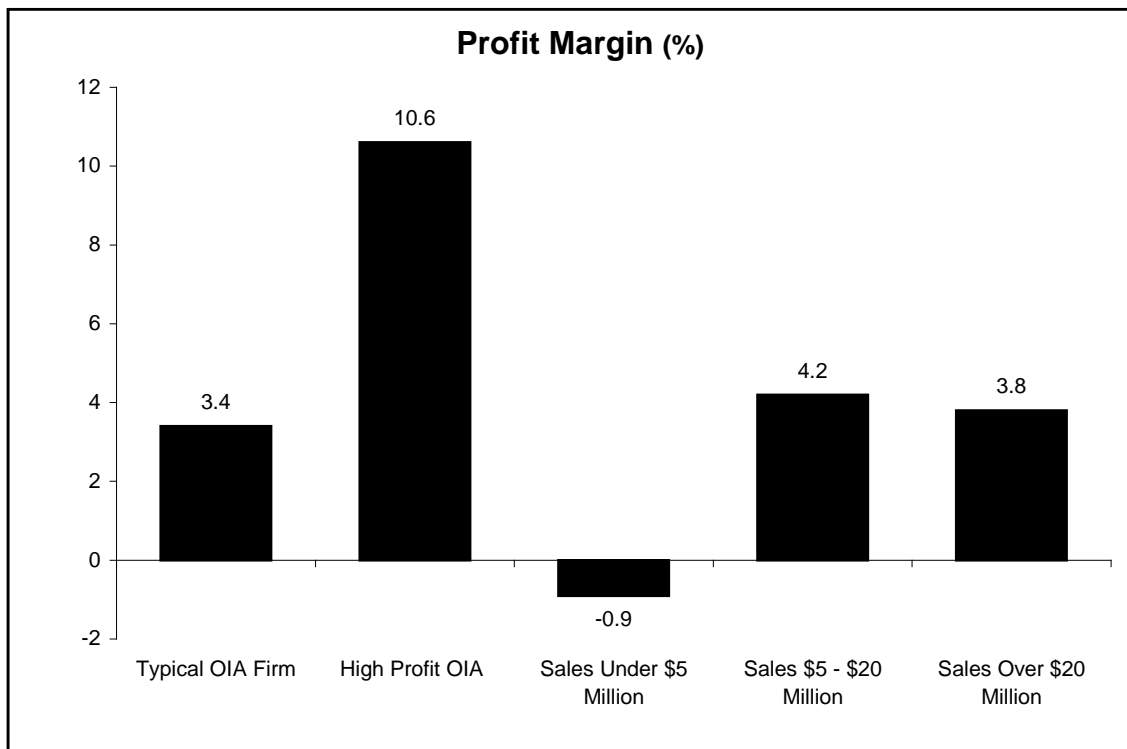
**Path 2: Asset Turnover = Net Sales ÷ Total Assets**—Asset turnover reflects the sales the firm produces per dollar invested in assets. The ratio of 3.8 means that the firm is able to generate \$3.80 in sales for every \$1.00 in assets. If a firm's assets, that is cash, accounts receivable, inventory, property, equipment, and all other assets can be used as efficiently as possible, then a maximum amount of sales can be generated from a given asset investment.

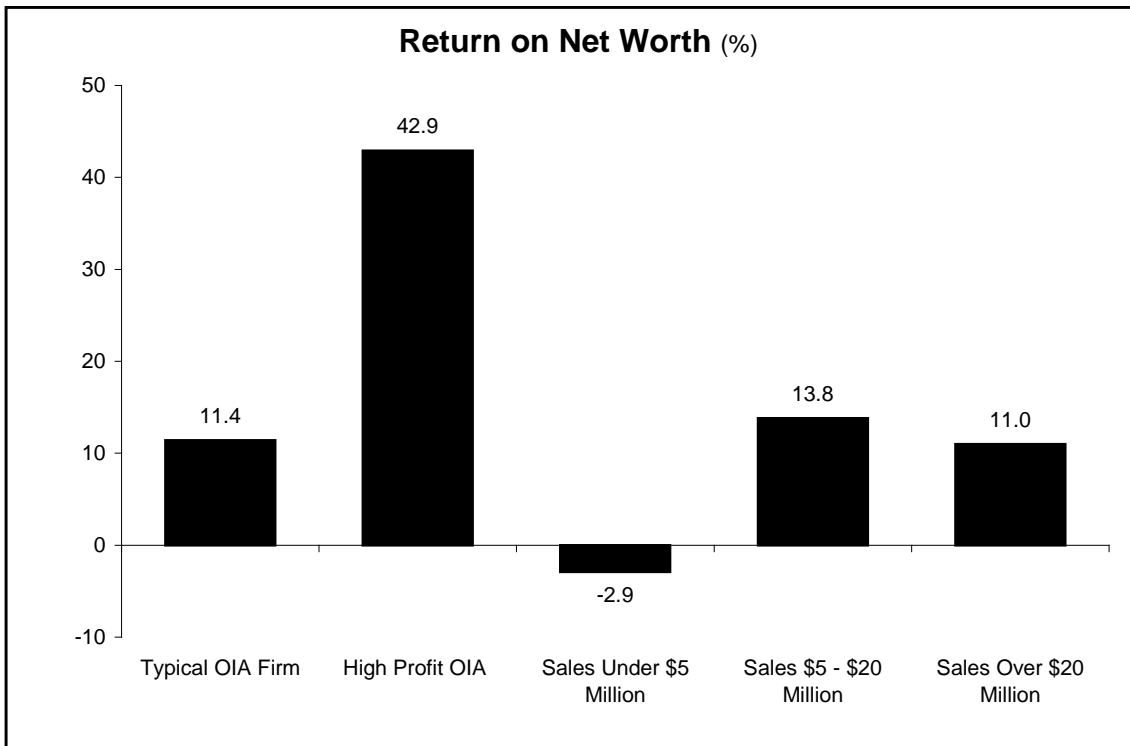
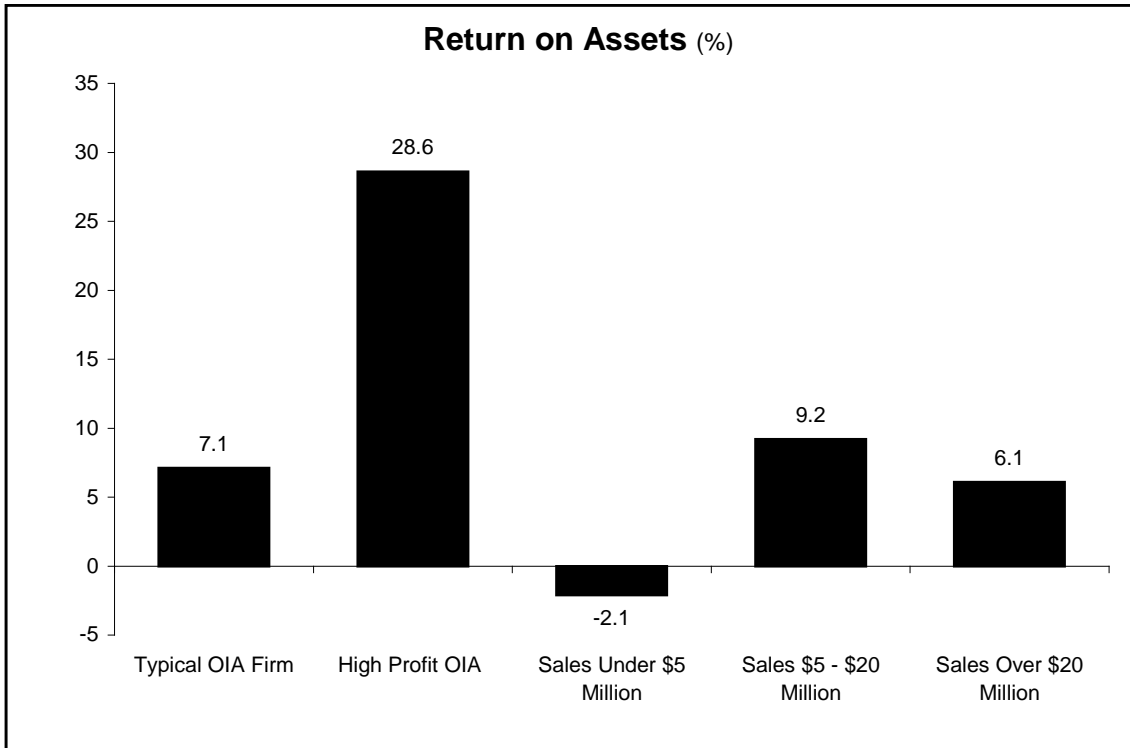
**Return on Assets = Profit Before Taxes ÷ Total Assets x 100**—Return on assets (ROA) is the direct result of the first two pathways; profit margin multiplied by asset turnover. This measure of performance is a good indicator of the firm's ability to survive and prosper. The pre-tax return on assets ratio should at least equal the cost of capital. For the typical NTCA member ROA is 14.4 percent.

**Path 3: Financial Leverage = Total Assets ÷ Net Worth**—Financial leverage measures the total dollars of assets per dollar of net worth. The ratio measures the extent to which the firm uses outside (non-owner) financing. The higher the ratio, the more the firm relies on outside financing. The ratio of 1.5 times suggests that for every \$1.00 in net worth, the firm had \$1.50 in total assets. If the owners put up \$1.00 of every \$1.50 in total assets, then outsiders put up the remaining \$0.50.

**Return on Net Worth = Profit Before Taxes ÷ Net Worth x 100**—The end result of the three profitability pathways is return on net worth. It is seldom possible to generate an adequate rate of return on net worth by emphasizing just one of the profitability pathways. Each pathway should be examined carefully for improvement opportunities and then trade-offs made in order to increase overall profitability. An improvement plan should not be based upon any single measure of performance, but be developed with the complete picture in mind, i.e., the impact on return on net worth. The typical NTCA member has a return on net worth of 21.6 percent; that is, for every \$1.00 of net worth, the firm produced 21.6¢ of profit before taxes. Companies must earn an adequate return on investment to satisfy the owners' needs.

Strategic Profit Model Ratios	Typical NTCA Contractor	High Profit NTCA	Sales Under \$2.5 Million	Sales \$2.5 - \$5 Million	Sales Over \$5 Million
Profit Margin (pre-tax)	3.8%	15.9%	2.3%	3.2%	6.0%
Asset Turnover	3.8	3.2	7.9	3.2	3.1
Return on Assets (pre-tax)	14.4%	50.9%	18.2%	10.2%	18.6%
Financial Leverage	1.5	1.2	1.4	1.7	1.6
Return on Net Worth (pre-tax)	21.6%	61.1%	25.5%	17.3%	29.8%

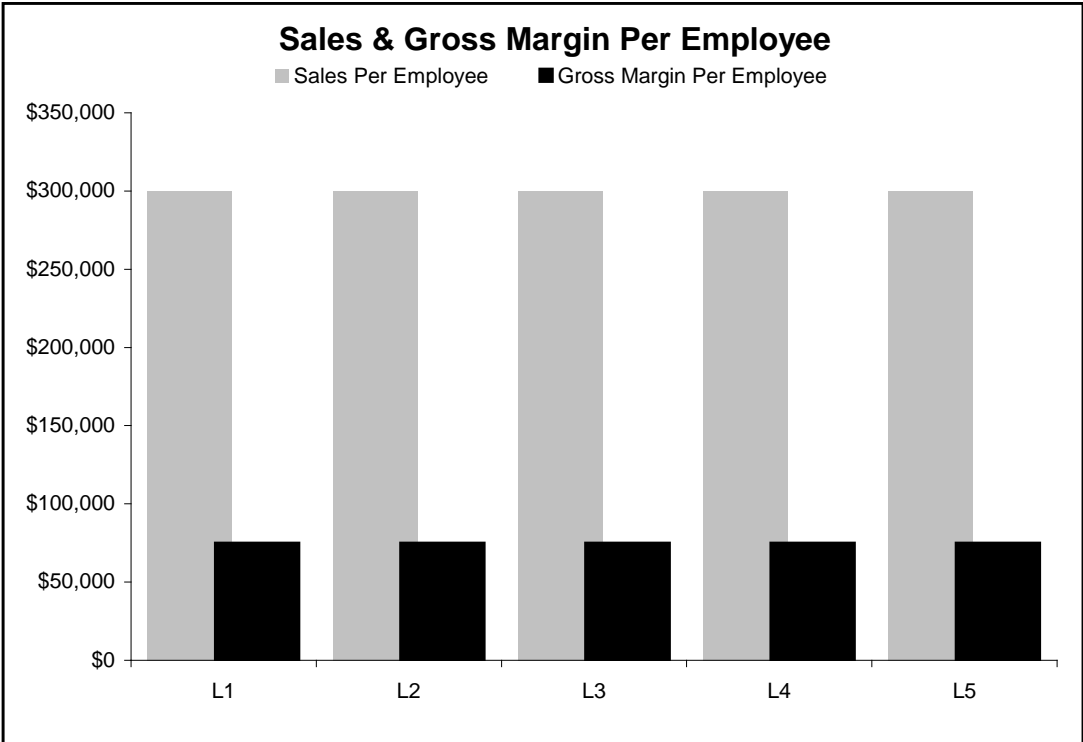
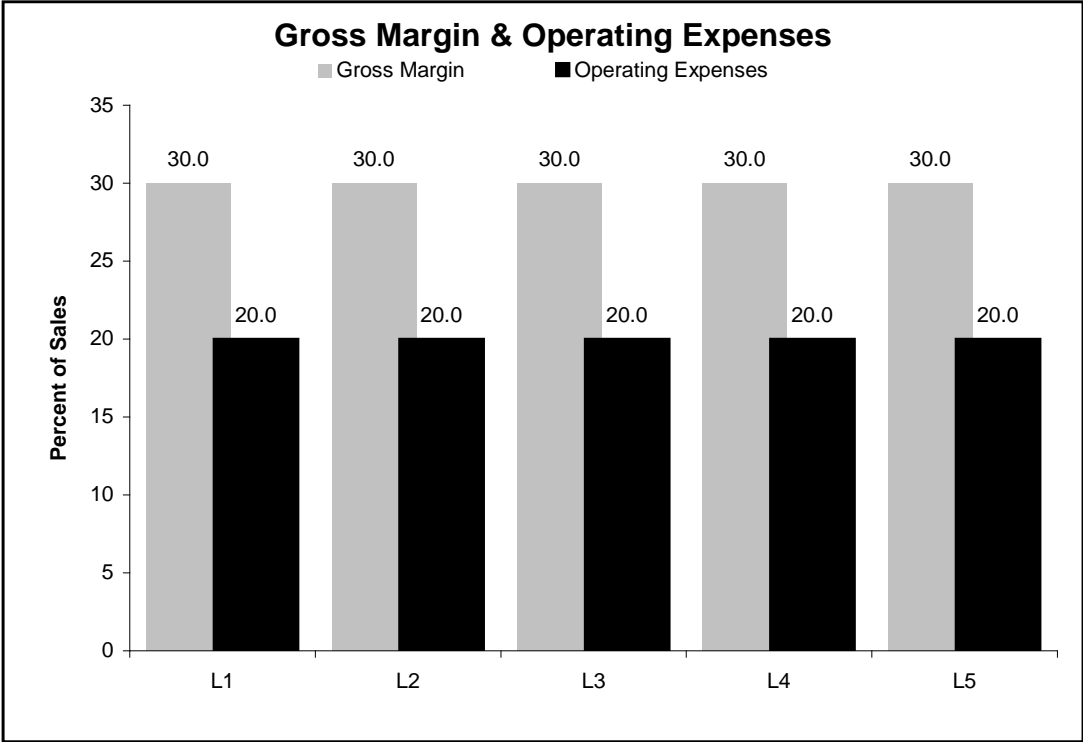




# Income Statement

The income statement reflects the ability of management to generate sales, produce a reasonable margin on those sales, control expenses and earn an equitable profit. Thus, it serves as the primary scorecard of management's effectiveness.

	Typical NTCA Contractor	High Profit NTCA	Sales Under \$2.5 Million	Sales \$2.5 - \$5 Million	Sales Over \$5 Million
Number of Firms Reporting	59	15	26	13	19
Typical Sales Volume	\$2,875,532	\$6,576,803	\$1,178,133	\$3,444,238	\$7,523,809
Sales Change (2007 vs. 2006)	11.3%	14.5%	2.0%	14.5%	16.8%
<b>Net Sales</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Factory Cost of Shipments</b>					
Material Costs	36.2	33.6	35.1	38.2	35.6
Direct Production Employees	24.9	20.8	22.0	27.7	22.4
Indirect Plant Employees	24.9	20.8	22.0	27.7	22.4
Plant Depreciation and Amortization	24.9	20.8	22.0	27.7	22.4
All Other Factory Costs	5.1	7.3	6.6	3.6	8.1
<b>Total Factory Cost of Shipments</b>	<b>66.2</b>	<b>61.7</b>	<b>63.7</b>	<b>69.5</b>	<b>66.1</b>
<b>Gross Margin</b>	<b>33.8</b>	<b>38.3</b>	<b>36.3</b>	<b>30.5</b>	<b>33.9</b>
<b>Payroll Expenses</b>					
Sales Salaries & Commissions	2.2	1.6	0.0	3.7	2.6
Engineering/Design/Drafting Salaries & Bonuses	4.9	3.4	8.8	4.8	3.3
Quality Control Salaries & Bonuses	4.9	3.4	8.8	4.8	3.3
Administration Salaries & Bonuses	4.9	3.4	8.8	4.8	3.3
All Other Salaries, Wages & Bonuses	5.5	4.4	4.9	3.3	6.1
Total Salaries, Wages & Bonuses	12.6	9.4	13.7	11.8	12.0
Payroll Taxes (FICA, workers' comp. & unemp.)	3.6	2.7	3.9	4.2	3.0
Group Insurance (medical, hospitalization, etc.)	2.0	1.1	3.0	1.1	1.3
Employee Benefits (profit sharing, pension, etc.)	0.3	0.2	0.3	0.3	0.4
<b>Total Payroll Expenses</b>	<b>18.5</b>	<b>13.4</b>	<b>20.9</b>	<b>17.4</b>	<b>16.7</b>
<b>Occupancy Expenses</b>					
Utilities (heat, light, power, water)	0.3	0.2	0.4	0.3	0.2
Telephone	0.4	0.4	0.7	0.4	0.4
Building Repairs and Maintenance	0.4	0.4	0.7	0.4	0.4
Rent or Ownership in Real Estate	1.8	1.5	1.7	1.5	1.7
<b>Total Occupancy Expenses</b>	<b>2.5</b>	<b>2.1</b>	<b>2.8</b>	<b>2.2</b>	<b>2.3</b>
<b>Other Operating Expenses</b>					
Manufacturers' Sales Rep Agency Commissions	0.2	0.0	0.0	N/A	0.2
Travel and Entertainment Expenses	0.7	0.8	0.7	0.3	1.0
Professional Fees	2.1	1.6	2.9	1.1	1.6
Advertising & Promotion	0.3	0.2	0.5	0.1	0.2
General Insurance (business liability & casualty)	1.2	0.8	1.5	1.4	0.8
General Taxes	0.9	1.1	1.0	1.0	0.8
Bad Debt Losses	0.1	0.1	0.1	0.4	0.1
Product Liability Costs	0.1	0.1	0.1	0.4	0.1
All Other Operating Expenses	3.2	2.9	3.3	2.7	4.0
<b>Total Other Operating Expenses</b>	<b>8.7</b>	<b>7.5</b>	<b>10.0</b>	<b>7.4</b>	<b>8.7</b>
<b>Total Operating Expenses</b>	<b>29.7</b>	<b>23.0</b>	<b>33.7</b>	<b>27.0</b>	<b>27.7</b>
<b>Operating Profit</b>	<b>4.1</b>	<b>15.3</b>	<b>2.6</b>	<b>3.5</b>	<b>6.2</b>
Other Income	0.1	0.7	0.0	0.3	0.3
Interest Expense	0.4	0.1	0.3	0.6	0.5
Other Non-operating Expenses	0.0	0.0	0.0	0.0	0.0
<b>Profit Before Taxes</b>	<b>3.8%</b>	<b>15.9%</b>	<b>2.3%</b>	<b>3.2%</b>	<b>6.0%</b>



# Balance Sheet

The balance sheet is an underutilized financial statement. If properly analyzed, it provides significant insights into the financial structure of the firm. This page examines the composition of the balance sheet while the pages that follow derive some key ratios from the balance sheet information.

Both the assets and liabilities sides of the balance sheet offer insights into the investment posture of the business. The assets side reflects where investments are made. The liabilities side identifies which business stakeholders made the investment.

## Assets

The bulk of the asset investment for most companies is in cash and accounts receivable. For the typical NTCA member, these two represent 9.6 percent of assets and 62.8 percent of assets respectively. The importance of these two factors in maintaining financial liquidity cannot be overstated. Several financial ratios to be discussed will focus on how well these two asset categories are utilized.

## Liabilities and Net Worth

Liabilities and net worth represent the two methods of funding assets. Two items are of special significance in this section of the balance sheet. These include (1) the ability of the firm to make use of interest-free financing, and (2) the level of financial conservatism employed.

Accounts payable represents an interest-free source of capital for the firm. In most cases firms are trying to use accounts payable to finance a major portion of their inventory investment. This involves both efforts to turn the inventory faster and efforts to negotiate longer credit terms. Given the small size of the inventory investment, firms are probably already doing all that they can with regard to accounts payable financing.

The amount of net worth or owner equity on the balance sheet indicates the financial conservatism of the firm. Net worth is the sum of the owners' paid-in capital, plus loans from owners, plus all earnings retained in the business. For financially conservative companies net worth is typically fifty percent of total assets, or higher. Once net worth begins to exceed sixty percent of total assets, the firm is moving to the point of being overly conservative. If net worth exceeds sixty percent of total assets the firm is simply not employing debt in a way that would allow them to take advantage of all expansion opportunities.

	Typical NTCA Contractor	High Profit NTCA	Sales Under \$2.5 Million	Sales \$2.5 - \$5 Million	Sales Over \$5 Million
<b>Typical Total Assets</b>	\$756,719	\$2,055,251	\$149,131	\$1,076,324	\$2,427,035
<b>Assets</b>					
Cash & Marketable Securities	9.6%	28.3%	12.6%	4.7%	11.6%
Accounts Receivable	62.8	45.5	36.4	70.4	71.5
Inventory	1.8	2.5	2.5	2.8	2.5
Other Current Assets	6.2	5.0	5.8	6.7	5.6
Total Current Assets	80.4	81.3	57.3	84.6	91.2
Gross Fixed Assets	80.4	81.3	57.3	84.6	91.2
Accumulated Depreciation	19.6	18.7	42.7	15.4	8.8
Net Fixed Assets	80.4	81.3	57.3	84.6	91.2
Other Noncurrent Assets	19.6	18.7	42.7	15.4	8.8
Total Assets	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Liabilities and Net Worth</b>					
Accounts Payable	12.7%	7.3%	13.0%	16.0%	12.0%
Notes Payable	0.6	0.9	0.0	5.5	2.8
Other Current Liabilities	15.5	4.3	5.4	16.2	17.7
Total Current Liabilities	28.8	12.5	18.4	37.7	32.5
Long Term Liabilities	4.5	4.2	10.2	3.5	5.0
Net Worth or Owner Equity	66.7	83.3	71.4	58.8	62.5
Total Liabilities & Net Worth	100.0%	100.0%	100.0%	100.0%	100.0%

# Financial Ratios

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Suppliers, bankers and outside creditors have a wide range of financial ratios at their disposal to measure the overall financial integrity of the firm. The ratios most commonly used in this process are covered on this page.

**Current Ratio = Current Assets ÷ Current Liabilities**—The current ratio measures the margin of safety that management maintains in order to allow for the inevitable unevenness in the flow of funds through the current assets and current liability accounts. A company needs a supply of current funds to be assured of being able to pay its bills when they come due. As a general rule, the current ratio should be 2.0 or higher.

**Quick Ratio = (Cash + Accounts Receivable) ÷ Current Liabilities**—Quick assets include cash, marketable securities, and current accounts receivable. Presumably, these items can be converted into cash quickly at approximately their stated amounts, unlike inventory which is the principal current asset excluded from this calculation. The quick ratio is, therefore, a measure of the extent to which liquid resources are readily available to meet current obligations. A guideline for the quick ratio is 1.0.

**Average Collection Period = Accounts Receivable ÷ (Credit Sales ÷ 365 days)**—The average collection period can be evaluated against the credit terms offered by the company. As a rule, the collection period should not exceed 1 1/3 times the regular payment period. That is, if your company's typical terms call for payment in 30 days, then the collection period should not exceed 40 days.

**Accounts Payable Payout Period = Accounts Payable ÷ (Cost of Goods Sold ÷ 365 days)**—The accounts payable payout period measures the timeliness of paying suppliers. This figure is related directly to the normal credit terms of the company's purchases.

**Debt to Equity = Total Liabilities ÷ Net Worth**—The greater the proportion of its financing that is obtained from owners, the less worry the company has in meeting its fixed obligations. At the same time excessive reliance on owner financing slows the rate at which the firm can grow. The debt to equity ratio shows the balance that management has struck between debt and owners' equity. A mix of \$1.00 debt to \$1.00 equity is usually considered prudent.

**EBIT to Total Assets = Earnings Before Interest and Taxes ÷ Total Assets x 100**—EBIT to total assets is a return on investment ratio that provides a profit analysis based on earnings, before interest and income taxes. This ratio is best compared with a company's annual interest rate on borrowed funds. If a firm's EBIT to total assets ratio is higher than their cost of capital, there is a favorable spread between the two. A spread of at least 2.0 points is desirable.

**Times Interest Earned = (Profit Before Taxes + Interest) ÷ Interest**—The times interest earned ratio measures the number of times profit before interest and taxes will cover total interest payments on debt. The result indicates the level to which income can decline without impairing the company's ability to meet interest payments on its liabilities. If the ratio falls below 1.0, the firm is not generating enough earnings to cover the interest due on loans. A reasonable target is 6 to 8 times.

**Sales to Fixed Assets = Sales ÷ Net Fixed Assets**—The industry typically requires a significant investment in fixed assets, particularly equipment. To reach a sufficient level of profitability, these assets must be utilized as efficiently as possible. This ratio provides a basis for comparing fixed asset utilization across different types of operations.

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	Typical NTCA Contractor	High Profit NTCA	Sales Under \$2.5 Million	Sales \$2.5 - \$5 Million	Sales Over \$5 Million
Current Ratio	2.8	6.5	3.1	2.2	2.8
Quick Ratio	2.5	5.9	2.7	2.0	2.6
Average Collection Period (days)	58.7	67.7	21.0	62.4	68.1
Accounts Payable Payout Period (days)	36.1	19.3	18.6	59.4	21.9
Debt to Equity	0.5	0.2	0.4	0.7	0.6
EBIT to Total Assets	16.0%	51.2%	20.5%	12.2%	20.1%
Times Interest Earned	10.5	160.0	8.7	6.3	13.0
Sales to Fixed Assets	33.0	24.2	27.7	26.4	35.9

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# Cash Sufficiency Ratios

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Most firms are anxious to expand their sales base. As they do so, however, cash flow becomes a major issue. Ideally, firms would like to have enough cash to fund expansion and to provide a buffer in the event of a cyclical slowdown in the industry. At the same time, no firm wants to have excessive cash balances remaining idle. This section examines cash sufficiency utilizing several financial ratios, most of which are not well understood.

**Cash to Current Liabilities = Cash ÷ Current Liabilities x 100**—This is the most stringent test of the ability of the firm to meet its short-term obligations with existing cash balances. To be truly conservative with cash, this ratio should be in the ten to twenty percent range.

**Defensive Interval = Cash ÷ (Operating Expenses other than Depreciation ÷ 365 days)**—The defensive interval measures how long the firm can operate using nothing but existing cash balances. It provides a worst-case analysis of the adequacy of the firm's cash position if sales and collections suddenly deteriorated. Ideally this ratio should be ten days or more.

**Sales to Working Capital = Net Sales ÷ (Current Assets - Current Liabilities)**—Measures the ability of the firm to generate sales without tying up high levels of investment in working capital. A ratio of 7.8, for example, means the firm can generate \$7.80 in sales for every \$1.00 invested in working capital. This ratio can be impacted by changes in either of the two working capital items—reducing accounts receivable collections or obtaining more favorable accounts payable payment terms.

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	Typical NTCA <u>Contractor</u>	High Profit NTCA	Sales Under \$2.5 <u>Million</u>	Sales \$2.5 - \$5 <u>Million</u>	Sales Over \$5 <u>Million</u>
Cash to Current Liabilities	33.3%	226.4%	68.5%	12.5%	35.7%
Defensive Interval (days)	15.0	31.9	14.3	15.0	22.2
Sales to Working Capital	7.8	3.8	8.5	11.6	6.2

# Operations Profile

	Typical NTCA Contractor	High Profit NTCA	Sales Under \$2.5 Million	Sales \$2.5 - \$5 Million	Sales Over \$5 Million
Sales per Installation Project	\$20,000	\$10,368	\$12,000	\$30,000	\$100,000
<b>Sales by Revenue Source</b>					
Custom Sales	96.5%	100.0%	99.0%	95.0%	95.0%
Proprietary Sales	3.5	0.0	1.0	5.0	5.0
Total Sales	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Pounds Processed by Type of Resin</b>					
LLDPE	0.0%	0.0%	0.0%	1.0%	10.0%
Cross-Link PE	0.0	0.0	0.0	1.0	10.0
Nylon (all grades)	0.0	0.0	0.0	1.0	10.0
PC	0.0	0.0	0.0	1.0	10.0
PVC	0.0	0.0	0.0	1.0	10.0
All Other	100.0	100.0	100.0	99.0	90.0
Total Ponds Processed Annually	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Estimated Sales by Consumer Sector (%)</b>					
Toys	60.0%	10.0%	16.5%	82.5%	98.0%
Consumer Products	40.0	90.0	83.5	17.5	2.0
Recreational Products	40.0	90.0	83.5	17.5	2.0
Government/Defense	40.0	90.0	83.5	17.5	2.0
Lawn and Garden	40.0	90.0	83.5	17.5	2.0
Industrial	40.0	90.0	83.5	17.5	2.0
Highway	40.0	90.0	83.5	17.5	2.0
Off-Highway Equipment	40.0	90.0	83.5	17.5	2.0
All Other Sales	0.0	0.0	0.0	0.0	0.0
Total Sales	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Estimated Resin Purchases by Packaging (%)</b>					
Bag	0.5%	0.0%	4.0%	0.0%	0.0%
Box	0.0	0.0	0.0	0.0	0.0
Bulk	0.0	0.0	0.0	0.0	0.0
All Other	99.5	100.0	96.0	100.0	100.0
Total Purchases	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Estimated Resin Purchases by Composition (%)</b>					
Pellet	0.5%	0.0%	4.0%	0.0%	0.0%
Powder	0.0	0.0	0.0	0.0	0.0
All Other	99.5	100.0	96.0	100.0	100.0
Total Purchases	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Number of Molds used per Year</b>					
Molds Purchased	3.5%	7.1%	8.0%	0.0%	0.0%
Molds Made	1.7	7.3	0.0	0.0	5.5
Total Molds	100.0%	100.0%	100.0%	100.0%	100.0%
Number of Manufacturing Facilities	22	25	19	30	24
Number of Molding Machines	22	25	19	30	24
Number of ARMS (all facilities)	22	25	19	30	24

# Employee Productivity Ratios

Employees are the lifeblood of the organization. Without a properly motivated and compensated work force, few firms can produce much more than basic levels of performance. Employee payroll costs make up the single largest expense category on the income statement.

In controlling employee payroll, the key to success is not the absolute level of compensation, but rather the productivity of employees. The key employee productivity ratio presented in this report is sales per employee.

**Sales per Employee = Net Sales ÷ Total Full-Time Equivalent Employees**—This is simply the level of sales generated per full-time equivalent (FTE) employee. The ratio provides a means to estimate how many additional employees will be required as the firm expands its sales base.

	Typical NTCA Contractor	High Profit NTCA	Sales Under \$2.5 Million	Sales \$2.5 - \$5 Million	Sales Over \$5 Million
<b>Employees by Function</b>					
Direct Production Employees	1.0	1.0	1.0	1.0	2.0
Indirect Plant Employees	2.0	2.5	0.0	3.0	3.0
Sales Staff	2.0	2.5	0.0	3.0	3.0
Engineering, Design, and Drafting	2.0	2.5	0.0	3.0	3.0
Quality Control	2.0	2.5	0.0	3.0	3.0
Administrative Employees	2.0	2.0	1.0	2.0	3.0
All Other Employees	2.0	2.5	0.0	3.0	3.0
Total Number of Employees (FTE)	18.0	10.0	10.0	26.0	46.0
Sales per Salesperson	\$2,875,532	\$6,576,803	\$1,178,133	\$3,444,238	\$7,523,809
Sales per Employee	\$130,595	\$141,143	\$102,335	\$140,756	\$185,949
Gross Margin per Employee	\$42,799	\$52,041	\$33,721	\$45,345	\$52,041
Salary per Employee	\$41,886	\$33,542	\$31,718	\$50,283	\$46,931
Total Payroll per Employee	\$50,506	\$38,898	\$38,541	\$62,882	\$55,407
<b>Personnel Expenses</b>					
Installation Labor	24.9%	20.8%	22.0%	27.7%	22.4%
Admin. & Sales Salaries, Wages & Bonuses	12.6	9.4	13.7	11.8	12.0
Payroll Taxes & Benefits	5.9	4.0	7.2	5.6	4.7
Total Company Payroll Expenses	43.4	34.2	42.9	45.1	39.1
Subcontract Labor	5.1	7.3	6.6	3.6	8.1
Total Personnel Expenses (% of sales)	48.5%	41.5%	49.5%	48.7%	47.2%
<b>Owner Compensation</b>					
Salary	\$110,000	\$100,000	\$88,400	\$115,540	\$183,217
Total Compensation	\$120,000	\$113,850	\$97,339	\$122,500	\$288,000
Bonus (% of salary)	63.4%	72.8%	19.9%	90.4%	107.3%
Firms Paying Bonus (% of total)	51.0%	46.2%	52.6%	58.3%	47.4%
Personnel Productivity Ratios	24.9%	20.8%	22.0%	27.7%	22.4%

# Appendix

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## Survey Methodology

Questionnaires were mailed to all NTCA members. The primary focus of these questionnaires was to collect detailed financial information. All completed questionnaires were returned to Profit Planning Group for coding and tabulation.

The analyses in this report are the result of extensive review by Profit Planning Group. It is important to note that all individual company responses were kept strictly confidential by Profit Planning Group. No one from NTCA had access to any individual firm's results.

## Ratio Definitions

Ratio	Calculation	Comment
Accounts Payable Payout Period (days)	$\frac{\text{Accounts Payable}}{(\text{Cost of Goods Sold} \div 365 \text{ days})}$	Measures promptness of paying suppliers
Average Collection Period (days)	$\frac{\text{Accounts Receivable}}{(\text{Credit Sales} \div 365 \text{ days})}$	Measures the average days between sales and receipt of customer payment
Asset Turnover	$\frac{\text{Net Sales}}{\text{Total Assets}}$	Measures sales generated per dollar of assets
Cash to Current Liabilities	$\frac{\text{Cash}}{\text{Current Liabilities}} \times 100$	Measures ability to pay short-term debt with cash
Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	Measures ability to pay short-term debt with current assets
Debt to Equity	$\frac{\text{Total Liabilities}}{\text{Net Worth}}$	Measures balance between debt and owner equity
Defensive Interval	$\frac{\text{Cash}}{(\text{Operating Expenses} - \text{Depreciation}) \div 365 \text{ days}}$	Measures how long the firm can operate on existing cash balances
EBIT to Total Assets	$\frac{\text{Profit Before Taxes} + \text{Interest}}{\text{Total Assets}} \times 100$	Measures earnings from operations before interest and taxes as a percent of total assets
Financial Leverage	$\frac{\text{Total Assets}}{\text{Net Worth}}$	Measures assets financed per dollar of net worth
Gross Margin	$\frac{\text{Gross Profit Dollars}}{\text{Net Sales}} \times 100$	Measures profitability after the costs of making or buying the product are subtracted from sales
Profit Margin	$\frac{\text{Profit Before Taxes}}{\text{Net Sales}} \times 100$	Measures profit earned as a percent of sales
Quick Ratio	$\frac{\text{Cash} + \text{Accounts Receivable}}{\text{Current Liabilities}}$	Measures the ability to pay short-term debt with assets that can be converted to cash most quickly
Return on Net Worth	$\frac{\text{Profit Before Taxes}}{\text{Net Worth}} \times 100$	Measures profit earned as a percent of net worth

# Appendix

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Ratio	Calculation	Comment
Sales per Employee	$\frac{\text{Net Sales}}{\text{Full-Time Equivalent Employees}}$	Measures sales generated per full-time employee
Sales to Fixed Assets	$\frac{\text{Net Sales}}{\text{Net Fixed Assets}}$	Measures productivity of each dollar invested in fixed assets
Sales to Working Capital	$\frac{\text{Net Sales}}{\text{Current Assets} - \text{Current Liabilities}}$	Measures the ability to generate sales without tying up working capital
Times Interest Earned	$\frac{\text{Profit Before Taxes} + \text{Interest}}{\text{Interest}}$	Measures number of times earnings will cover interest payments