

Analyzing Financial Statements

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Calculating and Interpreting the Numbers:

Most people would view the analysis of financial statements in much the same way they view a trip to the dentist. They understand that it is necessary, but nobody is going to make them like it. Almost everyone that attends this presentation is doing so because they are concerned that they don't have the requisite skills to properly interpret the financial statements. Many business owners find themselves in a position where they must make a value judgment with respect to financial information that is provided to them.

As professionals, we are often forced to work outside of our comfort zone. For many people (typically not the accountants), this takes place every time they are faced with numbers. Some business owners have even told me that they leaned toward their business because they were told there would be no math. There is an absolute phobia towards the mathematical world that exists. The numbers can seem foreign and quite daunting. While this course won't turn you into an overnight CPA, it should give you a firm basic grasp of the information contained in the financial statements. By the end of this section, you will come to see that, to paraphrase the old dairy farm commercials, "Math, it does a business good!".

In fact, a good understanding of the financial statements can be an absolute comfort to a business owner whether they are in the midst of decision making. Being able to analyze the statements and to pull the relevant information from them will give you a competitive advantage in most cases. The ability to discuss the financials with a fair amount of understanding with your outside professionals.

The Financial Statements of a Company tell a story about the financial life of the Company. The Balance Sheet gives an indication of the Company's health at a point in time and the Income Statement gives you an idea of whether the Company is improving or declining. The annual activity helps to show the earnings trends of the Company. In some cases this is enough information to make a judgment about the Company, but as recent history has shown through the financial manipulations of the "Enrons" of the world, often times it is not.

It is precisely because a Company's information can be distorted that a preliminary perusal of the statements is not adequate. As we go through this section, we hope to provide you with a familiarity with various financial ratios, knowledge of how to calculate them, and an understanding of what the resulting ratios indicate about the Company. To aid in this process, we have included financial information for a hypothetical company, JO Paint & Powder Company, Inc. (JO Inc.)

The information for JO Inc. is presented for a five year period. Typically, analysis is much more effective if it is done over several cycles rather than a single period. Since there are often aberrations in annual activity, it is important to get a solid baseline by which to judge the Company's performance. We are programmed to think in terms of years when we look at financial information, but in some industries, a cycle can be much longer than a year, therefore, a five year view gives us a much more accurate picture of the Company.

Additionally, we have included some hypothetical industry information for the Paint and Powder Coat industry. Typically, in any industry, there will be some guidelines for performance and results that can be applied to a company to determine if it is operating consistent with the everyday world. This analysis is especially helpful when there is some question as to the operations of the Company. It often provides a "sanity check" for the reported results of a Company. Industry information can come from a number of sources, but the most effective sources are various trade associations for the industry.

You can also obtain some fairly useful data by examining databases of recent business transactions that are commonly used in the business valuation industry.

The first step in a meaningful analysis of a Company's finances is to "spread" the financial information. This is typically one of the first steps performed by lenders when considering a financing proposal for a Company. At its most basic form, it is laying out the financial statements for a period of years in a comparative format. Even before applying any significant analysis, merely laying the information side by side over a number of years will point out some areas of interest. Sudden changes in expense amounts from year to year can indicate some unusual activity. Simple things like decreasing sales coupled with increasing profits can indicate some problems.

The most important reason to "spread the numbers" is that simply by looking at comparative information, some patterns can and will emerge. This overview can provide some direction for further analysis of certain areas, or prompt additional questions. At a minimum, you will be more comfortable with your understanding of the Company operations going forward.

The Income Statements for the previous five years are presented in Exhibit 1. This is the first step in analyzing the statements. The Common Size Statements shown in Exhibit 2 allow you to quickly identify changes in relationships from year to year. A quick scan of these exhibits shows that there are some areas of concern or question.

We can see that there is a significant bad debt triggered in 2009, but there were none experienced in any other years presented. We can also see wide variations in the Officers' Compensation area that could give rise to some questions. Other areas that jump off the page are the fluctuations in the rent and utilities expense. While none of these may be anything sinister, they are all areas that call for more investigation or at least some conversation. Often it only takes a cursory view of the spread statements to know that you need help with your analysis.

Exhibit 1
JO Paint & Powder Company, Inc.

Income Statements

	2011	2010	2009	2008	2007
Sales	2,886,572	4,180,364	2,424,400	2,289,621	2,447,925
Cost of Goods Sold	<u>1,782,130</u>	<u>2,723,151</u>	<u>1,319,643</u>	<u>1,201,978</u>	<u>1,393,620</u>
Gross Profit	1,104,442	1,457,213	1,104,757	1,087,643	1,054,305
Operating Expenses:					
Advertising	10,547	9,937	10,754	10,409	15,388
Bad Debt	0	0	245,332	0	0
Contributions	5,435	8,725	1,325	5,224	45,630
Depreciation	129,938	135,317	126,100	197,917	196,751
Insurance	118,325	116,693	118,245	118,360	82,140
Office Expense	16,757	17,514	12,991	15,005	35,617
Officers' Comp	264,000	325,000	114,900	354,900	46,800
Officer Life Ins	25,603	25,603	25,603	22,719	22,565
Payroll Taxes	94,064	99,379	67,017	63,176	60,914
Pension Expense	12,228	4,803	4,902	4,705	4,804
Professional Fees	25,224	25,354	29,640	15,596	12,626
Rent	168,000	168,000	160,360	119,000	105,000
Repairs	21,282	22,916	14,235	25,263	17,106
Utilities	183,980	182,696	87,149	96,627	89,526
Vehicle Expense	<u>65,713</u>	<u>54,752</u>	<u>54,105</u>	<u>43,662</u>	<u>28,031</u>
Total Operating Expenses	<u>1,141,096</u>	<u>1,196,689</u>	<u>1,072,658</u>	<u>1,092,563</u>	<u>762,848</u>
Operating Income	(36,654)	260,524	32,099	(4,920)	291,457
Other Income/(Exp)	5,935	8,292	4,430	22,907	9,269
Interest Expense	<u>(18,728)</u>	<u>(24,928)</u>	<u>(32,541)</u>	<u>(46,853)</u>	<u>(33,840)</u>
Net Income Before Taxes	<u>(49,447)</u>	<u>243,888</u>	<u>3,988</u>	<u>(28,866)</u>	<u>266,886</u>

Exhibit 2

JO Paint & Powder Company, Inc.

Common Size Income Statements

	2011	2010	2009	2008	2007
Sales	100.00	100.00	100.00	100.00	100.00
Cost of Goods Sold	<u>61.74</u>	<u>65.14</u>	<u>54.43</u>	<u>52.50</u>	<u>56.93</u>
Gross Profit	38.26	34.86	45.57	47.50	43.07
Operating Expenses:					
Advertising	.37	.24	.44	.45	.63
Bad Debt	.00	.00	10.12	.00	.00
Contributions	.19	.21	.05	.23	1.86
Depreciation	4.50	3.24	5.20	8.64	8.04
Insurance	4.10	2.79	4.88	5.17	3.36
Office Expense	.58	.42	.54	.66	1.45
Officers' Comp	9.15	7.77	4.74	15.50	1.91
Officer Life Ins	0.89	.61	1.06	.99	.92
Payroll Taxes	3.26	2.38	2.76	2.76	2.49
Pension Expense	.42	.11	.20	.21	.20
Professional Fees	0.87	.61	1.22	.68	.52
Rent	5.82	4.02	6.61	5.20	4.29
Repairs	.74	.55	.59	1.10	0.70
Utilities	6.37	4.37	3.59	4.22	3.66
Vehicle Expense	<u>2.28</u>	<u>1.31</u>	<u>2.23</u>	<u>1.91</u>	<u>1.15</u>
Total Operating Expenses	<u>39.53</u>	<u>28.63</u>	<u>44.24</u>	<u>27.72</u>	<u>31.16</u>
Operating Income	(1.27)	6.23	1.32	(.21)	11.91
Other Income/(Exp)	.21	.20	.18	1.00	.38
Interest Expense	<u>(.65)</u>	<u>(.60)</u>	<u>(1.34)</u>	<u>(2.05)</u>	<u>(1.38)</u>
Net Income Before Taxes	<u><u>(1.71)</u></u>	<u><u>5.83</u></u>	<u><u>.16</u></u>	<u><u>(1.26)</u></u>	<u><u>10.90</u></u>

Along with the Income Statement, the Balance Sheet is the statement most often received by Attorneys and this statement like the Income Statement is a wealth of knowledge if read properly. A year to year comparison of the Balance Sheets will often show wide variations in account balances that will shed light on the Company's direction and overall financial wellbeing. At the very least, it will provide you with additional areas to question.

Exhibit 3 shows the past five year's Balance Sheets for JO, Inc. and Exhibit 4 displays them in common size. A preliminary look at these numbers would indicate a fairly stable Company with a strong balance sheet.

Exhibit 3
JO Powder & Paint Company, Inc.

Balance Sheets

	2011	2010	2009	2008	2007
<u>Assets</u>					
Cash	481,265	295,055	365,921	464,581	402,986
Accounts Receivable	383,226	527,393	295,254	264,659	259,639
Inventory	149,480	156,510	25,142	20,142	10,071
Prepaid Exp	<u>1,518</u>	<u>350</u>	<u>4,496</u>	<u>54,996</u>	<u>17,822</u>
Total Current Assets	1,015,489	979,308	690,813	804,378	690,518
Net Fixed Assets	137,639	334,135	402,893	595,551	649,869
Other Assets	<u>12,996</u>	<u>12,996</u>	<u>25,966</u>	<u>25,966</u>	<u>28,584</u>
Total Assets	<u>1,166,124</u>	<u>1,326,439</u>	<u>1,119,672</u>	<u>1,425,895</u>	<u>1,368,971</u>
<u>Liabilities</u>					
Accounts Payable	67,833	96,834	25,007	107,870	63,242
Current LTD	155,137	101,051	305,482	418,896	97,469
Accrued Expenses	<u>352</u>	<u>3,099</u>	<u>1,273</u>	<u>382</u>	<u>206,342</u>
Total Current Liabilities	223,322	200,984	331,762	527,148	367,053
Long Term Debt	<u>337,637</u>	<u>462,236</u>	<u>219,537</u>	<u>324,415</u>	<u>389,876</u>
Total Liabilities	560,959	663,220	551,299	851,563	756,929
Common Stock	25,699	25,699	25,699	25,699	25,699
Retained Earnings	<u>579,466</u>	<u>637,520</u>	<u>542,674</u>	<u>548,633</u>	<u>586,343</u>
Total Equity	<u>605,165</u>	<u>663,219</u>	<u>568,373</u>	<u>574,332</u>	<u>612,042</u>
Total Liabilities & Equity	<u>1,166,124</u>	<u>1,326,439</u>	<u>1,119,672</u>	<u>1,425,895</u>	<u>1,368,971</u>

Exhibit 4
JO Powder & Paint Company, Inc.
Common Size Balance Sheets

	2011	2010	2009	2008	2007
<u>Assets</u>					
Cash	41.3	22.2	32.7	32.6	29.4
Accounts Receivable	32.9	39.8	26.4	18.6	19.0
Inventory	12.8	11.8	2.2	1.4	0.7
Prepaid Exp	<u>0.1</u>	<u>0.0</u>	<u>0.4</u>	<u>3.9</u>	<u>1.3</u>
Total Current Assets	87.1	73.8	61.7	56.4	50.4
Net Fixed Assets	11.8	25.2	36.0	41.8	47.5
Other Assets	<u>1.1</u>	<u>1.0</u>	<u>2.3</u>	<u>1.8</u>	<u>2.1</u>
Total Assets	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
<u>Liabilities</u>					
Accounts Payable	5.8	7.3	2.2	7.6	4.6
Current LTD	13.3	7.6	27.3	29.4	7.1
Accrued Expenses	<u>0.0</u>	<u>0.2</u>	<u>0.1</u>	<u>0.0</u>	<u>15.1</u>
Total Current Liabilities	19.1	15.2	29.6	37.0	26.8
Long Term Debt	<u>29.0</u>	<u>34.8</u>	<u>19.6</u>	<u>22.8</u>	<u>28.5</u>
Total Liabilities	48.1	50.0	49.2	59.7	55.3
Common Stock	2.2	1.9	2.3	1.8	1.9
Retained Earnings	<u>49.7</u>	<u>48.1</u>	<u>48.5</u>	<u>38.5</u>	<u>42.8</u>
Total Equity	<u>51.9</u>	<u>50.0</u>	<u>50.8</u>	<u>40.3</u>	<u>44.7</u>
Total Liabilities & Equity	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Once the numbers have been spread and the preliminary analysis of the financials has been done, the next step is a more comprehensive look at several important financial ratio categories including Liquidity, Profitability, Activity, Capital Structure and Capital Market. Each of these areas will tell you something different about the Company and are instrumental in forming a realistic picture of the Company's financial position. Exhibit 5 shows the various ratios calculated for the 5 years for JO, Inc. along with some hypothetical industry comparisons to further illustrate the analysis process.

The following descriptions will provide insight for the interpretation of these ratios.

Liquidity Ratios:

Current Ratio:

$$\frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}$$

Interpretation: This ratio is a rough indicator of the Company's ability to meet its current obligations. Typically, the higher the current ratio, the greater the cushion between the Company's current obligations and its ability to meet them. A higher ratio reflects an excess of current assets over current liabilities, however, the composition and the quality of the current assets is a critical factor in the analysis of liquidity.

Quick Ratio:

$$\frac{\text{Cash + Cash Equivalents + Trade Receivables}}{\text{Total Current Liabilities}}$$

Interpretation: This ratio is also known as the "Acid Test". It refines the current ratio to express the degree to which the Company's current obligations can be satisfied by its most liquid assets. Generally, if the quick ratio is 1 or less, the Company must rely on its inventories and other non-liquid current assets to pay its current liabilities. This is a situation where the Company may face an

impending financial crisis and be unable to adequately conduct its business and is usually a cause for concern.

$$\text{Net Working Capital Ratio:} \quad \frac{\text{Net Working Capital}}{\text{Total Assets}}$$

Interpretation: Net working capital is the excess of current assets over current liabilities. It typically shows the funds available after current obligations are met that can be used to grow the company. The Net Working Capital Ratio shows the available funds as a percentage of the overall assets of the Company. There are optimal levels of working capital for each company and this ratio does not consider that level, however, suffice to say that a positive ratio is good and a negative ratio is a problem.

Profitability Ratios:

$$\text{Return on Assets (ROA):} \quad \frac{\text{Net Income}}{\text{Average Total Assets}}$$

Interpretation: Return on Assets (ROA) is a measure of how efficiently the Company utilizes its assets. This is typically a ratio that will be used to compare the Company's historical activities because it is very difficult to get a good comparison from industry. The ROA is contingent upon the level of investment in assets for the Company. A Company with a heavy investment in machinery and equipment will generate a lower ROA than a similar Company that leases its manufacturing equipment. Therefore, this ratio is more appropriate for use in a historical comparison of the Company.

Return on Equity (ROE): $\frac{\text{Net Income}}{\text{Average Shareholders' Equity}}$

Average Shareholders' Equity

Interpretation: Return on Equity (ROE) is a measure of how efficiently the Company utilizes the shareholders' money. The higher this ratio, the greater return on investment of the shareholders. However, this ratio can be misleading if the Company has a high level of debt and therefore a small equity position. A better indication of profitability may be the next ratio discussed.

Return on Capital Employed (ROCE):

$\frac{\text{Net Income}}{\text{Average Debt Liabilities} + \text{Average Shareholders' Equity}}$

Average Debt Liabilities + Average Shareholders' Equity

Interpretation: Return on Capital Employed (ROCE) is a measure of how efficiently the Company utilizes the invested monies and the borrowing capabilities it has at its disposal. This ratio takes into account the various sources of funds necessary to operate the Company and gives a realistic measure of the Company's profitability.

Profit Margin Ratio:

$\frac{\text{Net Income}}{\text{Sales}}$

Sales

Interpretation: Profit Margin represents the degree to which the Company converts a dollar of sales to a bottom line net profit. This ratio can be affected by many factors which can distort its comparative value. If the Company is heavily leveraged, the interest payments made on the debt will reduce the profit margin. This would indicate that the Company was less efficient in converting sales to income than a similar Company with a greater Equity component.

Activity Ratios:

Asset Turnover Ratio:

$$\frac{\text{Sales}}{\text{Average Total Assets}}$$

Interpretation: Asset turnover ratio is a rough measure of how efficiently the Company uses its assets to generate sales. This is another ratio that is better used for a historical comparison of the Company results because of the difference in the asset make-up of different companies. As with the ROA calculation, the results can be misleading when two companies are structured differently.

Accounts Receivable Turnover Ratio:

$$\frac{\text{Sales}}{\text{Average Accounts Receivable}}$$

Interpretation: A/R Turnover ratio is a measure of how efficiently the Company collects its receivables. The higher the ratio, the shorter the time customers take to pay their bills. This is an area of great concern in most companies. An efficient collection of receivables will often minimize a Company's need for debt financing and will allow the Company to operate more effectively with respect to managing its liabilities. Conversely, a lower ratio indicates that the Company is in effect financing someone else's business with no potential upside. The longer the receivables remain outstanding, the greater the risk of collectability.

Inventory Turnover Ratio:

$$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Interpretation: Inventory Turnover ratio is a measure of how often the Company sells its inventory. The higher the ratio, the more often the Company rotates its inventory. This will typically equate to a lower investment in inventory than is necessary for a slower

moving inventory. The more often the inventory turns, the better the Company's quick ratio will tend to be. A rapidly turning inventory allows for more gross profit dollars to be generated by the Company and ultimately results in better cash flow.

Capital Structure Ratios:

Debt to Equity Ratio:

$$\frac{\text{Total Liabilities}}{\text{Total Stockholders' Equity}}$$

Interpretation: The debt to equity ratio is a measure of the Company's leverage. It shows the extent to which the Company's stockholders are financing the Company compared to outside creditors. Typically, as an outside party, a higher debt to equity ratio will cause some concerns. The high ratio will skew the return on equity ratio. It also may indicate that the Company has maximized its borrowing capabilities and this could impact future availability of capital.

Interest Coverage Ratio:

$$\frac{\text{Income Before Interest and Taxes}}{\text{Interest Expense}}$$

Interpretation: The Interest Coverage ratio is a measure of the Company's ability to meet its current debt obligations. The use of debt to finance the growth of a Company must have a positive impact on the overall operations of the Company to make it worthwhile. Typically, a higher ratio on the Interest Coverage Ratio will indicate that the use of debt financing has resulted in a positive result. The closer this ratio comes to even, the more difficulty the Company will face in its short term financial future. A low ratio is a cause for concern.

Capital Market Ratios:

$$\text{Price Earnings Ratio (P/E):} \quad \frac{\text{Market Price of Common Stock Per Share}}{\text{Earnings Per Share}}$$

Interpretation: The P/E Ratio is a measure of the investor's expectation of future growth of the Company. Typically, companies with a high P/E ratio are expected to achieve significant growth in the future which will ultimately result in a lower P/E ratio at that later date. The drawback to this ratio is that it requires that the Company's common stock have a "market price". This is not often the case for a smaller closely held company. This ratio can be used as a "sanity check" for expected values for a closely held company by comparing the hypothetical calculation to the general industry results.

$$\text{Price/Sales Ratio:} \quad \frac{\text{Market Price of Common Stock Per Share}}{\text{Sales Per Share}}$$

Interpretation: The Price Sales Ratio is a measure of the market value of a company based upon its sales. As with the P/E ratio, without a "market price" for the stock, this is a difficult ratio to calculate, however, it can be applied inversely to a smaller company using the industry ratio to establish a hypothetical value for the Company.

Exhibit 5

JO Paint & Powder Company Inc.

Ratio Analysis:

	2011	2010	2009	2008	2007	Industry
Liquidity:						
Current Ratio	4.5472	4.8726	2.0823	1.5259	1.8812	1.4000
Quick Ratio	3.8711	4.0921	1.9929	1.3834	1.8053	1.1000
Net WC Ratio	.6793	.5868	.3207	.1944	.2363	.4347
Profitability:						
ROA	(.0397)	.1994	.0031	(.0207)	.1950	.1900
ROE	(.0817)	.3677	.0070	(.0503)	.4361	.3800
ROCE	(.0425)	.2103	.0033	(.0239)	.2428	.1900
Profit Margin	(.0171)	.0583	.0016	(.0126)	.1090	.0000
Activity:						
Asset Turnover	2.3161	3.4180	1.9048	1.6384	1.7881	1.7000
A/R Turnover	6.3398	10.1632	8.6599	8.7340	9.4282	8.9776
Inventory Turnover	11.6483	29.9821	58.2830	79.5669	138.3795	22.8000
Capital Structure:						
Debt to Equity	.9270	1.0000	.9700	1.4827	1.2367	2.3000
Interest Coverage	(1.6403)	10.7837	1.1226	.3839	8.8867	1.9000

After having gone through this area, you should have a basic understanding of financial statement analysis. This will help you to interact more efficiently and effectively with your colleagues. The process of financial analysis is not foolproof. Going through all of the information available and calculating all of the ratios will not insure that your analysis will be completely accurate, but it will ensure that you will no longer view financial statements as ancillary documents. There is a wealth of information within those seemingly stale papers and with these tools, you will be able to make use of that information.