

A person in a blue shirt is pointing at a computer monitor with a white pen. The monitor displays two financial charts: a line chart with blue bars at the top and a bar chart with blue bars at the bottom. The person's hand is in the foreground, and the monitor is in the background. The background is a bright, out-of-focus office setting with a window and a desk.

Income Statement Analysis

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INCOME STATEMENT ANALYSIS

The income statement shows the amount of sales/revenues generated and cost/expenses incurred. The bottom line of an income statement indicates whether the entity earned a profit or incurred a loss. Unlike a balance sheet, which captures the value of assets, liabilities and net worth at a specific point in time, the income statement captures activity over a period of time. The business has generated revenues from sales and paid total expenses. The typical income statement is structured as follows:

Sales

- Cost of Goods Sold

= Gross Profit

- Operating expenses (selling expenses, general and administrative expenses)

= Operating income

- Non-operating expenses (interest expense, other nonrecurring expenses)

+ Non-operating income (interest income, other nonrecurring income)

= Net income before tax

- Taxes

= Net profit after tax

Sales

Analysis of the income statement starts with sales, which is the revenue a business receives for selling its products or services. Revenues from sales are usually recognized when the product is shipped or the service is provided. However the accounting method may vary from industry to industry. For example, a construction company may recognize revenue when the project is complete or use the percentage of completion method. If using the completion method and the project is 25% completed during the first quarter, then revenues for the first quarter of the project are recognized. If using the completion accounting method, no revenues would be recognized until the project is finished .

An important factor when analyzing revenues is the impact of accrual basis of accounting and cash basis of accounting on revenues. Accrual accounting matches revenues with costs and expenses regardless if cash is collected (from revenue) or spent on costs and expenses. Cash accounting recognizes revenue, costs and expenses when cash is received or paid. Accrual accounting is a better measure of how the borrower has managed assets and how profitable the operating entity is.

A good indicator of a company's performance is the change in sales level over several statements. By comparing revenues over several years, the lender can begin to determine management's decisions over time. It is worthwhile for the lender to note the change in dollars and percentage over time.

The sales for ALSC for the last three years (in thousands) are as follows:

	<u>2016</u>	<u>2017</u>	<u>2018</u>
sales	\$506	\$501	\$730
percentage change	N/A	(.8%)	45%

Sales decreased from 2016 to 2017 and then increased in 2018. It is helpful to express Sales activity by the percentage change and not by the change in absolute dollars. With a decrease followed by growth, the lender should know the cause of each. If the industry has grown consistently at 30%, then ALSC is not keeping up with the industry. The lender should know why. However, if the industry is growing at a 5% rate annually, the lender should understand why they are able to grow faster in year 2018.

Analyzing revenue by sales mix is also a useful analysis. For example, If 2016 sales are made up of 28,000 units while 2017 sales are made up of 19,600 units, then the average sale price has increased from \$18.07 to \$25.56. The company has less unit sales, however, sales only decreased by .8%. This should raise concerns with the lender. If the 2018 sales are made up of 33,000 sales, then the number of unit sales is up, but the average sale has decreased to \$22.

If ALSC raised its prices 25% per year, then sales by unit were down in 2017. If prices were raised 5% per year, then sales by unit were up in 2018. Price increases are used to offset increased production costs and operating costs or to improve profitability. Price increases are dependent on the industry served. Some industries will tolerate price increases regularly and others will not. Be wary of companies utilizing price increases to show a higher level of revenue. Few products or services are price inelastic.

A substantial jump in the level of sales from one year to the next may be attributable to a onetime sale of an unusually costly product or service. For ALSC, sales jumped substantially in 2018. The lender may determine they had a one-time sale on factory closeout items that will not reoccur in 2019. Again, the lender should understand the reason and its impact on the company's future performance and borrowing needs.

In all cases, the lender's most important question is: What is causing the change? With this understanding the lender can begin to assess risk.

For some industries, the lender should also know about sales backlogs, discounts and returns. Sales backlogs will give the lender an indication about future revenues. Discounts are amounts given for early payment on accounts receivable. Returns are decreases in sales usually caused by poor quality merchandise. Both can be an indication of problems, depending on the industry.

Cost of Goods Sold

Cost of goods sold are the "direct" costs incurred primarily by manufacturers for producing their product. For wholesalers and retailers, the cost of goods sold is the price paid to purchase finished goods. For service businesses, there is no cost of goods sold as no product is purchased or manufactured for resale. For farms there are no cost of goods sold on the Schedule F since all cost of production expenses are included as expenses on the Schedule F. . Cost of goods sold for a manufacturer is calculated as follows:

Beginning inventory

+ Raw Material

+ Labor Costs

+ Manufacturing Overhead

= Cost of goods available for sale

- Work in Process

- Ending Inventory

= Cost of Goods Sold

The cost of goods sold for wholesalers and retailers is calculated as follows:

Beginning inventory
+ Purchases of Finished Products
- Less Ending Inventory
=Cost of Goods Sold

GROSS PROFIT MARGIN

Gross profit is calculated by subtracting cost of goods sold from sales. This is the money left to pay operating expenses and taxes. For ALSC the calculation is as follows

	<u>2016</u>	<u>2017</u>	<u>2018</u>
Sales	\$506	\$501	\$730
-Cost of goods sold	\$350	\$353	\$517
=Gross profit	\$156	\$148	\$213

It would appear cost of goods and gross profits are increasing. However, the best way to analyze cost of goods sold is not in dollars but in percentages of sales. Stated as percentages the numbers would be:

	2016	2017	2018
Sales	100%	100%	100%
Cost of goods sold	69.2 %	70.4 %	70.7%
Gross profit	30.8 %	29.6 %	29.3 %

The percentages affirm that the company's gross profit is declining. When analyzing the various expenses, it is good to think of them in terms of one percent changes. For example, the 1.2% change from 2016 to 2017 is actually a \$6,012 change (.1.2% of \$501m sales). The company may not be passing on price increases of products or managing a changing sales mix.

When analyzing cost of goods sold, the lender must know what type of inventory valuation method was used. The methods utilized are Specific Identification, first-in, first-out (FIFO), last-in, first-out (LIFO) and Average Cost. The cost of goods sold is calculated using either of these methods. Companies using the LIFO method during inflation will reflect lower gross profit margins and generally lower net profit margins.

Another consideration in analyzing cost of goods sold for manufacturers is the depreciation method used. Depreciation is a non-cash expense recognized on the income statement for certain

fixed assets. Land is not depreciated as a fixed asset. The length of the depreciation period and the type of depreciation method for tax purposes are set for specific categories of assets by IRS code. This is not the case for managerial depreciation.

Variations in the way companies depreciate their fixed assets affect the income statement and the balance sheet. Again two companies may do everything identical except use different depreciation methods, and one will appear more profitable than the other.

Operating Expenses Analysis

Operating expenses are costs not directly related to the production or making a product or purchasing finished goods. Operating expenses are considered controllable expenses in contrast to cost of goods sold. For example, the business owner may have only two or three supplier choices at similar costs, but may control spending expenses by choosing to rent or buy a building, pay employees by commission or flat wages and so forth. For farm operations, operating expenses are related to the production of crop and livestock products.

Operating expenses are usually variable or semi-fixed, but may become fixed. For example, if an owner decides to purchase a building, then the mortgage payment becomes a fixed payment. By separating the operating expenses this way, the lender can better determine the total costs a company must cover whether it sells any product or not. Operating expenses for business operations include the following:

- Owner's salary
- Sales salaries
- General salary expenses
- Rent
- Marketing expenses
- Insurance
- Utilities
- Maintenance
- Profit sharing

Certain expenses may get out of hand if not monitored and the lender must be prepared to ask why expenses are changing and what impact the changes have on the company. Again, operating expenses are best expressed in total dollars and as a percentage of sales.

For ALSC the operating expenses are:

	2016		2017		2018	
Sales	506	100%	\$501	100%	\$730	100%
Cost of Goods Sold	350	62.2%	353	70.4%	517	70.7%
Gross Profit	156	30.8%	148	29.6%	213	29.3%
Operating Expenses	145	28.9%	146	29.0%	177	24.3%
Operating Income	11	1.9%	2	0.6%	36	5.0%

Here is the beauty of margining or common sizing. From 2017 to 2018, operating expenses increased in actual dollars but as a percentage of sales they actually decreased from 28.9% to 24.3%. If operating expenses were analyzed in actual dollars, the wrong conclusion could be drawn. The decrease in operating expenses as a percent of sales had a positive impact on profitability in 2018. The 470 basis-point (4.7%) decrease in 2018 improved the company's earnings over \$34m when viewed as percentages of sales ($730 \times .047$) even though operating expenses increased in actual dollars. This result could only occur when comparing operating expenses to a common base or factor, which are sales.

From this information above, the lender should dissect the operating expenses further to determine which expenses are causing the increase and check to see if they are increasing as a percent of sales. If they are, the lender must comment on this in a credit memo if the increase is major.

The last categories are interest income, interest expense, other income and other expenses. Interest income occurs when a company has extra dollars on deposit for usually short periods of time. Interest expense is the interest charged on debt. Other income and expenses include:

- Income from renting out excess space
- Gains on sale of assets
- Losses on sale of assets
- Nonrecurring expenses which are neither cost of sold nor operating expenses

After adding interest income and other income and subtracting interest expense and other expenses, the result is net profit before tax. This is followed by taxes and net profit after tax. ALSC has had consistent other income; the majority due to an investment the company made in a limited partnership. In 2017, the other income increased due to a one-time insurance refund. Interest expense has declined as the company has had less debt due to its increased profits.

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