OPERATING EXPENSE ANALYSIS

Operating expenses (selling, general, and administrative expenses) represent costs not directly related to the production of goods and services. Wages paid to laborers to ship products, for example, are usually an expense allocated to cost of goods sold, while salaries paid to the office manager of Dry Supply are an operating expense. Usually, the customer can supply detailed breakdown of operating expenses, including salaries by type of personnel, auto expenses, insurance, repairs and maintenance, utilities, entertainment, profit-sharing, legal, accounting, advertising, and postage.

The owner often times has more control over operating expenses than cost of goods sold. For example, the owner can decide how much to pay administrative employees, whether to lease or own the location, how much to pay himself or herself, and if the company should have an employee retirement plan. These expenses reflect management decisions that provide some insight into management's style and ability to adjust to change.

Dry Supply Operating Expense Trends ($ in OOOs)						
	20xx		20xy		20xz	
Net sales	$895	100.0%	$937	100.0%	$918	100.0%
Gross profit	$250	27.9%	$270	28.8%	$287	31.3%
Operating expenses (selling, general, and administrative costs)	$157	17.5%	$173	18.5%	$180	19.6%
Officers compensation	36	4.0%	31	3.3%	28	3.1%
Rent expense	15	1.7%	18	1.9%	20	2.2%
Bad debt expense	2	0.2%	1	0.1%	0	0.0%
Profit sharing	7	0.8%	7	0.7%	0	0.0%
Depreciation	12	1.3%	112	1.3%	13	1.4%
Total operating expenses	$229	25.6%	$242	25.8%	$241	26.3%
Operating income	$ 21	2.3%	$ 28	3.0%	$ 46	5.0%

Depreciation can be a significant, non-cash expense for many businesses, especially manufacturers and retailers that have significant investments in fixed assets. Except for land, fixed assets are assumed to lose their economic value over their estimated useful or productive lives. For purposes of valuing assets on financial statements and tax returns, both generally accepted accounting principles (GAAP) and the Internal Revenue Service (IRS) require businesses to recognize depreciation expense within the income statement. The accumulated depreciation expense, over time, is collected into an asset account as a reduction to the fixed asset values.

The following are accounting issues for depreciating fixed assets:

- Costs at which the assets are recorded on the balance sheet
- Amortization period at which the cost should be allocated to future periods
- Salvage value of the asset

As with inventory, businesses can use several methods to depreciate fixed assets in financial statements. These include straight-line and double-declining balance. Additional methods that are considered **accelerated** (depreciate the asset faster) are available for use in tax returns.

Business bankers also should examine Schedule M-1 of a business tax return to locate operating expenses recorded on the books of the business, but not deducted on the tax return and not included in the amounts shown in the tax return's income statement that is usually the first page. Examples include depreciation, charitable contributions, and travel and entertainment. If material, these amounts shown on Schedule M-1 should be added to the amounts shown on the first page of the tax return.

Operating income

To calculate operating income (loss), subtract total operating expenses from gross profit. A loss occurs if the total operating expenses exceed the gross profit. As shown in the example, in 20xz, Dry Supply's gross profit was $287,000 (31.3 percent of net sales), total operating expense was $241,000 (26.3 percent of net sales), and operating income was $46,000 (5.0 percent of net sales). This calculation excludes other income, other expense and interest expense, which usually are shown after operating income or operating profit on a financial statement. However, in business tax returns, other income is included with gross profit to derive "total income." Similarly, other expenses and interest expense are included in tax returns with operating expenses.

Operating leverage

The control a business has over its costs is in part determined by the nature of those costs. Changes in volume affect each type of cost in a different way.

Small Businesses Benefit from Accelerated Depreciation and Section 179 Deduction

Typically, if property for business has a useful life of more than one year, the cost must be depreciated across several tax years with a portion of the cost deducted each year. But there are ways to accelerate the depreciation and even receive these income tax benefits in the year of purchase.

For acceleration of depreciation, the tax code allows the Modified Accelerated Cost Recovery System (MACRS) approach where equipment purchases made near the end of a quarter or year can be depreciated as if in place for the entire period.

Electing Section 179 allows immediate write-off, in the year of purchase, of qualifying equipment purchases. (See IRS Publication Section 946 for details of both MACRS and Section 179).

Starting with tax year 2002, the previous and long-standing Investment Tax Credit of $25,000 for small business equipment purchases was expanded by Congress to $100,000 and indexed to inflation. By tax year 2008, the write-off had increased to $125,000 and was doubled by Congress to $250,000. Again, in tax year 2010, Congress doubled it again to $500,000. As a company's purchases of qualifying equipment begin to exceed $2,000,000 there is a dollar-for-dollar reduction in the deduction is allowed.

- Fixed costs are generally defined as selling, general and administrative expenses, as well as other operating expenses. Business owners may collectively call these expenses "overhead." These costs are considered fixed or semi-variable because once they are established; the business needs to pay them. For example, a business owner can decide whether to buy or lease a building, thus affecting rent expense. Once the lease is signed or the mortgage taken out, the monthly payment becomes fixed for the term of the lease or mortgage. Advertising and other expenses also are fixed or semi-variable costs controlled by the owner. Another way to think of fixed costs is that they do not automatically adjust as sales increase or decrease. Therefore, some expenses within cost of goods sold can have fixed or semi-variable characteristics
- Variable costs are generally the cost of goods sold, since the owner does not need to purchase additional products if sales do not materialize. Because the cost of goods varies by the cost of each product sold, cost of goods also vary due to sales mix. Another way to think of variable costs is that they tend to automatically adjust as sales increase or decrease. Therefore, some costs within operating expenses can have variable characteristics

Operating leverage describes the relationship among fixed costs, total costs, and net sales. The higher the percentage of fixed costs to total costs, then the higher the operating leverage. Insufficient net sales volume coupled with high operating leverage can affect gross profit and net profit margins by increasing sensitivity to economic changes, resulting in greater volatility of earnings, uncertainty, and risk. In such situations, profits or losses fluctuate disproportionately to changes in volume. As the net sales volume increases, fixed costs are spread across more units, thereby lowering per-unit costs and improving gross margin. The table below demonstrates the effect of operating leverage on profitability. Once fixed costs are covered, the incremental per-unit contribution to fixed costs is added to net profit, even if variable costs increase and remain the same percentage of net sales.

Operating Leverage Examples ($ in OOOs)						
Net Sales	$1,000	100%	$2,000	100%	$4,000	100%
Fixed Costs	$1,000	100%	$1,000	50%	$1,000	25%
Gross Profit	$ 0	0%	$1,000	50%	$3,000	75%
Variable Costs	$ 250	25%	$ 500	25%	$1,000	25%
Net Profit	($ 250)	(25%)	$ 500	25%	$2,000	50%

Industries with high operating leverage, such as agricultural businesses, are more susceptible to changes in the economy and have more volatile earnings than those with low operating leverage. High operating leverage, therefore, introduces increased uncertainty and risk into a loan. The operating expenses increase because of the increased depreciation expense for the machinery. Fixed asset additions tend to occur in stair-steps. Initially, gross and net margins are reduced, reflecting increased operating leverage. Over time, margins improve as sales expand as shown in the table below.

Operating Leverage and Fixed Assets Example*						
	Year 0		Year 1		Year 2	
Net Sales	$300,000	100%	$330,000	100%	$360,000	100%
Cost of goods sold	225,000	75%	247,500	75%	270,000	75%
Gross profit margin	$ 75,000	25%	$ 82,500	25%	$ 90,000	25%
Operating expense	45,000	15%	49,500	15%	54,000	15%
Depreciation	15,000	5%	33,000	10%	33,000	9%
Operating profit	$ 15,000	5%	$ 0	0%	$ 3,000	1%

*Assumptions: Company has completed Year 0. Machines purchased in Year 1 for $90,000 to be depreciated over 5 years with no salvage value using straight-line depreciation

Another way of measuring whether costs are reasonable is to calculate cost of goods sold and operating expenses as a percentage of net sales and compare the results to a similar company or to the industry average. For example, if officer salaries, as a percentage of net sales, generally average 10 percent to 15 percent for a closely held business, then a 30 percent figure may indicate owners are generously compensating themselves and perhaps others at the expense of the firm's long-term profitability.

As shown in the table on page 1 of this Reading, Dry Supply's income statement analysis reveals that operating expenses were 25.6 percent, 25.8 percent, and 26.3 percent of net sales for 20xx, 20xy and 20xz, respectively. The 0.7 percent increase in operating expenses from 20xx to 20xz, as a percentage of net sales, decreased profits by $6,426 ($918,000 x 0.007). The increase in operating expenses as a percentage of net sales is partially caused by decreased sales—when net sales decrease and operating expenses remain the same (in dollar terms), the percentage of operating expenses to net sales increases.