Analysis of financial statements

Objectives :

Look at some basic financial data available to managers and investors

Look at some analytical techniques used by investors and managers

Financial statements

Grover Company
Balance sheet
December 31, 1993 and 1992

		1993		1992
Assets				
Current assets:				
cash		17 000		12 000
accounts receivable		60 000		40 000
merchandise inventory		84 000		70 000
prepaid expenses		6 000		4 000
Total current assets		167 000		126 000
Long-term assets:				
Plant assets	250 000		210 000	
less: accu. Amortization	60 000	190 000	48 000	162 000
		357 000		288 000
Liabilities				
Current liabilities				
accounts payable		35 000		40 000
interest payable		3 000		4 000
income taxes payable		22 000		12 000
total current liabilities		60 000		56 000
Long-term liabilities				
bonds payable		90 000		64 000
		150 000		120 000
Contributed capital				
Common shares	95 000		80 000	
Retained earnings	112 000		88 000	
Total shareholders' equity		207 000		168 000
Total liabilities and shareholders' equity		357 000		288 000

Some additional points about the balance sheet:

1. Cash versus other assets:
    a. only cash represent actual money;
    b. Receivables are bills owe to the company;
    c. inventories consist of raw materials;
    d. fixed assets consist of plant and equipement.

The non cash assets will presumably be converted to cash eventually, but they do not represent cash-in-hand.

2. Liabilities versus shareholders' equity
    a. The claims against assets are of two types:
        i. Liabilities, or money the company owes
        ii. Shareholders' ownership position

3. Breakdown of the shareholders' equity account
    a. The equity section is divided into three accounts:
        i. Common stock
        ii. Paid in capital
        iii. Retained earnings

Retained earnings account is built up over time by the firm’s saving.

4. The time dimension

The balance sheet may be thought of as a snapshot of the firm’s financial position at a point in time.

The income statement, on the other had, reports on operations over a period of time.

Analysis of the financial statements

From management's standpoint, financial statements analysis is useful both as a way to anticipate future conditions and, more important, as a starting point for planning actions that will influence the future course of events.

Ratio analysis

Financial ratios are designed to show relationships among financial statement accounts.

Liquidity ratios

By relating the amount of cash and other current assets to the current assets to the current obligations, ratio analysis provides a quick and easy-to-use measure of liquidity.

Current ratio

Computed by dividing current assets by current liabilities.

$$\frac{\text{Current assets}}{\text{Current liabilities}} = \frac{167\ 000}{60\ 000} = 2.78$$

If a company is getting into financial difficulty, it begins paying its bills(accounts payable) slowly, building up bank loans, and so on.

If these current liabilities are rising faster than current assets, the current ratio will fall, and this could spell trouble.

Quick ratio and acid test

Calculated by deducting inventories from current assets and dividing the remainder by current liabilities.

$$= \frac{\text{current assets} - \text{inventory}}{\text{current liabilities}} = 1.38$$

Inventories are typically the least liquid of a firm's current assets, hence the assets on which losses are most likely to occur in the event of liquidation.

Therefore, this measure of a firm's ability to pay off short-term obligations without relying on the sale of inventories is important.

Asset management ratios

Those ratios are designed to measure how effectively the firm is managing its assets.

Does the total amount of each type of asset as reported on the balance sheet seem reasonable, too high, or too low in view of current and projected operating levels?

		Grover Company
		Balance sheet
	year ended	December 31, 1993
		1993
Sales		590000
cost of goods sold	300000	
wages and other operating expenses	216000	
interest expenses	7000	
income taxes expense	15000	
amortization expenses	24000	-562000
loss on sale of plant assets		-6000
gain on retirement of debt		16000
Net income		38000

Inventory utilization

Sometimes called the inventory turnover ratio, is defined as sales divided by inventories.

$$= \frac{\text{sales}}{\text{inventory}} = \frac{590\ 000}{84\ 000} = 7.02$$

Excess stocks are unproductive and represent an investment with a low or zero rate of return.

If the turnover is low, one might wonder if the firm is holding damaged or obsolete materials not actually worth their stated value.

Note:

1) If inventories are carried at costs, as they generally are, it would be more appropriate to use cost of goods sold in place of sales in the numerator of the formula.
2) Sales occur over the entire year, whereas the inventory figure is for one point in time. This makes it better to use an average inventory.

Average collection period

Computed by dividing average daily sales into accounts receivable to find the number of days' sales tied up in receivables. (average collection period, ACP)

$$= \frac{\text{receivables}}{\text{average sales per day}} = \frac{60\ 000}{590\ 000/360} = 37 \text{ days}$$

The ACP can also be evaluated by comparison, with the terms on which the firm sells its goods. If the terms are 30 days, then 37 days indicate that customers, on average, are not paying their bills on time.

If the trend in the collection period over the past few years had been rising while the credit policy had not changed, this would be even stronger evidence that steps should be taken to expedite the collection of accounts receivable.

Fixed assets utilization

This measures the utilization of plant and equipment.

$$= \frac{\text{sales}}{\text{net fixed assets}} = \frac{590\,000}{190\,000} = 3.11$$

Total assets utilization

This measures the utilization or turnover of all the firm's assets.

$$= \frac{\text{sales}}{\text{total assets}} = 1.65$$

This measure how much business is generated for the size of its asset investment. Is this enough?

Debt ratio management

The extent to which a firm uses debt financing, or financial leverage, has a number of implications.

1. creditors look to the equity, or owner-supplied funds, to provide a margin of safety.
2. If owners have provided only a small proportion of total financing, the risks of the enterprise are borne mainly by creditors.
3. raising funds through debt, the owners gain the benefits of maintaining control of the firm with a limited investment.
4. if the firm earns more on the borrowed funds that it pays in interest, then the return on the owners' capital is magnified, or leveraged.

Total debt to total assets

Measures the percentage of total funds provided by creditors.

$$= \frac{\text{total debt}}{\text{total assets}} = \frac{150\ 000}{357\ 000} = 42\%$$

Creditors prefer low debt ratios, since the lower ratio, the greater the cushion against creditors' losses in the event of liquidation.

Exercises

1)

Net Working Capital, Current Ratio, and Quick Ratio. Charles Corporation's balance sheet at December 31, 19X7, shows the following:

Current assets	
Cash	$ 4,000
Marketable securities	8,000
Accounts receivable	100,000
Inventories	120,000
Prepaid expenses	1,000
Total current assets	$233,000
Current liabilities	
Notes payable	$ 5,000
Accounts payable	150,000
Accrued expenses	20,000
Income taxes payable	1,000
Total current liabilities	$176,000
Long-term liabilities	$340,000

Determine the following: (*a*) net working capital, (*b*) current ratio, and (*c*) quick ratio.

2)

Liquidity position. Based upon the answer to the previous problem, does the corporation have good or poor liquidity if industry average for current ratio is 1.29 and quick ratio is 1.07

3)

Accounts receivable. The Rivers Company reports the following data relative to accounts receivable:

	1992	1991
Average accounts receivable	400 000	416 000
Net credit sales	2 600 000	3 100 000

The terms of sale are net 30 days. A) compute the accounts receivable turnover and the collection period, and b) evaluate the results

4)

On January 1, 19x6, the River Company's beginning inventory was $400 000. During 19x6, River purchased $1 900 000 of additional inventory. On December 31, 19x6, River's ending inventory was $500 000. a) What is the inventory turnover and the age of the inventory for 19x6? B) If the inventory turnover in 19x5 was 3.3 and the average age of the inventory was 110.6 days., evaluate the results for 19x6?

Financial Ratios. Ratio analysis is employed to gain insight into the financial character of a firm. The calculation of ratios can often lead to a better understanding of a firm's financial position and performance. A specific ratio or a number of selected ratios can be calculated and used to measure or evaluate a specific financial or operating characteristic of a firm. (*a*) Identify and explain what financial characteristic of a firm would be measured by an analysis in which the following four ratios were calculated: (1) current ratio, (2) acid-test ratio, (3) accounts receivable turnover ratio, and (4) inventory turnover ratio. (*b*) Do the ratios in part (*a*) provide adequate information to measure this characteristic or are additional data needed? If so, provide two examples of other data that would be required. (*c*) Identify and explain what specific characteristic regarding a firm's operations would be measured by an analysis in which the following three ratios were calculated: (1) gross profit margin, (2) operating income margin, and (3) net income to sales (profit margin). (*d*) Do these ratios provide adequate information to measure this characteristic or are additional data needed? If so, provide two examples of other data that would be required.