CHAPTER III

ANALYSIS OF BALANCE SHEET, PROFIT AND LOSS ACCOUNT AND CASH FLOW FORECAST (THE SIGNIFICANT RATIOS).

(a) General Introduction

In many cases, especially for small buyers and private companies, the underwriter will not be able to obtain balance sheet information and where it is available certain limitations must be recognised.

(i)   The balance sheet and P/L account represent a picture taken at a particular point in time - inevitably at some time in the past and often more than one year ago.

(ii)   Legal requirements and accounting practices vary enormously from country to country and this must be taken into account when evaluating and drawing conclusion from the figures.

(iii)   It is by no means unknown for accounts to be 'doctored' to present a false picture. This is usually very difficult to detect for an ECA faced with a set of figures prepared in a foreign country.

(b)   The Main Components of a Balance Sheet

A B Company Limited

Shareholders' Funds	**Fixed Assets**
Share Capital	Land and Buildings
Capital Reserve	Plant and Machinery
General Reserve	Vehicles
P & L Appn Account	
Term Liabilities	**Current Assets**
Mortgage	Cash in Bank
	Inventories
Current Liabilities	Receivables
Creditors - Trade etc	Marketable Investments
Bank Overdraft	

(c)   The Ratio Analysis Process

Ratios reduce the amount of data to workable form.

There are three stages:

(i)   calculation of a number of ratios

(ii)   comparison with an appropriate standard to ascertain whether they are satisfactory or otherwise

(iii)   interpretation of the results obtained.

The absolute ratios resulting from the calculation provide little information. They need to be rated as favourable or unfavourable and hence they need to be measured against chosen yardsticks. Analysts use various comparisons including:

- **intra-industry** i.e. comparing the particular company with other companies in the same industry.

- **inter-industry** i.e. comparing the particular company with other companies in different industries.

- **intra-company** i.e. comparing the particular company's ratios across time to identify trends or other relationships.

- **arbitrary standards** i.e. comparing the particular company's ratios to 'traditional' standards which are arbitrary rules of thumb. The application of these standards requires caution.

The simple example below illustrates the use of financial ratios in comparing two companies. Companies A and B are competitors in the same area of business and report profit as follows:

Company A: $360,000
Company B: $560,000

How well did these two companies perform in relation to one another?

On first glance it may appear that Company B performed better than Company A, as its reported operating profit was higher.

The following additional information on sales and shareholders' equity was obtained from the financial statements:

	Company A	Company B
Sales	4,000,000	8,000,000
Shareholders equity	3,600,000	7,200,000

If we now compare the operating profit as a percentage of sales and shareholders' equity, we obtain the following information:

	Company A	Company B
Operating profit as % of sales	9.0%	7.0%
Operating profit as % of shareholders' equity:	10.0%	7.8%

These comparisons show that Company A earned 9 cents profit for every dollar of sales, while Company B earned only 7 cents. In addition, Company A earned 10 cents for each dollar invested, Company B earned 7.8 cents.

The Current Ratio

The current ratio measures the relationship between current assets and current liabilities and is widely used to test the short-term liquidity of a company. It measures the strength or weakness of the working capital position and is a measure of the company's ability to meet its short-term liabilities. It indicates the company's ability to satisfy current debt from current assets. The implication being that a high ratio of current assets to current liabilities represents a high degree of assurance that current liabilities will be paid out of current assets.

The calculation of the current ratio is current asset divided by current liabilities.

$$Current\ Ratio \quad = \quad \frac{Current\ assets}{Current\ liabilities}$$

$$= \quad \frac{98,754}{57,923} \quad = \quad 1.\ 70\ times$$

 The rule of thumb commonly employed with the ratio is 2 to 1. However this does
not mean that a ratio of 1.9 to 1 is unsatisfactory while a ratio of 2.1 to 1 is satisfactory. A ratio around 1.5 to 1 is generally the lowest acceptable.
Many companies operate most successfully over lengthy periods of time with low current ratios, ie in the vicinity of 1 to 1. The nature of the business might require only nominal investments in current assets. For example a retailer selling for cash can operate on a lower current ratio than a retailer selling on credit because of the time lag between making the sale

and collecting the cash. A low current ratio might also reflect excellent cash (ie current asset) management.

The Acid Ratio (or Quick Ratio)

A more stringent liquidity test is the acid test ratio. This again compares current assets to current liabilities but includes only those assets which may be expected to contribute to cash becoming available anthem <u>in the next month or two</u> to help meet <u>the liabilities due for payment</u>.

Acid Test Ratio

$$= \frac{\text{Current assets - inventory}}{\text{Current liabilities - overdraft}}$$

$$= \frac{98{,}754 - 60{,}161}{57{,}923 - 1{,}286} = \frac{38{,}593}{56{,}637} = 0.68 \text{ times}$$

It is suggested that the acid ratio should be 1 to 1 or higher, but this is difficult to substantiate. If inventory is easily realisable and the trading conditions are buoyant, then it is possible to operate with an acid ratio lower than 1 to 1, say 0.8 to 1. However analysts must also look at the composition of both current assets and current liabilities.

Inventory Turnover

One of the key roles of management is to optimise the cash flow and profit from investment in the company's assets. In manufacturing and retailing companies, the investment in inventory is very considerable. Hence its efficient management is critical. The secret of sound inventory control is to hold the inventory levels as low as possible but at adequate levels to meet the needs of production and sales. If the level is too high, capital will be wasted; if too low, sales (profit) opportunities will be lost. Overstocking may result in too much capital which could profitably be invested elsewhere being tied up in inventory,

excessive storage costs and the company may risk a loss through deterioration of inventory or obsolescence. On the other hand, understocking may result in lost sales, emergency purchases form uneconomic sources and higher production costs. The cost of carrying the inventory has to be balanced against the profit opportunities lost by not having the inventory. In a well-managed company there should be a reasonable balance between the levels of sales and inventory.

Inventory earns income when it is sold, hence the rate of inventory turnover is a measure of the efficiency with which investment in inventory is used.

Inventory is listed on the balance sheet at cost, not selling price. Therefore inventory should be compared with cost of goods sold rather than the selling price.

The stock or inventory turnover ratio is calculated by the formula:

$$\text{Inventory Turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

With average inventory calculated as follows:

$$\text{Average Inventory} = \frac{\text{Opening inventory and closing inventory}}{2}$$

$$\text{Inventory Turnover} = \frac{1,520,000}{380,000} = 4$$

This means that inventory turned over 4 times during the year or the average inventory held took approximately 91 days (365 divided by 4) to sell.

The rate at which inventory turns over varies depending on the nature of the business. A rate of 4 may be considered appropriate in the case of a business selling white goods but quite inappropriate for a baker selling fresh bread ... 91 day old bread!!

Debtors Turnover

Another measure of management efficiency is to examine the number of days required to convert trade debtors into cash.

The calculation is trade debtors divided by total sale and multiplied by 365 to convert to a daily basis. All trade debtors figure used excludes the deduction of provision for doubtful debts.

Days Debtors = $\dfrac{\textit{Trade Debtors}}{\textit{Sales revenue}}$ x 365

= $\dfrac{29{,}364 \text{ x } 365}{319{,}026}$

= 34 *days*

This means that on average it took 34 days to collect debts. As credit terms are normally 30 days, 34 days appears an excellent collection period. However, actual collection period is longer because sale revenue includes an unknown portion of cash sales. A collection period of sixty days would cause concern. In contrast, the retail sector, which tends to avoid substantial credit sales would display average debtor collection periods of around five days. Hence there is a significant variation in the proportion of cash sales across industries and this accounts for large discrepancies in the debtor turnover ratio on an industry by industry basis.

Creditors Turnover

The day's creditors ratio is calculated by dividing trade creditors by sales revenue and multiplying by 365 to convert it to a number of days basis.

Days Creditors = $\dfrac{\textit{Trade creditors}}{\textit{Sales revenue}}$ x 365

the calculation is as follows:

Days Creditors = $\dfrac{20,507}{319,026}$ x 365

= *23 days*

In a soundly financed business enterprise there should be a proper balance between funds obtained from the shareholders' equity and borrowed funds. There should also be an appropriate balance between short and long-term borrowing.

As a general rule fixed assets and long-tern investments should be financed from long-term sources such as shareholders' equity or long-term borrowing. Short-term borrowing should be used to meet the immediate day to day needs, to pay expenses and to finance varying levels of inventories and debtors.

There is a tendency among new enterprises to rely heavily on bank overdrafts, this often proves disastrous.

The <u>Debt to equity ratio</u> is calculated by dividing total liabilities by the shareholders' equity (excluding minority interests). In practice analysts tend to use only interest-bearing debt and net of cash and deposits when calculating this ratio.

Debt to Equity = $\dfrac{Total\ liabilities}{Shareholders'\ equity}$

The ratio is:
Debt to Equity = $\dfrac{77,884}{123,296}$

= 0.63

There are no hard and fast rules regarding acceptable debt to equity or gearing ratios, however many business enterprises wish to stay below a 1 to 1 debt to equity ratio. What is

an appropriate ratio in a particular case would depend on the nature of the business and its history.

There are many more ratios, which can be calculated from balance sheet and P/L figures. We have concentrated on those which are of most relevance to an underwriter who is supporting with his insurance an actual or potential creditor and who is most often unsecured particularly where consumer goods are concerned.

CREDIT SCORING MODEL (BASED SOLELY ON FINANCIAL INFORMATION)

SCORING GUIDE

RATIOS	1	2	3	4	5
CURRENT	2.5	2.0	1.5	1.0	<1.0
QUICK	*1.5*	1.3	1.0	0.8	<0.75
TOTAL DEBT/ NETWORTH	0.5	0.75	1.0	> 1.0	>1.5
CREDIT LIMIT AS % OF NETWORTH	5	10	15	25	>25
NET PROFIT ON SALES %	8.0	6.0	3.5	1.0	<1.0
ACC RECEIVABLE / TURNOVER (DSO)	30	40	50	60	>60
INV/ TURNOVER	30	40	*50*	60	>60
INV / CURRENT ASSETS	0.3	0.35	0.4	0.6	>0.6

TOTALSCORE

LEGEND:

10 - 15	EXCELLENT
16 - 25	GOOD ACCOUNT
26 - 35	WATCH/CONTROL
36 - 40	GET OUT