

ANALYSIS OF THE FINANCIAL STATEMENTS

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STUDY OBJECTIVES

After studying this chapter, you should be able to:

- state the general **purpose** of the analysis of financial statements by the credit analyst
- list and explain the **methods** that can be followed in the analysis of financial statements
- discuss the importance of **norms** in financial ratio analysis and explain how these norms can be determined
- explain why the following concepts are important to the credit analyst:
 - liquidity
 - solvency
 - profitability
- explain how the credit analyst will calculate the following ratios:
 - liquidity ratios
 - solvency ratios
 - profitability ratios
 - activity ratios
- state what deductions the credit analyst can make from the following ratios:
 - liquidity ratios
 - solvency ratios
 - profitability ratios
 - activity ratios
- show why the analysis of the statement of cash flow is useful for the credit analyst
- distinguish between comparative statements and comparative statement analysis
- evaluate the financial position of an enterprise with the aid of comparative statements and the industry norms

INTRODUCTION

One of the methods of credit information analysis is the analysis of the annual financial statements. The analysis is done from the credit grantor's point of view and is aimed at determining the creditworthiness of the credit applicant. The general objective in this analysis is to determine whether the enterprise's financial position is of such a nature that regular payments, for example interest payments, capital redemption and payment to creditors can be made in the future.

From the point of view of credit extension, the general objective in the analysis of the annual statements is to determine whether the enterprise's financial position is of such a nature that regular payments, (for example interest payments and payment to creditors) can be made in the future. The results of credit extension decisions that are taken today will be realised only some time in the future. This again underlines the responsibility that goes with credit extension decisions. Providers of borrowed capital will, among other things, be interested in the solvency ratios of an enterprise to determine to what extent the borrowed capital will be covered by shareholder's capital. The suppliers of capital will, for example, also be interested in the future cash flow of the enterprise as the enterprise must make regular interest payments.

METHODS OF STATEMENT ANALYSIS

There are various approaches to the analysis of financial statements. For the purpose of Credit Management II, we will look in more detail at the following two methods:

- Analysis of the financial statements with the **aid of financial ratios**. We will look at two methods under this heading:

Groups of financial ratios, for example:

- liquidity ratios
- activity ratios
- debt ratios
- profitability ratios

- Comparative statement analysis, for example:
- base year
 - progressive base year
 - with each other.

- Analysis of the **statement of cash flow**.

Regardless of the methods used, analysts must know and understand the **line of trade** in which the business operates, the **location** of the business and the **date of the statement** in order to make their analysis within a proper framework.

A. Analysis with the Aid of Financial Ratios



Ratio analysis is used to compare a firm's performance to that of other firms or to itself over time. As a credit manager, why would you prefer ratios to the use of rand values of the key variables, such as inventory and fixed assets, when making these comparisons?

Spend a few moments answering this question before reading ahead.

A **financial ratio** is defined as the figure that indicates the ratio between two entries on the income statement or the balance sheet.

Example

$$\begin{aligned} \text{Current ratio} &= \frac{\text{current assets}}{\text{current liabilities}} = \frac{R5\ 000}{R2\ 500} \\ &= 2 \rightarrow \end{aligned}$$



An analysis of the income statement and balance sheet with the aid of ratios for a specific financial year is a static analysis of the enterprise's financial position. A more dynamic analysis is obtained when the **information or ratios for the current year are compared with similar information/ratios from previous years**. This is called comparative statement analysis. The choice of which particular ratios to use is determined by the specific area of examination and the information that is required. In this case we are interested in the ratios that tell us more about the creditworthiness of the enterprise. Ratios calculated from the balance sheet give an indication of the financial situation at a specific date. Ratios from the income statement, on the other hand, give an indication of the financial performance of the enterprise during a specific financial period.

GROUPS OF FINANCIAL RATIOS

Financial ratios can be divided into four basic groups or categories:

- liquidity ratios
 - activity ratios
 - debt ratios
 - profitability ratios
- } → measure risk
- } → measure return

Liquidity, activity and debt ratios primarily measure risk; profitability ratios measure return. In the short term, the important elements are liquidity, activity and profitability, since these provide the information critical to the short-term operation of the firm. (If a firm cannot survive in the short term, we need not be concerned with its longer-term prospects.) Debt ratios are useful primarily when the analyst is sure the firm will survive in the short term.

The importance of norms in financial ratio analysis

In this course we will not discuss ratios per se - we refer you to Business Management II and in particular to the course in Financial Management. However, the following must be emphasised:

A ratio in itself does not mean much. No deductions regarding the financial performance of the enterprise can be made merely by calculating a ratio. A ratio itself is not an absolute measure of the success or failure of the concern. **The ratio must be compared with a norm**, and this then offers the starting point for an examination into the financial performance and condition of the enterprise. The financial ratio is simply an aid in the hands of the credit analyst.



The **norms** against which the credit analyst compares the ratios of an enterprise vary.

- Firstly, norms are used that are based on the experience of **many enterprises** over many years. A good example is the norm for the current ratio (see later) - the industry ratio generally accepts a ratio of 2:1. Deviations from this norm can occur because the conditions of the various enterprises can differ considerably.

- Secondly, the enterprise can also set norms for itself based on its **own past experience**. The ratios for a particular financial year can be compared with the results of the previous year. In this way one can determine whether the enterprise has improved or deteriorated with regard to the aspects that are being examined.
- Thirdly, the enterprise can also use an **industry norm**. In this case the results of the enterprise, or the ratios, are compared with those of other enterprises in the same industry (comparative ratio analysis).

Example

One method by which an industry norm can be determined is to take the ratios for the greatest possible number of comparable enterprises and then to calculate an average from this. Assume that the industry norm for the turnover rate for debtors or the receivable turnover ratio (net credit sales/debtors) must be determined. The turnover rate for debtors will be determined for the greatest possible number of comparable enterprises and the average is then calculated from this. This average figure represents the industry norm. The individual enterprise can now compare its turnover rate of debtors with the determined norm and conduct further examinations if there are deviations.

It is essential that the greatest possible number of enterprises are included in the determination of the industry norm. These enterprises must be **comparable**, because even though enterprises are in the same industry, they may not necessarily be comparable.

Aspects that may affect the comparison between enterprises in the same industry are:

- nature of the product/service
- target market
- size of the enterprise
- age of the enterprise
- financial year-end (the year-end for one enterprise could be 30 June, while another enterprise's financial year ends at 31 December)

Associated with this, the financial statements of the individual enterprises might be prepared according to different accounting systems. In determining the industry norm, the enterprises must also be **representative of the group of enterprises** for which the norms are set.

Analysing Liquidity

A “liquid firm” is one that can easily meet its short-term obligations as they come due. Given that current assets represent short-term resources and current liabilities represent short-term obligations, how might you go about assessing a firm’s liquidity? Before reading on, take a few moments to answer this question.



The **liquidity** of a business firm is measured by its ability to satisfy its short-term obligations as they come due, in other words, a continuous ability of the enterprise to make all its payments regularly and on time.

The three basic measures of liquidity are:

- net working capital,
- the current ratio, and
- the quick (acid-test) ratio.

Net working capital

Net working capital, although not actually a ratio, is commonly used to measure a firm’s overall liquidity. It is calculated as follows:



$$\begin{aligned} \text{Net working capital} &= \text{current assets} - \text{current liabilities} \\ &= \text{R740 000} - \text{R300 000} \\ &= \text{R440 000} \rightarrow \end{aligned}$$

This figure is not useful for comparing the performance of different firms, but it is quite useful for **internal control**. Often the contract under which a long-term debt is incurred specifically states a minimum level of net working capital that must be maintained by the firm. This forces the firm to maintain sufficient operating liquidity and helps to protect the creditor.

Current ratios



The **current ratio**, one of the most commonly cited financial ratios, measures the firm's ability to meet its short-term obligations. It is expressed as follows:

$$\begin{aligned}\text{Current ratio} &= \frac{\text{current assets}}{\text{current liabilities}} \\ &= \frac{\text{R740 000}}{\text{R300 000}} \\ &= 2,47 \rightarrow\end{aligned}$$

A current ratio of 2,0 is occasionally cited as acceptable, but ultimately a ratio's acceptability depends on the industry in which a firm operates.

Example

For example, a current ratio of 1,0 would be considered acceptable for a utility but might be unacceptable for a manufacturing firm. The more predictable a firm's cash flows, the lower the acceptable current ratio.



A final point worthy of note is that whenever a firm's current ratio is 1,0, its net working capital is zero. If a firm has a current ratio of less than 1,0, it will have a negative net working capital. A general norm (rule of thumb) for the current ratio is a ratio of 2:1.

Quick (acid-test) ratio

$$\begin{aligned}\text{Quick asset ratio} &= \frac{\text{current assets} - \text{stock}}{\text{current liabilities}} \\ \text{(Acid-test ratio)} &= \frac{\text{R740 000} - \text{R300 000}}{\text{R300 000}} \\ &= 1,47 \rightarrow\end{aligned}$$

The current ratio assumes that all current assets are equally liquid. Cash and savings are, however, more liquid than stock. It can also take a long time before stock is converted into cash, with the result that the enterprise cannot use it to meet its short-term commitments.

If certain liquid assets can be converted to cash only over a longer period, then the liquidity ratio should consider only those current assets that can be converted to cash quickly and easily (in order to redeem the current liabilities such as creditors) in the calculation. This leads to the calculation of the quick asset ratio or the acid-test ratio. The general rule of thumb is that it should at least be **1,0 or greater**.

Look ahead to example 5.3 and examine Bakers Ltd. How does the quick asset ratio of Bakers Ltd compare with the general rule of thumb?



There are various reasons why the enterprise must keep liquid assets. The continuous conversion process of **money → inventory → debtors → money** results in incoming and outgoing cash flow. As a result of the risk, the size and rate of cash flows are not known. In addition, incoming and outgoing cash flows are not always synchronised. For this reason, liquid assets are required to absorb possible periodical shortages. A condition of illiquidity (a state the opposite of liquidity) can affect the solvency and thus also threaten the survival of the company.

It is a fact that certain liquid assets can be converted into money more quickly than others, without a loss of value.

For example, a term deposit is in general converted more rapidly into cash than debtors; debtors are also associated with the possibility of financial loss in the form of irrecoverable debts.

Example

The liquid assets that can be converted immediately or at short notice into cash are by their very nature the most important to the enterprise.

The importance of the liquidity position of the enterprise to the credit analyst is clear - to determine whether the enterprise is in a position to **pay its accounts on time**. If it appears that the enterprise is in a position of illiquidity, no credit grantor will grant credit facilities to such an enterprise. The credit analyst will determine by means of an investigation to what extent the enterprise, for example, has primary liquid assets (cash and savings). If they are sufficient and it appears from the investigation that the enterprise normally has these cash resources, the enterprise should not have problems

with the payment of its short-term commitments. On the other hand, an illiquid condition could hamper the enterprise's activities: without the necessary liquid means, the activities of the enterprise are limited. The enterprise finds itself in a position where it could encounter problems in obtaining credit facilities without restrictive conditions.

Example *If the business could, for example, obtain short-term credit from a commercial bank, the money is lent to the business at a high interest rate. Eventually the enterprise is forced by illiquidity into a circle from which there is no escape.*

Analysing Profitability



A firm's profitability can be assessed relative to sales, assets, equity or share value. Why is it important to view a firm's profitability relative to each of these variables? Before reading on, spend a few moments answering this question.

There are many measures of profitability. Each relates the returns of the firm to its sales, assets, equity, or share value. As a group, these measures allow the analyst to evaluate the firm's earnings with respect to

- a given level of sales,
- a certain level of assets,
- the owners' investment, or
- share value.

Without profits a firm could not attract outside capital; moreover, present owners and creditors would become concerned about the company's future and attempt to recover their funds.

In the calculation of profitability ratios, there are basically two groups that can be distinguished:

- firstly, the group where the profitability is expressed in terms of the **sales** of the enterprise,
- secondly, the group where the profitability is expressed in terms of the **capital** used.

Gross profit margin

The **gross profit margin** indicates the percentage of each sales rand remaining after the firm has paid for its goods. The higher the gross profit margin the better, and the lower the relative cost of merchandise sold.



$$\begin{aligned} \text{Gross profit margin} &= \frac{\text{gross profit (sales - cost of goods sold)}}{\text{sales}} \times \frac{100}{1} \\ &= \frac{\text{R2 000 000}}{\text{R5 000 000}} \times \frac{100}{1} \\ &= 40\% \end{aligned}$$

Net profit margin

The **net profit margin** measures the **percentage** of each sales rand remaining after all expenses, including taxes, have been deducted. The higher the firm's net profit margin, the better. The net profit margin is a commonly cited measure of the corporation's success with respect to earnings on sales. "Good" net profit margins differ considerably across industries. A net profit margin of 1 percent would not be unusual for a grocery store, while a net profit margin of 10 percent would be low for a retail jewellery store. The net profit margin is calculated as follows:



$$\begin{aligned} \text{Net profit margin} &= \frac{\text{net profits after taxes}}{\text{sales}} \\ &= \frac{\text{R 225 000}}{\text{R5 000 000}} \\ &= 4,5\% \end{aligned}$$

Profitability of the enterprise

Profitability (enterprise)	=	$\frac{\text{net income}}{\text{total assets}}$
	=	$\frac{\text{R } 400\,000}{\text{R}2\,000\,000}$
	=	20%

Profitability of own capital

Profitability (shareholder's capital)	=	$\frac{\text{net income before tax}}{\text{own capital}}$
	=	$\frac{\text{R } 325\,000}{\text{R}1\,050\,000}$
	=	30,95 %

Profitability of loan/borrowed capital

Profitability of loan capital	=	$\frac{\text{interest paid}}{\text{loan/borrowed capital (average)}}$
	=	$\frac{\text{R } 75\,000}{\text{R}525\,000}$
	=	14,29 %

In analysing financial statements, the credit analyst uses profitability ratios to get an idea of the profitability of the enterprise and the efficiency with which the enterprise is managed. It should, however, be emphasised that the ratios on their own do not reflect the growth potential and income prospects of the enterprise - they offer the credit analyst only a **starting point for further examination**.

Example

In the case where an enterprise has very low profitability, the credit analyst will immediately know that a decision on the extension of credit must be considered very carefully. A profitability that compares favourably with that of previous years as well as with the industry norm facilitates the task of the credit analyst. Favourable profitability ratios coupled with a positive cash flow and an alert management team are a clear indication to the credit analyst of a good credit risk.

Analysing Debt

A firm's debt position can be assessed by looking at both its degree of indebtedness and its ability to pay its debt. What general relationship would you expect to exist between a firm's degree of indebtedness and its ability to pay its debts? Why? Spend a short time answering these questions before reading ahead.



The **debt position** of the firm indicates the amount of other people's money being used in attempting to generate profits.



In general, the financial analyst is most concerned with long-term debts, since these commit the firm to paying interest over the long term as well as eventually repaying the principal borrowed. Since the claims of creditors must be satisfied prior to the distribution of earnings to shareholders, present and prospective shareholders pay close attention to the **degree of indebtedness and ability to repay debts**. Lenders are also concerned about the firm's degree of indebtedness and ability to service debts, since the more indebted the firm, the higher the probability that the firm will be unable to satisfy the claims of all its creditors.

Peter and John are in the process of incorporating a new business venture they have formed. After a great deal of analysis, they have determined that an initial investment of R50 000 - R20 000 in current assets and R30 000 in fixed assets - is necessary. These funds can be obtained in either of two ways:

Example

- ★ *The first is the **no-debt plan**, under which they would together invest the full R50 000 without borrowing.*
- ★ *The other alternative, **the debt plan**, involves making a combined investment of R25 000 and borrowing the balance of R25 000 at 12 percent annual interest.*

Regardless of which alternative they choose, Peter and John expect sales to average R30000, costs and operating expenses to average R18 000, and earnings to be taxed at a 40 percent rate. The balance sheets and income statements associated with the no-debt and debt plans are summarised in Exhibit 5.1 below.

The no-debt plan results in after-tax profits of R7 200, representing a 14,4 percent rate of return on Peter and John's R50,000 investment. The debt plan results in after-tax profits of R5 400, representing a 21,6 percent rate of return on their combined investment of R25 000. It therefore appears that the debt plan provides Peter and John with a higher rate of return, but the risk of this plan is also greater, since the annual R3 000 of interest must be paid prior to receipt of earnings.

Exhibit 5.1

Financial statements associated with Peter and John's alternatives

Balance sheet	No-debt pan	Debt plan
Current assets	R 20 000	R 20 000
Fixed assets	<u>30 000</u>	<u>30 000</u>
Total assets	<u>R 50 000</u>	<u>R 50 000</u>
Debt (12% interest)	R 0	R 25 000
1) Equity	<u>50 000</u>	<u>25 000</u>
Total liabilities and equity	<u>R 50 000</u>	<u>R 50 000</u>
Income statements		
Sales	30 000	30 000
Less: Cost and operating expenses	<u>18 000</u>	<u>18 000</u>
Operating profits	12 000	12 000
Less: Interest expenses	<u>0</u>	(12 x 25 000) <u>3 000</u>
Net profit before taes	12 000	9 000
Less: Taxes (40%)	<u>4 800</u>	<u>3 600</u>
2) Net profit after taes	<u>7 200</u>	<u>5 400</u>
Return on equity (2 + 1)	<u>7 200</u> = 14% <u>R 50 000</u>	<u>5 400</u> = 21,6% <u>R 25 000</u>

From the example, it should be clear that with increased debt comes greater risk as well as higher potential return; therefore, **the greater the financial leverage, the greater the potential risk and return**, and vice versa.

Measures of debt

There are two general types of debt measures:

- measures of the degree of indebtedness and,
- measures of the ability to service debts.

The **degree of indebtedness** measures the amount of debt against other significant balance sheet amounts. Two of the most commonly used measures are the **debt ratio** and the **debt-equity ratio**.



The second type of debt measure, the **ability to service debts**, refers to the ability of a firm to make the contractual payments required on a scheduled basis over the life of a debt.



According to Gitman (1991: 269) debts come with scheduled fixed-payment obligations for interest and principal. The firm's ability to pay certain fixed charges is measured using **coverage ratios**. The lower the firm's coverage ratios, the more risky the firm is considered to be. "Riskiness" here refers to the firm's ability to pay fixed obligations. If a firm is unable to pay these obligations, it will be in default, and its creditors may seek immediate repayment. There are two ratios of coverage - **times interest earned** and **fixed-payment coverage** - but we will discuss only the times interest earned ratio.

Debt ratio

The **debt ratio** measures the proportion of total assets financed by the firm's creditors. The higher this ratio, the greater the amount of other people's money being used in an effort to generate profits. The ratio is calculated as follows:



$$\begin{aligned} \text{Debt ratio} &= \frac{\text{total liabilities}}{\text{total assets}} \\ &= \frac{\text{R } 950\,000}{\text{R}2\,000\,000} \\ &= 47,5\% \end{aligned}$$

This indicates that the company has financed 47,5 percent of its assets with debt. The higher this ratio, the more financial leverage we say a firm has.

The **debt-equity ratio**, on the other hand, differs from the debt ratio by focusing on **long-term debts**. Short-term debt, or current liabilities, are excluded, since most of them are spontaneous (that is, they are the natural result of doing business) and do not commit the firm to the payment of fixed charges over a long period of time.

Debt-equity ratio



The **debt-equity ratio** indicates the relationship between the long-term funds provided by creditors and those provided by the firm's owners. It is commonly used to measure the degree of financial leverage of the firm and is calculated as follows:

$$\begin{aligned}
 \text{Debt-equity ratio} &= \frac{\text{long-term debt}}{\text{shareholders' equity}} \\
 &= \frac{\text{R } 950\,000}{\text{R1 } 050\,000} \\
 &= 90\%
 \end{aligned}$$

The firm's long-term debts are therefore 90 percent as large as shareholders' equity.

Times interest earned ratio



The **times interest earned ratio** measures the ability to make contractual interest payments. The higher the value of this ratio, the better able the firm is to fulfil its interest obligations.

$$\begin{aligned}
 \text{Times interest earned} &= \frac{\text{earnings before interest and taxes (EBIT)}}{\text{interest}} \\
 &= \frac{\text{R400 } 000}{\text{R750 } 00} \\
 &= 5,3 \text{ times}
 \end{aligned}$$

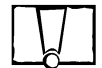
As a rule, a value of at least 3,0 (preferably closer to 5,0) is suggested in order to have a good margin of safety.

Analysing Activity

Activity ratios can be used to assess the speed with which current accounts (inventory, accounts payable and accounts receivable) are converted into cash. Why is it important to use these measures to assess the firm’s “true” liquidity? Take a few moments to answer this question before reading ahead.



Activity ratios are used to measure the speed with which various accounts are converted into sales or cash.



Measures of liquidity are generally inadequate because differences in the composition of a firm’s current assets and liabilities can significantly affect the firm’s “true” liquidity. Consider the current portion of the balance sheets for firms A and B in the following table.

Firm A			
Cash	R 0	Accounts payable	R 0
Marketable securities	0	Notes payable	10 000
Accounts receivable	0	Accruals	0
Inventories	<u>R 20 000</u>		
Total current assets	<u>R 20 000</u>	Total current liabilities	<u>10 000</u>
Firm B			
Cash	R 5 000	Accounts payable	R 5 000
Marketable securities	5 000	Notes payable	3 000
Accounts receivable	5 000	Accruals	2 000
Inventories	<u>5 000</u>		
Total current assets	<u>R 20 000</u>	Total current liabilities	<u>R 10 000</u>

Although both firms appear to be equally liquid since their current ratios are both 2.0 (R20,000 / R10,000), a closer look at the differences in the composition of current assets and liabilities suggests that firm B is more



liquid than firm A. This is true for two reasons: (1) Firm B has more liquid assets in the form of cash and marketable securities than firm A, which has only a single and relatively illiquid asset in the form of inventories, and (2) firm B's current liabilities are in general more flexible than the single current liability (notes payable) of firm A.

Inventory turnover



Inventory turnover commonly measures the activity, or liquidity, of a firm's inventory. It is calculated as follows:

$$\begin{aligned} \text{Inventory turnover} &= \frac{\text{cost of goods sold (sales)}}{\text{average inventory}} \\ &= \frac{\text{R3 000 000}}{\text{R250 000}} \\ &= 12 \text{ times} \end{aligned}$$

The inventory turnover gives an indication of **how efficiently the stock in the enterprise is managed**. It refers to the number of times per year the stock is replaced; it can also be seen as the speed with which the stock to debtors is converted into cash.

It is normally true that the higher the stock turnover, the more efficient the inventory management. A low inventory turnover speed can be the result of low sales (which in turn influences the profitability and thus the paying ability of the enterprise).

The credit analyst must be on the lookout for low turnover rate for debtors and inventory. Low turnover rates mean that operating capital is invested in current assets when it should really have been available for the redemption of current liabilities. This information is important to the credit analyst for **assessing the creditworthiness** of the business.

Average collection period

The **average collection period**, or average age of accounts receivable, is useful in evaluating credit and collection policies.



$$\begin{aligned} \text{Average collection period} &= \frac{\text{accounts receivable}}{\text{average sales per day}} \\ &= \frac{\text{accounts receivable}}{\frac{\text{annual sales}}{360}} \end{aligned}$$

Fixed asset turnover

The **fixed asset turnover** measures the efficiency with which the firm has been using its fixed, or earning, assets to generate sales.



$$\begin{aligned} \text{Fixed asset turnover} &= \frac{\text{sales}}{\text{net fixed assets}} \\ &= \frac{\text{R5 000 000}}{\text{R1 250 000}} \\ &= 4 \text{ times} \end{aligned}$$

This means the company turns over its net fixed assets four times a year. Generally, higher fixed asset turnovers are preferred since they reflect greater efficiency of fixed asset utilisation.

Total asset turnover

The **total asset turnover** indicates the efficiency with which the firm uses all its assets to generate sales. Generally, the higher a firm's total asset turnover, the more efficiently its assets have been used.



$$\begin{aligned} \text{Total asset turnover} &= \frac{\text{sales}}{\text{total assets}} \\ &= \frac{\text{R5 000 000}}{\text{R2 000 000}} \\ &= 2,5 \text{ times} \end{aligned}$$

The company therefore turns its assets over 2,5 times a year. This measure is probably of greatest interest to management since it **indicates whether the firm's operations have been financially efficient.**

B. ANALYSING THE STATEMENT OF CASH FLOW



The statement of cash flows - one of the firm's four required financial statements - provides a snapshot of the firm's cash flows over a given period of time. As a financial manager, how might this statement prove useful to you? Before reading ahead, spend a few moments responding to this question.



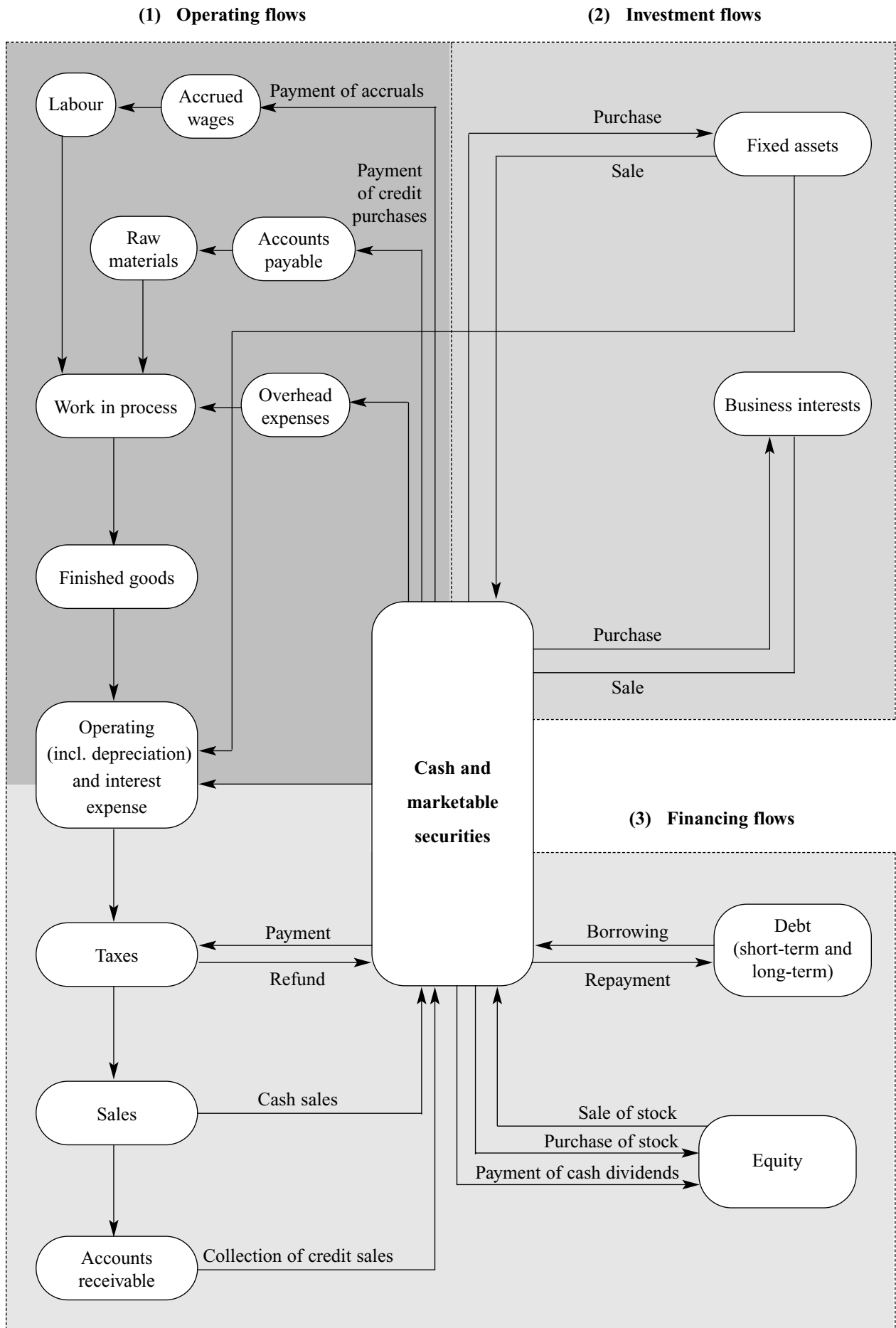
The **statement of cash flows**, briefly described earlier, **summarises the firm's cash flow over a given period of time.** Because it can be used to capture historic cash flow, the statement is developed in this section. First, however, we need to discuss cash flow through the firm and the classification of sources and uses.

The firm's cash flows

Exhibit 5.1 (Gitman, 1991:83) on the following page illustrates the firm's cash flows. Note that both cash and marketable securities, which because of their highly liquid nature are considered the same as cash, represent a reservoir of liquidity that is increased by cash inflows and decreased by cash outflows. Also note that the firm's cash flows have been divided into:

- (1) operating flows,
- (2) investment flows, and
- (3) financing flows.

Figure 5.1 (Gitman, 1991:83)



- **Operating activities** are cash flows (inflows and outflows) directly related to production and the sale of the firm's products and services. These flows capture the income statement and current account transactions (excluding notes payable) occurring during the period.
- **Investment activities** are cash flows associated with purchase and sale of both fixed assets and business interests. Clearly, purchase transactions would result in cash outflows, whereas sales transactions would generate cash inflows.
- **Financing activities** result from debt and equity financing transactions. Borrowing and repaying either short-term debt (notes payable) or long-term debt would result in a corresponding cash inflow or outflow. Similarly, the sale of stock would result in a cash inflow, whereas the repurchase of stock or payment of cash dividends would result in a financing outflow. In combination, the firm's operating, investment and financing cash flows during a given period will increase, decrease or leave unchanged the firm's cash and marketable securities balances.

Classifying Sources and Uses of Cash

According to Gitman (1991: 84) the statement of cash flows in effect summarises the sources and uses of cash during a given period. (Exhibit 5.2 classifies the basic sources and uses of cash.)

Example

If a firm's accounts payable increased by R1 000 during the year, this change would be a source of cash. If the firm's inventory increased by R2 500, the change would be a use of cash, meaning that an additional R2 500 was tied up in inventory.

A few additional points should be made with respect to the classification scheme in Exhibit 5.2:

- A **decrease** in an asset, such as the firm's cash balance, is a source of cash flow because cash is released for some purpose, such as adding to inventory. On the other hand, an increase in the firm's cash balance is a use of cash flow since the cash must be drawn from somewhere.

- **Depreciation** is an expense that is deducted on the income statement but does not involve an actual outlay of cash during the period. The general rule for adjusting net profits after taxes by adding back all non-cash charges (depreciation, amortisation, depletion allowances) is expressed as follows:

<u>Cash flow from operations</u>	=	net profits after taxes + non-cash charges
Net profits after taxes		R225 000
Plus: Depreciation		<u>200 000</u>
Cash flow from operations		<u>R425 000</u>

Note that a firm can have a **net loss** (negative net profits after taxes) and still have a positive cash flow from operations when depreciation during the period is greater than the net loss. In the statement of cash flows, net profits after taxes (or net losses) and non-cash charges are therefore treated as separate entries.



Exhibit 5.2

The sources and uses of cash

Sources	Uses
● Decrease in any asset	● Increase in any asset
● Increase in any liability	● Decrease in any liability
● Net profits after taxes	● Net loss
● Depreciation and other non-cash charges	● Dividends paid
● Sale of stock	● Repurchase of stock

- Because depreciation is treated as a separate source of cash, only gross rather than net changes in fixed assets appear on the statements of cash flows. This treatment avoids the potential double counting of depreciation.
- Direct entries of changes in **retained earnings** are not included on the statements of cash flows; instead, entries for items that affect retained earnings appear as net profits or losses after taxes and cash dividends.

Exhibit 5.3

Altmark Corporation Income Statement (R000) for the Year Ended December 31, 1997

Sales revenue		R1 700
Less: Cost of goods sold		<u>1 000</u>
Gross profits		700
Less: Operating expenses		
Selling expenses	R 80	
General and administrative expense	150	
Depreciation expense	<u>0</u>	
Total operating expense		<u>230</u>
Operating profits (EBIT)		470
Less: Interest expense		<u>70</u>
Net profits before taxes		400
Less: Taxes (rate = 40%)		<u>120</u>
Net profits after taxes		280
Less: Preferred stock dividends		<u>10</u>
Earnings available for common stockholders		<u>170</u>
Earnings per share (EPS) ^a		R 1.70

^a Calculated by dividing the earnings available for common stockholders by the number of shares of common stock outstanding (R170 000 (100 000 shares = R1.70 per share).

Exhibit 5.4

Altmark Corporation Balance Sheet (R000) (Gitman, 1991: 95)

Assets	1997	1996
	R'000	R'000
Current Assets		
Cash	400	300
Marketable securities	600	200
Accounts receivable	400	500
Inventories	<u>600</u>	<u>900</u>
Total current assets	<u>2 000</u>	<u>1 900</u>
Gross fixed assets (cost)		
Land and buildings	1 200	1 050
Machinery and equipment	850	800
Furniture	300	220
Vehicles	100	80
Other (include certain leases)	<u>50</u>	<u>50</u>
Total gross fixed assets (cost)	2 500	2 200
less: Accumulated depreciation	<u>1 300</u>	<u>1 200</u>
Net fixed assets	<u>1 200</u>	<u>1 000</u>
Total fixed assets	<u>R3 200</u>	<u>R2 900</u>
 Liabilities and shareholders' equity		
Current liabilities		
Accounts payable	700	500
Notes payable	600	700
Accruals	<u>100</u>	<u>200</u>
Total current liabilities	1 400	1 400
Long-term debt	<u>600</u>	<u>400</u>
Total liabilities	<u>2 000</u>	<u>1 800</u>
 Shareholders' equity		
Preferred stock (shares)	100	100
Common stock - (R1.20 par, 1000,000 shares outstanding in 1996 and 1997)	120	120
Paid-in capital in excess of par on common stock	380	380
Retained earnings	<u>600</u>	<u>500</u>
Total stockholders' equity	<u>1 200</u>	<u>1 100</u>
Total liabilities and stockholders' equity	<u>3 200</u>	<u>R2 900</u>

Developing the statements of cash flows (Gitman, 1991: 85)

The statements of cash flows can be developed in three steps:

- prepare a statement of sources and uses of cash,
- obtain needed income statement data, and
- properly classify and present relevant data from steps 1 and 2. With this three-step procedure, we can use Altmark Corporation's financial statements above to demonstrate the preparation of its December 31, 1997, statement of cash flows.

Statement of sources and uses of cash

Step 1: Calculate the balance sheet changes in assets, liabilities and shareholders' equity over the period of concern.

Step 2: Using the classification scheme in Table 5.2, classify each change calculated in Step 1 as either a source (S) or a use (U). (Notes: An increase in accumulated depreciation would be classified as a source, whereas a decrease in accumulated depreciation would be a use. Changes in shareholders' equity accounts are classified in the same way as changes in liabilities - increases are sources and decreases are uses.)

Step 3: Separately add all sources and all uses found in Steps 1 and 2. If this statement is prepared correctly, total sources should equal total uses.

Obtaining income statement data

Three important inputs to the statement of cash flows must be obtained from an income statement for the period under consideration. These inputs are:

- net profits after taxes,
- depreciation and any other non-cash charges, and
- cash dividends paid on both preferred and common stock.

Net profits after taxes and depreciation typically can be taken directly from the income statement; dividends may have to be calculated using the following equation:

$$\text{Dividends} = \text{net profits after taxes} - \text{change in retained earnings.}$$

Exhibit 5.5

Altmark Corporation Statement of Sources and Uses of Cash (R000) for the Year ended December 31, 1997

Account (1)	1997 (2)	1996 (3)	[(2 - (3))] (4)	Source (5)	Use (6)
Assets					
Cash	400	300	+100		100
Marketable securities	600	200	+400		400
Accounts receivable	400	500	-100	100	
Inventories	600	900	-300	300	
Gross fixed assets	2 500	2 200	+300		300
Accumulated depreciation ^a	1 300	1 200	+100	100	
Liabilities					
Accounts payable	700	500	+200	200	
Notes payable	600	700	-100		100
Accruals	100	200	-100		100
Long-term debt	600	400	+200	200	
Stockholders' equity					
Preferred stock (shares)	100	100	0		
Common stock at par	120	120	0		
Paid-in capital in excess of par	380	380	0		
Retained earnings	600	500	+100	<u>100</u>	<u> </u>
			Totals	<u>R 1 100</u>	<u>R 1 100</u>

^a Because accumulated depreciation is treated as a deduction from gross fixed assets, an increase in it is classified as a source; any decrease would be classified as a use.

The value of net profits after taxes can be obtained from the income statement, and the change in retained earnings can be found in the statement of sources and uses of cash or can be calculated using the beginning- and end-of-period balance sheets. The dividend can be obtained directly from the statement of retained earnings, if available.

Classifying and presenting relevant data

The relevant data from the statement of sources and uses of cash, along with the net profit, depreciation and dividend data obtained from the income statement, can be used to prepare the statement of cash flows.

Exhibit 5.6

Baker Corporation Statement of Cash Flows (R000) for the Year Ended December 31, 1997

Cash Flow from Operating Activities		
Net profits after taxes	180	
Depreciation	100	
Decrease in accounts receivable	100	
Decrease in inventories	300	
Increase in accounts payable	200	
Decrease in accruals	<u>(100)</u> ^a	
Cash provided by operating activities		R 780
Cash Flow from Investment Activities		
Increase in gross fixed assets	(300)	
Changes in business interest	<u>0</u>	
Cash used for investment activities		(300)
Cash Flow from Financing Activities		
Decrease in notes payable	(100)	
Increase in long-term debts	200	
Changes in Shareholders' equity	0	
Dividends paid	<u>(80)</u>	
Cash provided by financing activities		<u>20</u>
Net increase in cash and marketable securities		<u>R 500</u>

^a As is customary, parentheses are used to denote a negative number, which in this case is a cash outflow.

Interpreting the statement

The statement of cash flows allows the credit analyst and other parties to analyse the **firm's past cash flow**. The manager should pay special attention to both the major categories of cash flow and the individual items of cash inflow and outflow in order to assess whether any developments have occurred that are contrary to the company's financial policies. In addition, the statement can be used to **evaluate the fulfilment of projected goals**. Specific links between cash inflows and outflows cannot be made using this statement, but it can be used to isolate inefficiencies. For example, increases in accounts receivable and inventories resulting in major cash outflows may respectively signal credit or inventory problems.

Comparative Statement Analysis

At the beginning of this chapter we stated very clearly that the ratios in themselves are of little use and thus meaningless to the credit analyst. This is in fact true for any user of the financial statements. The ratios become useful and have meaning only if they are **compared with certain norms**. The credit analyst can assess the financial performance and condition of the enterprise from the financial performance and the position of other enterprises in the same industry.

The credit analyst can also compare the financial ratios of the enterprise for the present financial year with those of the previous years. From this the credit analyst can also obtain an idea of the enterprise's **financial strength and ability to pay**. The credit analyst can also determine whether the enterprise's financial performance as well as its financial condition has improved or deteriorated. A **comparative analysis** of the financial statements of an enterprise can give the credit analyst valuable information about the **creditworthiness** of the business.

Comparative statement analysis is the study of the trend of the same items or groups of items (for example debtors as single items or current assets as a group of items) in two or more financial statements of the same enterprise at various dates.



An important prerequisite for the comparative statement analysis is that the **dates of the financial statements must coincide**. If the balance sheet for 1990 was prepared at 31 December, the comparative statements for 1991 and 1992 must also be prepared at 31 December.

The credit analyst can perform the comparative analysis of the financial statements in one of the following three ways:

- **Firstly**, the trend of the entries in the financial statements can be compared to a **base year**. Let us take debtors as an example. Assume that we take 1996 as the base year - the debtors balance in the balance sheet of 1996 then represents 100%. The debtors balance for 1997 is now compared with the base year, and the same is done for 1998 and 1999. The debtors balance for 1997 and other years is now expressed as a percentage of the base year to determine the trend of the debtors. One of the problems with this comparison is the assumption that the base year is representative of a normal business year, and this need not necessarily be the case.

Debtors balance

1996	1997	1998	1999
R 150 000	R 220 000	R 200 000	R 250 000
100%	147%	133%	167%

Base-year trend

- **Secondly**, another way to compare the financial statements is to use the **progressive base year** method. Entries in the financial statements are expressed as a percentage of the entry for the **previous year**. This gives a more realistic picture of the trend for the particular items.

Debtors balance

1996	1997	1998	1999
R 150 000	R 220 000	R 200 000	R 250 000
100%	147%	91%	125%

Progressive base year

- A **third method** by which a comparative statement analysis can be done is to compare the ratios that are calculated from the financial statements with one another. This means that the turnover ratio of the debtors for 1997 is compared with the turnover ratio of debtors for 1996. From an evaluation of the trend of the ratio over a few years, the credit analyst can also determine certain trends.

We will now show you how the comparative statements of Bakers Ltd can be used in the assessment of creditworthiness. We will do this with the aid of a comparative analysis of the ratios. At the same time we will compare the ratios of Bakers Ltd with the industry norm. We will not discuss the ratios again but merely indicate what the trend of the ratio is.

Bakers Ltd Income statement (R000) for the year ended 31 December 1996.

Sales		R5 000
less: Cost of goods sold		<u>3 000</u>
GROSS INCOME		2 000
less: Operating expenses		<u>1 600</u>
sales cost	700	
administrative cost (including auditor's fee)	700	
depreciation	<u>200</u>	
NET INCOME (earning before interest and tax - EBIT)		400
less: Interest expenses		<u>75</u>
NET INCOME before tax		325
less: Tax (rate = 40%)		<u>100</u>
NET INCOME after tax		225
less: Preferred share dividends		<u>15</u>
Earnings available for common shareholders		210
less: Dividends to common (ordinary) shareholders		<u>15</u>
RETAINED EARNINGS		195
less: Contribution to reserves		<u>95</u>
RETAINED EARNINGS for the year		<u>R 100</u>

Example A: Income statement for Bakers Ltd for the year ended December 31, 1998

Bakers Ltd Balance Sheets (R000)

	1997	1996
	R'000	R'000
CAPITAL EMPLOYED		
OWN CAPITAL (Shareholders equity)		
Common share capital	300	300
Reserves	105	105
Retained earnings	400	500
Preferred shares	<u>50</u>	<u>50</u>
TOTAL SHAREHOLDERS' CAPITAL	855	1 050
BORROWED CAPITAL		
Long-term loan	<u>400</u>	<u>650</u>
	<u>1 255</u>	<u>1 700</u>
EMPLOYMENT OF CAPITAL		
FIXED ASSETS		
Land and buildings	1 100	1 500
Plant and equipment	200	350
Depreciation	(400)	(600)
INVESTMENTS		
Shares (listed)	10	10
CURRENT ASSETS		
	595	740
Cash	175	240
Debtors	220	200
Inventory	<u>200</u>	<u>300</u>
CURRENT LIABILITIES		
	<u>250</u>	<u>300</u>
Creditors	150	200
Short-term loan	<u>100</u>	<u>100</u>
NET CURRENT ASSETS	<u>345</u>	<u>440</u>
	<u>1 255</u>	<u>1 700</u>

Notes to the financial statements.

	1997	1996
1. Common shares (ordinary shares) Authorised and issued 300 000 ordinary shares of R1 each.	R 300 000	R 300 000
2. Preferred shares Authorised and issued 50 000	50 000	50 000
3. Loan/Borrowed capital Long-term loan at 13,6% Loan increased by R250 000 on 1 June 1996.	400 000	650 000
4. Sales Total sales consist of		
Cash sales	1 500 000	2 000 000
Credit sales	<u>2 500 000</u>	<u>3 000 000</u>
	<u>4 000 000</u>	<u>5 000 000</u>

Example B: Balance Sheet for Bakers Ltd as at 31 December.

Ratio	1996	1997	1998	Industry norm
Current ratios	2,25	2,38	2,47	2
Acid-test ratio	1,35	1,58	1,47	1
Gross income margin	32%	35%	40%	40%
Net income margin	2.15%	2,50%	4,50%	3.0%
Profitability (return), enterprise	12%	16%	20%	20%
Profitability (return), shareholder's capital	11%	17,5%	30,95 %	25%
Debt ratio	50%	52%	47,5%	50%
Debt-equity ratio	78%	76%	90%	80%
Interest coverage	3.5 times	4 times	5,3 times	4 times
Turnover ratio of debtors	5,3 times	6,8 times	10 times	8 times
Turnover ratio of stock	6,5 times	8,67 times	12 times	10 times
Turnover ratio of fixed assets	4,1 times	4,44 times	4 times	4 times
Turnover ratio of total assets	2,3 times	2,68 times	2.5 times	2 times

Example C: Financial ratios, Bakers Ltd

In example C above we see the ratios for Bakers Ltd for the financial years 1996, 1997 and 1998. The credit analyst can use these ratios and figures in the assessment of the creditworthiness of Bakers Ltd to make certain deductions regarding the company's financial position and its ability to pay.

If we have another look at the current ratio for Bakers Ltd, we see that it compares very favourably with the industry norm. With the passage of time the ratio between current assets and current liabilities has increased.

Theoretically the company should be in a better position to make all its payments on time and regularly. As we have already explained, however, we should first examine the **quick asset ratio** before we make a final deduction regarding the ability to pay. If we look at the quick asset ratios, we can see

that the company still compares very favourably with the industry's norm. Bakers Ltd should thus be able to make all its payments regularly and on time. This trend has strengthened over the past three years. The company should, however, be careful not to keep too much liquid means - this means, among other things, a loss of interest income.

The **gross** and the **net income margins** of Bakers Ltd have shown a continuous increase over the past three years. At present the figures for Bakers Ltd compare very favourably with the industry's norm. We also note that the **profitability** of the **company** as well as the **return on shareholder's capital** shows a rising trend. In the case of the profitability of the company and shareholder's capital, the figures at present compare favourably with the norm of the industry. The positive growth with regard to these ratios can, among other things, be the result of efficient management and the right product at the right time.

The **interest coverage** of Bakers Ltd compares favourably with the industry's norm. The suppliers of loan/debt capital can be certain that the company will meet its interest commitments. This certainty is further supported by the quick asset ratio for Bakers Ltd and that it compares well with the general rule of thumb.

The **activity ratios** for Bakers Ltd have improved during the period from 1996 up to and including the end of 1998 - at present all the figures compare very favourably with the industry's norm. This indicates the efficiency with which Bakers Ltd manages its current assets as well as its fixed assets. It is also an indication of the predisposition of the management team of the company - decisions are not taken in haste.

From the information above it is clear that the credit analyst can obtain valuable information from the analysis of financial statements as well as from the comparative statements. The information that is obtained from the financial ratios is not used as mere figures - it offers the credit analyst a **starting point in the examination of the creditworthiness of a company**, and must be seen as part of his or her tools in taking informed credit decisions.

MODELS FOR THE PREDICTION OF FAILURE

In order to make the analysis of the annual financial statements of an enterprise as objective as possible, models to predict failure have been developed. Here we will refer to the model which Altman developed - the “Z-SCORE” model as well as the model that De La Rey developed in South Africa. These models are based on the ratios that are calculated from the financial statements. For both models a certain group of ratios is chosen from the financial statements to give an indication of whether the particular enterprise will be successful or not.

During the development of the models it had to be determined which ratios should be included in the chosen group since it was clear that not all the financial ratios could be included. A particular weight had to be applied to each ratio as all the ratios were not equally important in such a model. Some of the ratios that are used in the models are, among others, the net operating capital/total assets, sales/total assets, and income before interest and tax/total assets.

In the models, **discriminate analysis** is used to classify the ratios from the financial statements as either successful or unsuccessful. With the aid of discriminate analysis an enterprise can then be classified as a success or a failure. It is clear that this classification of successful or unsuccessful is based on the enterprise’s results as measured by the ratios from the financial statements.

Altman Model

The notation of **Altman’s model** is as follows:

- $Z = 0,012x_1 + 0,014x_2 + 0,033x_3 + 0,006x_4 + 0,999x_5$, where
- x_1 = net operating capital/total assets (if the enterprise has listed investments, these are also included in the net current assets as they can be converted into cash quickly)
- x_2 = retained earnings/total assets
- x_3 = earnings before interest and tax/total assets (EBIT/total assets)
- x_4 = market value of ordinary and preferred shares/book value of total liabilities
- x_5 = sales/total assets
- Z = total index

The first four ratios are expressed as percentages, while the last ratio is expressed as a figure. Before we show you how the model is used, please note the following: the one ratio that is used in the notation is the **market value** of the ordinary and preferred shares - here we refer to a listed company. For the application of the model to Bakers Ltd we can assume that the listed price of the shares is R0,95 per share. If the model is applied to any unlisted organisations, the market value of the shares is replaced by the **book value** of own capital.

$$\begin{aligned}
 X_1 &= \frac{\text{net operating capital}}{\text{total assets}} \\
 &= \frac{440 + 10}{2\,000} \\
 &= 22,5\% \\
 X_2 &= \frac{\text{retained earnings}}{\text{total assets}} \\
 &= \frac{500}{2\,000} \\
 &= 25\% \\
 X_3 &= \frac{\text{earnings before interest and tax (EBIT)}}{\text{total assets}} \\
 &= \frac{400}{2\,000} \\
 &= 20\% \\
 X_4 &= \frac{\text{market value of shares}}{\text{book value of debt}} \\
 &= \frac{332,50}{950} \\
 &= 35\% \\
 X_5 &= \frac{\text{sales}}{\text{total assets}} \\
 &= \frac{5\,000}{2\,000} \\
 &= 2,5 \text{ times}
 \end{aligned}$$

The Z-score for Bakers Ltd is thus:

$$\begin{aligned}
 Z &= 0,012 (22,5\%) + 0,014 (25) + 0,033 (20 + 0,006 (35)) + 0,999 (2,5) \\
 &= 0,27 + 0,35 + 0,66 + 0,21 + 2,4075 \\
 &= 3,9875
 \end{aligned}$$

Altman showed that all enterprises that have a Z-score in excess of 2,99 form part of the group of enterprises that can be classified as successful. Enterprises with a count lower than 1,81 would, according to Altman, certainly fail. From the example above, it is evident that Bakers Ltd can be classified as a successful enterprise.

Zeta Model

Altman refined his Z-score model through further research into the ZETA model. The ratios being used in this model are enterprise's profitability, stability of earnings, debt redemption, cumulative profitability, liquidity, capitalisation and size. The weight allocated to each of the variables is not known.

The model that was developed by De la Rey uses the same point of departure as Altman. There are, however, seven ratios in De la Rey's model, and the coefficients of the variables (ratios) change. The notation for the **ZETA-model** is as follows:

$$K = -0,01662_a + 0,0111_b + 0,0529_c + 0,086_d + 0,017_e + 0,01071_f - 0,06881$$

where

- a = $\frac{\text{total external financing}}{\text{total assets}}$
- b = $\frac{\text{income before interest and tax (EBIT)}}{\text{average total assets}}$
- c = $\frac{\text{total current assets + listed investments}}{\text{total current liabilities}}$
- d = $\frac{\text{income after tax}}{\text{average total assets}}$
- e = $\frac{\text{net cash flow}}{\text{average total assets}}$
- f = $\frac{\text{inventory (stock)}}{\text{inflation-adjusted total assets}}$

All the ratios except c are expressed as a percentage. In this model the cutoff point between a financially sound enterprise and a financial failure is zero. An enterprise moving above zero is thus regarded as financially sound, while the enterprise below zero is regarded as a failure. We will now apply this model to Bakers Ltd.

a	=	$\frac{\text{total external financing}}{\text{total assets}}$
	=	$\frac{950}{2\,000}$
	=	47,5%
b	=	$\frac{\text{EBIT}}{\text{average total assets}}$
	=	$\frac{400}{1\,752,5}$
	=	22,825%
c	=	$\frac{\text{total operating assets} + \text{listed investments}}{\text{total operating liabilities}}$
	=	$\frac{750}{300}$
	=	2,5
d	=	$\frac{\text{income after tax}}{\text{average total assets}}$
	=	$\frac{225}{1\,725,5}$
	=	12,839%
e	=	$\frac{\text{net cash flow from the interprise's activities}}{\text{average total assets}}$
	=	$\frac{425}{1\,752,5}$
	=	24,2511%
f	=	$\frac{\text{stock (inventory)}}{\text{inflation-adjusted total assets}}$
	=	$\frac{300}{2\,500}$
	=	12%
K	=	$-0,01662 (47,5) + 0,0111 (22,825) + 0,0529 (2,5) + 0,086 (12,839) +$
	=	$0,0174 (24,2511) + 0,01071 (12) - 0,06881$
	=	$-0,78945 + 0,25336 + 0,13225 + 1,0295 + 0,4297 + 0,12825 - 0,06881$
	=	1,18052
	=	> 0

You already know that the cutoff point for a financially sound enterprise and a financial failure according to the De la Rey model is zero. From the application of the model to Bakers Ltd we can again see that this assessment allows the enterprise to be classified as a **financially sound company**.

The credit analyst can use these models in the analysis of the creditworthiness of an enterprise. The financial success or failure of an enterprise is after all the **determining** factor in the decision whether credit will be extended or not. If the business is classified as a success with the aid of the models, it means that the enterprise has the ability to make all its payments regularly and on time. This has a direct influence on decisions on the extension of credit. On the other hand, if an enterprise is classified as a failure, it means that the enterprise is financially unsound and that all requests for extension of credit will be turned down.

SUMMARY

In this chapter we discussed the analysis of financial statements from the point of view of the credit analyst. We saw that the general purpose of the analysis of the statements is to determine whether the enterprise has the financial ability to make payments regularly and on time. No decisions on the extension of credit can be made if the credit analyst does not have this basic information. We also determined that no meaningful ratio analysis can be done if the analyst of the financial statements does not have certain norms against which the ratios can be rated. The availability of norms is thus an important factor in the analysis process.

We also discussed the concepts of profitability, liquidity and solvency (debt), and emphasised the importance of these concepts to the credit analyst. We showed how the various ratios must be calculated and interpreted. It is important that the credit analyst know how to use the various ratios to make deductions regarding the creditworthiness of a company. The comparative statement analysis is very valuable and methods by which this analysis can be done were discussed.

QUESTIONS FOR SELF-EVALUATION

1. What is the general purpose of the analysis of the annual financial statements by the credit analyst?
2. What methods can be used in the analysis of the financial statements?
3. Discuss the importance of norms in the analysis of financial statements. Explain how the norms can be determined.
4. Explain and discuss the importance of the following concepts to the credit analyst:
 - Liquidity
 - Solvency (debt)
 - Profitability
5. Discuss the use and meaning of the analysis of the statement of cash flow to the credit analyst.
6. What do you understand by the term comparative statement analysis?
7. What role do comparative statements play in the assessment of the creditworthiness of an enterprise?
8. What methods can be used to perform a comparative statement analysis? Explain with the aid of the following figures:

<u>Creditors</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
Balance	R165 000	R170 000	R180 000	R182 000

9. The annual financial statements for XYZ Shoe Ltd for the financial year 30 June 1996 are presented below:

Income statement for XYZ Shoe Ltd for the financial year ended 30 June 1996

	R'000
Sales	10 000
Credit	8 000
Cash	<u>2 000</u>
less: cost of sales	<u>5 700</u>
GROSS INCOME	4 300
less: operating cost	<u>2 000</u>
EBIT	2 300
less: interest	300
tax	<u>1 000</u>
NET INCOME after tax and interest	1 000
less: preferred dividends	<u>120</u>
Earnings available to ordinary shareholders	880
less: ordinary dividends	<u>180</u>
RETAINED EARNINGS	<u>700</u>

Balance Sheet for XYZ Shoe Ltd as at 30 June 1996

CAPITAL EMPLOYED	R'000
Shareholders equity	
Ordinary share capital	1 000
Retained earnings	2 000
Preferred share capital	<u>2 000</u>
Total shareholder's capital	5 000
Long-term capital	
Long-term loan	<u>6 000</u>
	<u>R 11 000</u>
EMPLOYMENT OF CAPITAL	
Fixed assets less depreciation	8 500
Current assets	6 500
Cash	500
Debtors	2 500
Inventory	<u>3 500</u>
less: Current liabilities	4 000
Creditors	1 000
Tax and wages due	1 000
Short-term loan	<u>2 000</u>
Net current assets	<u>2 500</u>
TOTAL ASSETS	<u>R 11 000</u>

Financial ratios for XYZ Shoe Ltd

Ratio	1996	1997	1998	Industry
Current ratio	250%	200%		225%
Acid-test ratio	100%	90%		110%
Debtors turnover ratio	5 times	4,5 times		6 times
Stock turnover ratio	4 times	3 times		4 times
Fixed asset turnover	0,9 times	0,8 times		1 time
Gross profit margin	39%	41%		40%
Net profit margin	17%	15%		15%
Profitability: shareholders	15%	12%		10%
Interest coverage	11 times	9 times		10 times
Debt ratio	50%	60%		55%

1. Calculate the following ratios for XYZ Shoe Ltd:
 - Liquidity ratios
 - Profitability ratios
 - Solvency ratios
 - Activity ratios
2. Calculate the missing ratios in the table above.
3. Evaluate the general financial position of XYZ Shoe Ltd with the information at your disposal.
4. What deductions can you as a credit analyst make from the table regarding XYZ Shoe Ltd's ability to pay?
5. What additional information would you require to make a final decision on the possible extension of credit?

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