

# 7

## FINANCIAL ANALYSIS AND INTERPRETATION

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### **Introduction**

Financial analysis is the process of taking accounting and other financial data and organising them into a form which reveals a firm's strengths and weaknesses. By highlighting these areas, the users of financial information can then make more informed decisions about the organisation.

The analysis undertaken will depend upon the needs of the user. If a supplier wants to know if their bills will be paid, emphasis will be placed on the liquidity part of the analysis. If a banker is being asked for a loan, liquidity and level of debt will be examined. Equity investors will require a more in-depth analysis into the overall

soundness of the investment. The general manager wants to keep track of operating expenses, cost of goods, and other operational details of the company. One of the most difficult issues in financial analysis is focusing on the information which has meaning for a specific use without becoming lost in unrelated and inappropriate data and ratios.

### **Some Problems**

The accounting and financial data utilised in the analyses may have their own inherent difficulties and limitations which the analysis may not uncover. For example, the concept of depreciation has been discussed earlier. When undertaking financial analysis it is important to understand the method of depreciation. A profitability analysis using an Income Statement with straight line depreciation will not yield the same results as an analysis of data which use the declining balance method. Income recognition, inventory valuation, fixed asset valuation, treatment of work in progress, provisions for bad debts, and treatment of foreign exchange profits (losses) are but a few examples of how one analysis technique would yield different results on the same economic performance depending on how these accounting issues were treated. It is therefore important that the accounting methodology used in compiling the financial statements is understood.

Consider two companies, A and B, both of the same size (in total assets). It is possible that company A, with \$.90m in current assets available to pay current liabilities, is more liquid than company B with \$1.20m. For example, company A might have reduced its accounts receivable by 20% to allow for uncollectable bills and written down old inventory items to a realistic market price. Company B, on the other hand, might never adjust their receivables for bad debts and always hold inventory at cost price.

Generally, the accounting profession maintains standards for ensuring that companies within the same industry use the same accounting methods. However, as has already been discussed in other chapters, not all transactions fit neatly into the accounting standards. Judgment on the part of the accountant and the manager then play a more significant part. When using 'in-house' data for analysis, it is more likely that the analyst will know how the data were compiled and will be able to make adjustments for any limitations in the collection techniques. An external analyst does not have this advantage.

### **How to Proceed**

There is no magic formula as to a 'correct' or proper analysis. Thus, before carrying out any financial analysis, a clear statement of the needs and objectives of the user must be made.

The underlying purpose of financial analysis is to organise a firm's financial statements and other accounting data into a format that enables comparisons to be made with other firms and which also enables the raw data to be accurately evaluated. There are many approaches to financial analysis but the more common and widely used include: financial ratios, DuPont's profitability model, sources and uses of funds, percentage and trend analysis, comparative analysis, and fundamental

analysis. These analysis techniques are examined below, while at the same time acknowledging the problems and limitations of the input data.

### Financial Ratios

A large number of financial ratios can be created to add meaning to the financial and accounting data of a business. However, while the use of financial ratios can be helpful, it can also lead to an information overload. For example, it has been estimated that a comprehensive list can run to as many as 44 different ratios (Mear, R. & Firth, M., 1986).

The ratios can be divided into six distinct groupings covering the basic financial areas that must be analysed. To illustrate these ratios, the consolidated financial statements from UCR Industries Ltd (a New Zealand company) are used (see Appendix 7.1). Note that the ratio calculations that follow are in \$000s.

### Sales

The absolute amount of sales of the firm firstly indicates its size. Size has implications for purchasing and selling power, amount of market share and economies of scale. In 1989, UCR had sales of \$381,589,000 and is therefore of a size that should command significant influence and economies of scale in its business dealings.

The next point of interest with sales is the rate of change in the overall sales level. The **percentage change in sales** can be calculated using the formula:

$$\text{Percent Change in Sales} = \frac{\text{Sales}_t - \text{Sales}_{t-1}}{\text{Sales}_{t-1}} \times 100$$

where t is any year (for example, 1989). The percentage change in UCR sales between 1988 and 1989 is:

$$\frac{381,589 - 316,807}{316,807} \times 100 = 20.45\%$$

This tells how fast the sales are growing and may lead to questions about growth relative to the general economy, growth relative to competitors, whether the growth is causing growing pains in terms of human and/or financial resources and how steady the growth is. If in 1989 inflation was 15%, then 20% growth in sales represents only 5% real growth. By comparison, if a competitor had sales growth of 8% in an economy with 2% inflation, they would be growing faster than UCR. If UCR had also experienced a net loss in key management personnel and a reduction in its available working capital, a real growth rate of 5% may indicate problems.

### Profitability

'Profit' is a difficult term to use unless it is measured in context. For example, to say a company made 10% profit does not provide any information about the profitability of the company but if you know a company made a 10% return on equity, or a 10% gross profit, then the term 'profit' is given meaning. The ratios discussed under profitability are:

Return on assets (ROA)  
Return on equity (ROE)  
Gross profit margin (GPM)  
Net profit margin (NPM)  
Operating return on total assets (ORTA)

**Return on assets (ROA)** is the most commonly used measure of the performance of a firm. This measures the amount of profit generated by the assets employed by dividing the profits earned by the total assets. The traditional ROA measure for UCR in 1989 is:

$$\text{ROA} = \frac{\text{Net Profit}}{\text{Total Assets}} \quad \text{or} \quad \frac{10,714}{365,085} = 0.0293 \text{ or } 2.93\%$$

where Net Profit is earnings after interest and taxes but before dividends.

However, when comparing one firm to the next, it is important that adjustments are made for the different capital structures of firms. A company having more debt will pay more interest and, all things being equal, will pay less tax. Because of the confounding nature of financial leverage it is best to calculate ROA by:

$$\text{ROA} = \frac{\text{EBIT}}{(\text{Ending Assets} + \text{Beginning Assets})/2}$$

where EBIT is the earnings before interest and taxes. For UCR this results in an ROA of:

$$\frac{45,750}{(365,085 + 320,350) / 2} = 0.1335 \text{ or } 13.35\%$$

This adjusted figure can now be used to see how well UCR put their assets to work compared to other firms. The use of EBIT in calculating ROA thus focuses directly on the performance of the assets and excludes returns made by financing. Note that the financing is here again being separated from the investment decision. Generally both ROA figures will be calculated as they have different information content.

It should be noted that for many of these ratios the analyst has the choice of using average or end of year figures. There is no right or wrong answer as to which is best, and the decision must be based on the circumstances of the firm being evaluated and the aims of the analysis. For example, if a firm had moved from ownership of property to sale and lease-back within a single financial period, then the ROA figure would not be comparable to the same firm if it had continued with ownership of the property. Thus, comparability and consistency must be the guide for determining the denominator in particular.

**Return on equity (ROE)** measures the return on the funds of the owners, where 'equity' is the total investment of all owners in the firm

$$\text{ROE} = \frac{\text{Net Profit}}{\text{Total Equity}} \quad \text{or} \quad \frac{10,714}{172,130 + 27,385} = 5.37\%$$

ROE can also be adjusted to reflect the average amount of equity employed during the year and gives a more accurate picture of how the firm performed throughout the year. Using ROE on just end of year figures may result in distortions if the amount of equity has just recently been increased or decreased.

**Gross profit margin (GPM)**, sometimes called the operating profit margin, is the amount remaining after paying for the cost of goods sold.

$$\text{GPM} = \frac{\text{Gross Profit or (Sales - COGS)}}{\text{Sales}} \quad \text{or} \quad \frac{34,849}{381,589} = 9.1\%$$

Having a low GPM may result from low prices, high cost of material, high cost of labour, a bad product mix, or a combination of these factors.

**Net profit margin (NPM)** is the most commonly used profitability ratio since it compares the 'bottom line' to the amount of sales.

$$\text{NPM} = \frac{\text{Net Profit}}{\text{Sales}} \quad \text{or} \quad \frac{59,066}{381,589} = 15.48\%$$

**Operating return on total assets (ORTA)** is a better way of looking at the firm's ability to generate profits from its principal activities since it does not include 'other income' (for example, interest income, income from marketable securities, or one time extraordinary transactions) nor does it include 'other expenses' (for example, interest expense).

$$\text{ORTA} = \frac{\text{Gross Profit}}{\text{Total Assets}} \quad \text{or} \quad \frac{34,849}{365,085} = 9.55\%$$

(Total Assets can always be adjusted to be the average amount of assets used during the year rather than just the end of year amount).

The ORTA ratio can be an indicator of two very important components of the business since it can be derived from the Gross Profit Margin (sometimes called the Operating Profit Margin) times the Asset Turnover as follows:

$$\frac{\text{Gross Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} = \frac{\text{Gross Profit}}{\text{Total Assets}}$$

A low or decreasing ORTA is an indication that one or both of the component parts is in difficulty. For example, firstly, are profits being squeezed out of every dollar in sales? Secondly, are the assets used in the firm generating enough sales?

#### Asset Management

The ratios discussed under asset management are:

- Asset turnover (AT)
- Fixed asset turnover (FAT)
- Current asset turnover (CAT)

Days receivable (DR)  
Days of inventory (DI)  
Inventory turnover (IT)  
Turn and earn (T & E)

**Asset turnover (AT)** is a measure of how well a firm is putting its assets to work. If the AT is low, it may indicate that the firm has too many unproductive assets, for example, receivables, inventory, plant or equipment, for its current level of sales. Or, it may mean that the level of sales has not yet reached the amount appropriate for the invested assets.

$$\text{AT} = \frac{\text{Sales}}{\text{Total Assets}} \quad \text{or} \quad \frac{381,589}{365,085} = 1.045$$

For every dollar of assets in UCR there is \$1.045 in sales generated. This is a good time to remember that the accounting issue of asset valuation has been avoided. As fixed assets (such as buildings) age, their book value drops - but often their market value increases. If the book value of the company assets is less than their market value, the asset turnover using market value would be less than 1.045 since total assets would be greater.

**Fixed asset turnover (FAT)** is especially vulnerable to the issue of asset valuation. While this ratio is very important in capital intensive companies, it is less important in firms with a low need for capital such as wholesale distribution, and leased retail operations.

$$\text{FAT} = \frac{\text{Sales}}{\text{Fixed Assets}} \quad \text{or} \quad \frac{381,589}{150,582} = 2.53$$

If a firm has a decreasing FAT ratio it indicates that production is running at less than capacity.

**Current asset turnover (CAT)** measures the level of current assets needed to support sales. Since current assets are more flexible than fixed assets, it should be possible to maintain a relatively stable CAT.

$$\text{CAT} = \frac{\text{Sales}}{\text{Current Assets}} \quad \text{or} \quad \frac{381,589}{179,137} = 2.13$$

**Days receivable (DR)** is a measure of how long it takes, on average, for the firm to collect bills owing to it. Since cash sales are by definition paid for at the point of sale, DR is only a measure of collection time on credit sales. Many businesses have a seasonal pattern to their sales and this will cause a seasonal pattern in their DR ratio. This seasonality should not mislead the analyst into incorrect judgments about the quality of the debtors.

$$\text{DR} = \frac{\text{Accounts Receivable}}{\text{Average Daily Credit Sales}}$$

where average daily sales (ADS) is credit sales divided by 365.

Accounts receivable is traditionally an end of year figure which gives the closing DR amount. However, adjusting for the average receivables outstanding during the year will result in a DR which is the average during the year. For UCR, assuming all sales are credit sales, the DR ratio is:

$$\frac{(27,002 + 56,182)}{(381,589/365)} = 79.57 \text{ days}$$

As DR increases, more working capital is needed. DR is affected by the credit policy of the company - as credit is tightened, DR will drop but so will sales! This highlights an important point to be remembered when dealing with ratios, that is, the interrelationship between various ratios. These interrelationships can be measured statistically to create ratio correlation coefficients (see Foster, G., 1978). It also highlights the need to beware of focusing on a specific area of concern in the firm without appreciating secondary effects on other ratios.

The DR ratio is often expressed in terms of 'receivables turnover'. This simply means the number of times in a year all of the receivables are collected. In the example of UCR, if it takes 79.57 days to collect the receivables, then in 365 days they will be collected 4.59 times. Therefore, the receivables turnover is 4.59 times.

**Days of Inventory (DI)** is an indication of how efficiently a firm is managing its inventory. By watching the DI ratio, the amount of inventory can be monitored. Seasonality is also a factor that should be kept in mind when analysing inventory levels and DI ratios.

$$DI = \frac{\text{Amount in Inventory}}{\text{Average Daily Cost of Goods Sold}}$$

In order to calculate the average daily cost of goods sold we must divide the cost of goods sold (COGS) by trading days (typically 365 days). DI can be calculated as:

$$\frac{80,081}{189,245/365} = 154 \text{ days}$$

Note that the materials figure of \$189,245 has been used as the basis for the average daily cost of goods sold calculation. However, it may be argued that direct costs associated with production should be added to give the total cost of manufactured goods. This has not been done as the 'wages and salaries' figure includes general administration and marketing costs and the 'other operating costs and expenses' is clearly not direct manufacturing costs. Often somewhat arbitrary decisions like this have to be made given incomplete data, the key point is consistency and the noting of any assumptions made. (Hence why this example is used!)

**Inventory turnover (IT)** is another way of expressing the DI ratio. If there are 154 days of inventory presently in stock, how many times in a year does UCR turn over their inventory?

$$\frac{365}{154} = 2.37 \text{ times}$$

Notice that dividing COGS by Inventory also results in the same IT (excepting

rounding error).

$$\frac{189,245}{80,081} = 2.36 \text{ times}$$

Since inventory turns over at vastly different rates from industry to industry, it would be incorrect to make a judgment on inventory turnover levels of one firm based on knowledge of another firm in a different industry.

**Turn & Earn (T & E)** is a way to compare firms which may be using different sales strategies. Firms selling high value items (for example, tractors) will have larger profit margins but lower sales volume than firms that accept lower profit margins but achieve higher sales volume (for example, grocery stores). The T & E ratio provides an index for comparing the relative profitability of different sales strategies.

$$T \& E = \text{Inventory turnover} \times \text{Gross Profit Margin}$$

For UCR:

$$T \& E = 2.37 \times .091 = .216$$

## **Financial Structure**

The ratios discussed under financial structure are:

- Financial leverage multiplier (FLM)
- Debt to equity (D/E) and debt to assets (D/A)
- Current debt to equity (CD/E)
- Long term debt to equity (LTD/E)
- Equity turnover (ET)
- Times interest earned (TIE)

**Financial leverage multiplier (FLM)** is the connection between return on assets and return on equity of the firm. The FLM is one of several ways of looking at the relative amounts of debt and equity the firm is using to finance its assets. An important feature of FLM is the relationship:

$$ROA \times FLM = ROE$$

which implies that if ROE is important to investors in a firm, then the relative level of ROE can be managed by changes in the FLM once ROA results can be anticipated.

$$FLM = \frac{\text{Total Assets}}{\text{Equity}}$$

Since Total Assets = Debt + Equity, FLM is alternatively:

$$FLM = \frac{\text{Debt} + \text{Equity}}{\text{Equity}} \text{ or } \frac{\text{Debt}}{\text{Equity}} + 1$$



For UCR:

$$\text{FLM} = \frac{365,085}{(172,130 + 27,385)} = 1.83$$

This indicates that for each dollar of equity, the company has \$1.83 in assets. We have already calculated the ROA of 16.18% (unadjusted for debt) and multiplying this by the FLM of 1.83 gives an ROE of 29.60% which was established earlier for ROE. ROE could be increased without improving the results of ROA, simply by adding additional debt which would also increase the financial leverage and the financial risk. Note that the ROA times FLM will only equal ROE if similar net profit figures are used. Where EBIT is used for ROA then this relationship will not hold.

**Debt to equity (D/E)** and **debt to assets (D/A)** - sometimes called the debt ratio - are alternative measures of financial leverage.

$$\text{D/E} = \frac{\text{Debt}}{\text{Equity}} \quad \text{and} \quad \text{D/A} = \frac{\text{Debt}}{\text{Assets}}$$

For UCR:

$$\text{D/E} = \frac{63,935 + 101,635}{172,130 + 27,385} = .8299 \text{ or } 82.99\%$$

$$\text{D/A} = \frac{63,935 + 101,635}{365,085} = .4535 \text{ or } 45.35\%$$

**Current debt to equity (CD/E)** looks at the mix of a firm's debt. Since the current debt will be due in the coming year, if this ratio gets high it may indicate potential problems for the firm in paying its bills.

$$\text{CD/E} = \frac{\text{Current Debt}}{\text{Equity}} \quad \text{or} \quad \frac{101,635}{199,515} = 50.94\%$$

**Long term debt to equity (LTD/E)** looks at the complement of current debt to equity (CD/E). Since long term debt is not due as soon as current debt, it is less risky.

$$\text{LTD/E} = \frac{\text{Long Term Debt}}{\text{Equity}} \quad \text{or} \quad \frac{63,935}{199,515} = 32.05\%$$

By adding CD/E to LTD/E, we get 82.99% which was the total D/E for UCR.

**Equity turnover (ET)** adds further understanding to the D/E ratio. If the D/E ratio is high, it may be due to too much debt or too little equity. If the ET ratio is also high, then it indicates that the problem may well be lack of sufficient equity financing.

$$\text{ET} = \frac{\text{Sales}}{\text{Equity}} \quad \text{or} \quad \frac{381,589}{199,515} = 1.91 \text{ times}$$

Equity 199,515

**Times interest earned (TIE)** is used by lenders to evaluate how comfortable a firm is with the level of interest expense. A TIE of 1 indicates that the firm is only earning enough to exactly pay its interest expense. As TIE increases, the comfort level of the debt holders increases since they are more confident that their debt will be serviced.

$$\text{TIE} = \frac{\text{EBIT}}{\text{Interest Expense}}$$

If we assume that 'Other Expenses' for UCR are all interest expenses, then:

$$\text{TIE} = \frac{45,750}{35,458} = 1.29$$

Therefore, we now know that the company is probably carrying a lot of interest expense (since we assumed that 'other expenses' are all interest expenses, which may not necessarily be the case) and that the D/E ratio is 83%. The next question is can they afford it? By looking at TIE, we see that they are able to cover their interest expense 1.29 times out of their earnings. Therefore, while they can meet their interest, it is probably near the 'discomfort' level for lenders. It would thus seem unlikely that UCR would be given more interest bearing debt unless there were other changes made to the financial structure of the company.

As a rule of thumb, a TIE of less than 3 is risky and of more than 5 is safe, but between 3 and 5 is a grey area. Remember that TIE only looks at how well the firm is covering its interest expense and does not consider the firm's ability to repay the principal.

### **Liquidity Management**

The ratios discussed under liquidity management are:

Current ratio (CR)  
Quick ratio (QR)  
Working capital (WC)  
Days payable (DP)

**Current ratio (CR)** is the most commonly used measure of the liquidity of a firm. This ratio measures how many dollars of current assets are available to pay one dollar's worth of current liabilities.

$$\text{CR} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \quad \text{or} \quad \frac{179,137}{101,635} = 1.76$$

UCR is able to cover every dollar of its current obligations with \$1.76 in current assets. However, it may not be realistic to consider that inventory, which is part of current assets, is actually available to pay current liabilities.

**Quick ratio (QR)**, sometimes called the acid test ratio, adjusts the current ratio to correct for this problem. Since the firm will always need to have inventory and since inventory cannot be used to pay bills, the quick ratio is a better indicator of

the liquidity of a company.

$$QR = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}} \quad \text{or} \quad \frac{99,056}{101,635} = .97$$

With this result we are less confident that UCR is liquid since it only has \$.97 to cover \$1 of bills. Note, however, that there may be valid reasons for QR to be less than 1. For example, it could be due to growth, timing of receivables versus payables, bad debt reduction of receivables, etc.

**Working capital (WC)** is the amount of current assets in the firm that are not financed by current liabilities. Therefore,

$$WC = \text{Current Assets} - \text{Current Liabilities}$$

For UCR this is \$77,502 (\$179,137 - \$101,635).

This formula can be rewritten in many different ways since we know that:

$$\begin{aligned} \text{Total Assets} &= \text{Current Assets} + \text{Fixed Assets} \\ \text{Total Liabilities} &= \text{Current Liabilities} + \text{Long Term Liabilities} \end{aligned}$$

The seasonality of the firm's sales will be reflected in the seasonality of working capital requirements. If a firm is growing, its working capital needs will increase as inventory and accounts payable increase faster than the 'matched' accounts receivable. The WC level indicates to suppliers the cushion of cash a firm has when it comes time to pay their bills. So while UCR has a QR of only .97, it seems to have sufficient working capital to stay current with its suppliers.

**Days payable (DP)** provides an indication of how long it is taking a company to pay its bills.

$$DP = \frac{\text{Accounts Payable}}{\text{Average Daily Purchases}}$$

In order to calculate the DP, we need to know what the average daily purchases are. Given that:

$$\text{Beginning Inventory} + \text{Purchases} - \text{COGS} = \text{Ending Inventory}$$

then:

$$\text{Purchases} = \text{Ending Inventory} - \text{Beginning Inventory} + \text{COGS}$$

The average daily purchases would then be purchases divided by 365.

For UCR, average daily purchases are:

$$\frac{80,081 - 88,323 + 189,245}{365} = 495.89$$

Thus, DP for UCR is:

$$\frac{34,270}{495.9} = 69.11 \text{ days}$$

If selling to UCR one can expect that the average invoice will be paid within 69.11 days. If a supplier could not wait this long, then prior arrangements would need to be made.

### **Expense Analysis**

The ratios already discussed are the traditional tools of the financial analyst, yet they leave untouched a major segment of analysis, namely that of measuring the expenses incurred in the various areas of the firm. These expense ratios are more difficult for the outside analyst to obtain since companies rarely, if ever, publish various levels of expenses.

Nevertheless, it is important to know how well the sales department, service department, or other departments of various branches of the company are doing in order to refine the interpretation arising from the previous analysis. For example, if the gross profit margin is very low, it could be traced to the inefficient running of Warehouse No.2 given that it was possible to compare Sales with Warehouse Expense for all warehouses.

In general, comparing the amount of sales generated by a dollar of specific expense provides an index which can be used for internal and future reference. Some examples are:

$$\frac{\text{Sales Salaries (per salesperson)}}{\text{Sales (per salesperson)}}$$

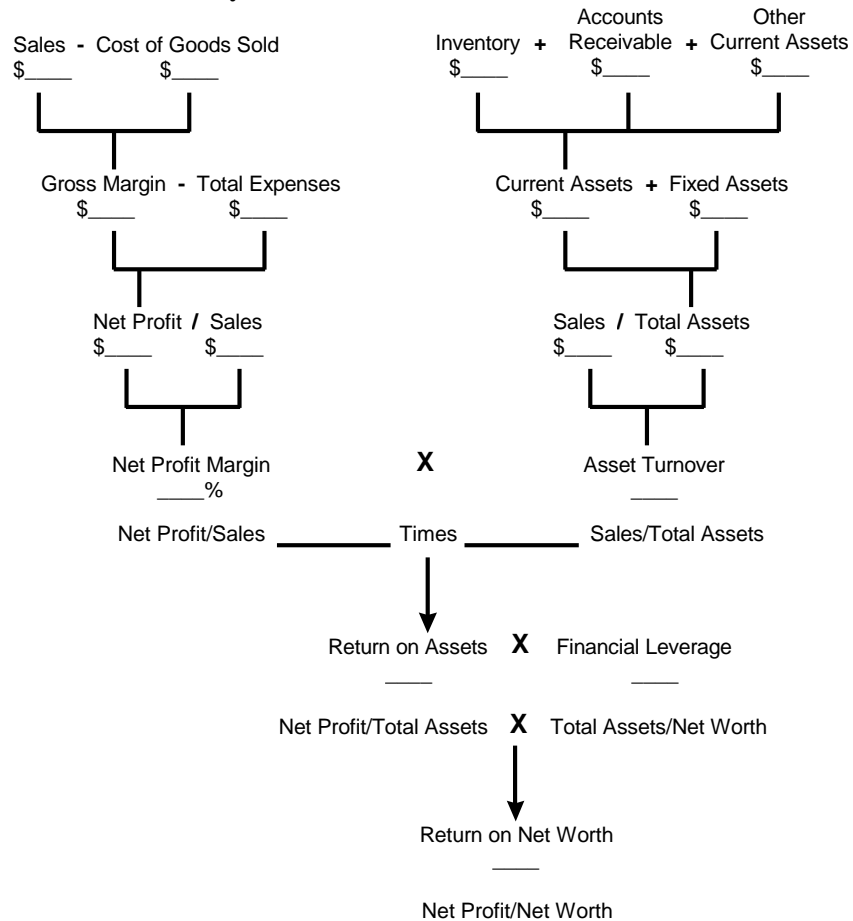
$$\frac{\text{Administrative Expenses}}{\text{Sales}}$$

$$\frac{\text{Automotive Expenses}}{\text{Sales}}$$

$$\frac{\text{Manufacturing Expenses (per product line)}}{\text{Sales (per product line)}}$$

To summarise, ratios are helpful tools for initiating the financial analysis and interpretation process. As long as some of the information necessary for the ratios is known and by understanding the basic accounting equation, the analyst can use algebraic manipulation of the formulae to arrive at an appropriate measure. Variations exist on these ratios and the needs of the user must dictate which ratios are calculated. If none of the given ratios provide the information required, then additional ratios can be derived.

Exhibit 7.1

**DuPont's Profitability Model****DuPont's Profitability Model**

Confronted with all these ratios, the people at DuPont felt that one of the best measures of performance was ROA. In order to delegate the analysis function within DuPont and in order to maintain uniformity of analysis, the model in Exhibit 7.1 was developed. This requires the analyst to fill in the missing numbers and arrive at ROA, multiply it by the FLM to get ROE.

While this model is helpful, it is only a start. It does not, for example, reveal anything about the liquidity of the firm nor does it reveal enough about the expenses of the firm. The advantage of using such a model is that it begins to establish benchmarks - over time as well as across companies - which can be used to flag potential problem areas when one or more of the ratios are out of line. Further analysis is then necessary to determine possible reasons for the anomalies.

### Sources and Uses of Funds

Much can be learned by looking at the Sources and Uses of Funds Statement. If this statement is not provided, it can be created by comparing the Balance Sheet at the end of a period to the Balance Sheet at the end of the previous period. By finding out what the company spent its money on and how the money was raised will assist in understanding the company's operations.

Appendix 7.2 shows the changes in financial position for UCR and from it we can see that most of its money was spent in acquiring fixed assets. It also paid out considerable money in dividends and in reducing long term liabilities. The money to do this came from increased investment (equity) by minority interests and from operations of the company. It appears that UCR understood that its level of debt was high. In order to acquire the additional fixed assets desired, money was raised from newly issued equity and from operations rather than from adding debt. From the earlier analysis, UCR was barely covering the interest expense, but with this information it appears that they realised their situation. Growth could not be completely financed by the profits of trading, debt was already high at the current level of interest rates, so UCR raised money by getting additional minority investment.

By seeing where the money went and where it came from, much can be learned about company decisions and policies. UCR, for example, is conscious of its debt levels but is not letting that curtail further expansion or dividends. By raising equity financing, the debt level could be reduced and expansion continue.

### Percentage and Trend Analysis

Ratio analysis provides a useful 'snap shot' of the financial condition of a company in a particular period. In addition, a number of questions are best answered by comparing percentage figures over time. For example:

- What areas of the company are getting weaker, or stronger?
- Has the past emphasis on a line item of the financial statements paid off?
- What areas of the company are in need of attention?

In order to answer these questions, it is necessary to recast the financial statements into percentage terms.

Appendix 7.3 recasts the 1989 and 1988 Profit and Loss Statements for UCR in terms of sales percentages. The Balance Sheet shows all line items as a percentage of total assets. Now it is possible to compare one year's performance with another. These recast statements should be done for as many years as possible, preferably up to five years, although one may be restricted by the availability of data. Consider the raw numbers in Appendix 7.1 and see if you can tell if stocks went up or down by a significant amount. Now consider the percentages in Appendix 7.3. From this it is clear that stocks went down relative to the total assets of the firm by 5.64%, or a saving of \$20,576. We also notice that under Shareholders' Funds, the proportion

of capital dropped in 1989 as did Retained Profits. This information would not be apparent from merely looking at the raw financial data.

The major advantage of recasting financial statements into percentage terms is that it enables comparison between different periods. Since managers tend to manage by exception, these percentage statements can provide the manager (or analyst) with a quick way to find the 'exceptions'. Attention to strengths and weaknesses can also be assisted by seeing the changes over time. For example, UCR is spending less for materials in 1989 but more for wages, also note that the 'other expenses' item which we were concerned with in the earlier ratio analysis, was even worse in 1988.

After noticing trends and identifying problem areas the magnitude of the problem must be considered, since managers do not have time to deal with each and every anomaly or deviation. In undertaking percentage analysis it is important to be careful not to mistake large percentage changes for large problems. It is after all total dollars that are important, as well as large or unusual percentage changes. By focusing on the top five problems in dollar terms the manager or analyst will be best able to maximise shareholders' wealth. However, do not let a small percentage change be an indication of a small problem. A small percentage change of a large dollar amount is more significant in dollar terms than a large percentage change of a small dollar amount. For example, the cost of materials for UCR decreased between 1988 and 1989 by only 1.28%, but represented a saving of \$4,891. If rent of a building went up by 10% from \$2,000 to \$2,200, this would only result in a change of \$200. So the 1.28% change in cost of materials is more significant than a 10% change in the cost of rent.

### **Comparative Analysis**

Evaluation of company performance is often easier when there is some 'standard' performance or benchmark for comparison. For example, when analysing the relative performance of a property company it would be useful to know the debt levels of property development companies in general. If most property development companies carry 65% debt, then a company in the same business having only 15% debt needs to wonder if it is using sufficient financial leverage.

However, there are considerable problems in arriving at a suitable benchmark including:

- the problem of averages
- finding comparable firms
- the problem of unique attributes.

It is inappropriate to set an average as a goal since, by the nature of averages, that goal would then include firms that are doing badly. A more appropriate standard may be the upper quartile of performance.

The next problem is finding comparable firms. It is exceedingly difficult to find a company undertaking the same business as the one being analysed, a problem made worse with the recent wave of mergers and acquisitions. For example, while both businesses may be in the beverage business, beverages may comprise only 15% of Company A's portfolio with 85% of the portfolio in construction. Comparing

Company A with Company B, which has 50% in beverages and 50% in mining, would not give a meaningful result.

One way to overcome this problem is to conduct industry surveys of companies in the same business. In the United States, this is commonly done for a range of industries with the resulting reports shared with the members. In New Zealand, the Society of Accountants sanctions the Management Development Centre, University of Waikato, to undertake similar surveys. Publicly available benchmarks are helpful, but do not go into as much industry specific detail as the privately commissioned surveys. In the United States, there are several sources of publicly available comparative data (Robert Morris & Associates, Dun & Bradstreet, Troy's Key Financial Ratios, United States Department of Commerce, and the Federal Trade Commission reports).

Comparative data also overlook the fact that every firm is unique. Geography, product mix, brand names, and key employees are just some of the factors that make a company what it is. These unique attributes of a company will not be picked up in comparative data.

### **Fundamental Analysis**

Ratios, percentages, past trends, sources and uses of funds and what the business/industry peers are doing must be seen within the wider environment or context in which the firm operates. For example, in the analysis of UCR the term 'other expenses' was assumed to mean interest expense. If interest rates in the economy are only 6% then UCR is doing a poor job of keeping interest expenses low. However, given that interest rates in New Zealand during 1989 were between 15% and 20%, it is much more difficult to condemn UCR for such high interest expenses. It could even be said that the company did a good job of keeping their business profitable considering the high interest levels.

Other examples of the importance of considering context abound. A company which is sensitive to oil prices can be understood only in the light of changing oil prices. Export companies which have had government regulations imposed or lifted will be able to point to changes in their financial statements. A farm implement supplier will perform differently during a farming recession than during a farming 'boom'. Growing or shrinking markets, new or mature products, regulations, and other macro-economic changes are essential considerations in understanding the performance of a company.

Returning to the UCR example, relevant considerations must include:

- UCR dealt in agricultural products,
- the New Zealand farm sector was recovering from a recession,
- the cost of labour was high,
- interest rates were high, but dropping,
- manufacturing jobs were being lost due to a high foreign exchange rate.

By taking such aspects into account a better appreciation of UCR is gained. It is not as easy to be critical of the increased labour expenses, high interest expenses, or sales that grew at only a 5% real rate.



## Summary

The objective of financial analysis and interpretation is to evaluate the strengths and weaknesses of a firm. There is no magic formula for a correct analysis but there are some tools to aid the process. Financial ratios are a good place to start. The type or number of ratios is limited only by the imagination of the user. There are six broad performance areas that ratios cover - sales, profitability, asset management, financial structure, liquidity, and expenses. DuPont's profitability model is an alternative framework but it has limitations.

Evaluation of the sources and uses of funds enables the analyst to see where money was spent and where it came from and can be an indicator of the firm's financial strategy. Recasting the financial statements in percentage terms can highlight trends and problems. Comparing performance to other companies can confirm whether results and/or operations are (or are not) going well. Finally, any analysis must also investigate the environment in which the company functions.

Finally, a word of caution. The purpose of the analysis must be always kept in mind. Some guidelines are:

1. Do not overload on ratios and numbers which are not relevant to your needs.
2. When an area of concern arises, dig deeper in that area since in-depth analysis in a problem area will be more revealing than a shallow analysis of every aspect of the firm's operations.
3. Know the source and limitations of the data used.
4. Investigate the context of the firm in the economy.
5. Change your methods of analysis if they are no longer working.

One commentator on financial analysis stated:

".... It's extremely difficult to produce a superior [company] performance. We need all the help we can get. We can't adopt any particular methods of investment selection and expect them to be successful all the time. We have to keep changing from those methods that have been successful in the past and have become too popular, to methods that are still unknown or unpopular, so that we may discover the opportunities other people are not discovering. It's a major problem, and we are not always right. When we change from one selection to another, sometimes we make a mistake."  
(Templeton, J. 1985)

Do not be afraid to make mistakes, but do not get stuck with one method of analysis, or you will surely be making a mistake.

## Glossary of Key Terms

### DuPont System

An analysis system that separates the Net Income/Net Worth ratio into its components via a series of levels of detail.

**Fundamental Analysis**

Analysis of a situation that takes environmental factors into account in order to provide a better perspective on company performance and operations.

**Liquidity**

Refers to the firm's cash or near cash position and the ability to cover obligations as they become due.

**Sources and Uses of Funds**

Analysis highlighting the areas from which funds have been obtained and those areas where they have been used.

**Selected  
Readings**

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Mear, R. & Firth, M., 'A Note on the Financial Variable and Ratio Structure of New Zealand Listed Companies', *Accounting and Finance, Journal of the Accounting Association of Australia and New Zealand*, Vol. 26 No. 1, May 1986, pp 47-56.

Reilly, F.K., *Investment Analysis and Portfolio Management*, Second Edition, The Dryden Press, 1985.

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*Troy's Key Financial Ratios*, Prentice Hall, U.S.A.

Federal Trade Commission, 'Quarterly Financial Report for Manufacturing Corporations', U.S.A.

Westwick, C.A., *How to use Management Ratios*, Golver Press, 1974.

## Questions

### 7.1

Complete the following Balance Sheet based on the financial ratios provided. Use a 365 day year.

Incomplete Ltd Balance Sheet as at 31 March 19XX			
Cash		Accounts payable	
Inventory		Long term debt	
Accounts Receivable	_____		
Total current assets		Total liabilities	_____
Fixed assets	<u>650,000</u>	Shareholders' funds	<u>875,000</u>
	\$_____		\$_____
Debt ratio (debt/total assets)		43%	
Quick ratio		.75	
Current ratio		1.5	
Sales to total assets		3.5	
Average collection period		23 days	

### 7.2

Based on the information provided below, complete the following table. Use a 365 day year.

Current ratio	1.9
Return on total assets	9.5%
Average collection period	39 days
Return on equity	14%
Long term debt to total capitalisation	19%
Asset turnover	1.6
Accounts receivable	\$15,000
_____	
Profit margin	
Total liabilities	
Profit	
Sales	
Current assets	
_____	

**7.3**

Balance Sheets for two firms producing canned foodstuffs are presented below.

Herbie's Canning Company			
Balance Sheet			
as at 31 March 19XX			
Cash	65,000	Accounts payable	522,500
Accounts receivable	126,000	Bank overdraft	65,300
Buildings	293,650	Term loan	692,000
Plant & equipment (net)	455,500	Owner's equity	151,850
Land	<u>491,500</u>		
	<u>\$1,431,650</u>		<u>\$1,431,650</u>

Anderson's Foodstuffs			
Balance Sheet			
as at 31 March 19XX			
Cash	63,500	Accounts payable	195,500
Accounts receivable	235,500	Bank overdraft	50,000
Buildings	398,500	Term loan	324,000
Plant & equipment (net)	457,300	Owner's equity	605,420
Land	<u>19,620</u>		
	<u>\$1,174,420</u>		<u>\$1,174,420</u>

Required:

- Imagine you are the loans officer for a bank and that both the above firms have approached you with a request for a \$300,000 loan for 60 days. To which of the two firms would you be most willing to lend? Why?
- If you wanted to purchase a canning company, for which of these two companies would you pay the highest price? (Assume you would purchase the assets and assume the liabilities of the acquired firm.)

**7.4**

A wholesale timber merchant has annual sales of \$950,000 and a gross profit margin of 16.5%. Current assets are \$86,000 and the current ratio is 1.7. Inventories are \$22,500 and the bank overdraft is \$15,000.

Required:

- If management wishes to turn over inventory 6 times per year, what level of inventory is needed?
- In determining its credit policy, management needs to know how often accounts receivable must be collected. If an average investment in receivables of \$63,000 is required, how rapidly must accounts receivable be collected?

**7.5**

The financial statements of Percy's Pharmaceutical Company are presented below for the year ended 31 March 19XX.

Percy's Pharmaceutical Company  
Balance Sheet  
for the year ended 31 March 19XX

(\$ 000's)			
Cash	1,200	Bank overdraft	6,000
Accounts receivable	24,800	Accounts payable	18,600
Inventory	<u>21,650</u>		
Total current assets	47,650	Total current liabilities	<u>24,600</u>
Land	16,800	Term loan	31,250
Buildings	15,600	Shareholders' funds	83,000
Plant and equipment	57,600		
Investments	<u>1,200</u>		
Total assets	<u>\$138,850</u>		<u>\$138,850</u>

Percy's Pharmaceutical Company  
Income Statement  
for the year ended 31 March 19XX

(\$ 000's)	
Sales	75,000
less cost of goods sold	<u>56,500</u>
Gross profit	18,750
less expenses	<u>7,500</u>
Earnings before interest and tax	11,250
less interest	<u>2,500</u>
Net profit	8,750
Taxes	<u>4,200</u>
Net profit after tax	<u>\$ 4,550</u>

Required:

Using the industry averages provided, evaluate the financial position of Percy's Pharmaceuticals.

	Industry Average
Current ratio	2.93
Quick ratio	1.92
Inventory turnover	2.6
Accounts receivable turnover	4.8
Debt/equity	1.05
Times interest earned	3.1
Return on assets	5%

**7.6**

If a company has current liabilities of \$500,000, a quick ratio of 1.7, a current ratio of 3.5, and an inventory turnover of five times, what is its cost of goods sold?

**7.7**

Construct a condensed Balance Sheet and Income Statement from the following information (include as much information as you can).

Current ratio	1.7
Current liabilities	\$30,000
Debt/equity	1.12
Total asset turnover	1.4 times
Fixed asset turnover	5.6 times
Gross profit margin	29%
EBIT/Sales	5%
Tax rate	48%
Times interest earned	3.2

**7.8**

Outline two reasons why net income and cash flow for the period may differ.

**7.9**

Why does an increase in a firm's net profit affect ordinary shareholders and preference shareholders differently?

**7.10**

What information do liquidity ratios yield about a firm? Give two examples of liquidity ratios.

**7.11**

Explain why the comparison of financial ratios may be more meaningful than the comparison of figures straight from the financial statements.

**7.12**

What are the limitations in using industry averages as a means of comparison in financial analysis?

**7.13**

The return on assets for a firm can be calculated from two other ratios. Demonstrate the calculation of return on assets by this means. What does this ratio tell you about a firm? What variables can a firm alter to improve its return on assets?

**7.14**

The accountant of ABC Manufacturing Company Ltd requires a loan to finance current assets and repay a bank overdraft. It is intended that the loan be repaid in one year. The bank is provided with the following financial statements which accompanied the loan request.

ABC Manufacturing Company  
Balance Sheet  
as at 31 March

	19X1	19X2
Cash	10,000	750
Accounts receivable	12,750	17,200
Inventory	<u>31,200</u>	<u>46,250</u>
Total current assets	53,950	64,200
Land	22,500	27,120
Plant & equipment	71,250	100,000
less accumulated depreciation	<u>(31,200)</u>	<u>(32,200)</u>
Total fixed assets	<u>62,550</u>	<u>94,920</u>
	<u>\$116,500</u>	<u>\$159,120</u>
Accounts payable	11,500	24,000
Bank overdraft	<u>18,250</u>	<u>49,500</u>
Total current liabilities	29,750	73,500
Term loan	33,700	27,500
Shareholders' funds	<u>53,050</u>	<u>58,120</u>
	<u>\$116,500</u>	<u>\$159,120</u>

ABC Manufacturing Company  
Income Statement  
for the year ended 31 March

	19X1	19X2
Sales	129,000	163,000
Cost of goods sold	<u>77,400</u>	<u>97,800</u>
Gross profit	51,600	65,200
Expenses:		
Administrative	21,750	21,750
Operating	12,900	16,300
Depreciation	<u>4,700</u>	<u>10,000</u>
Total expenses	<u>39,350</u>	<u>48,050</u>
Earnings before interest & tax	12,250	17,150
Interest	3,500	6,250
Earnings before taxes	8,750	10,900
Tax	<u>4,200</u>	<u>5,232</u>
Net Income	<u>\$ 4,550</u>	<u>\$ 5,668</u>

Required:

- a. Based on the financial statements for ABC Manufacturing, compute the following ratios:

	Industry Average	Actual 19X1	Actual 19X2
Current ratio	1.84		
Acid test ratio	.66		
Average collection period	37 days		
Inventory turnover	2.6 times		

Times interest earned	3.6
Debt to total assets	55%
Gross profit margin	39%
Net profit margin	3.4%
Total asset turnover	1.2 times
Fixed asset turnover	1.5 times
Return on total assets	4.3%
Return on shareholders' funds	10%

- b. Write a brief report to the bank manager outlining the reasons why the loan should or should not be granted.

### 7.15

Based on the financial information below for Dusty's Diner Ltd, prepare the Balance Sheet and Income Statement, in vertical form, as at 31 March 19XX. (Assume no drawings or capital are introduced during the year.)

Current ratio	2.0
Return on equity	12.0%
Return on total assets	7.5%
Long term debt to total capitalization	19.0%
Average collection period	45 days
Asset turnover	1.7
Accounts receivable	\$20,000
Tax rate	40.0%
Times interest earned	3.0

**The reports must show:**

Sales	Fixed Assets
Interest Expense	Total Assets
Tax Expense	Current Liabilities
Net Profit	Term Liabilities
Current Assets	Equity 1.4.88
Working Capital	Equity 31.3.89

Note: Return on Total Assets =  $\frac{\text{Net Profit (after Interest \& Taxes)}}{\text{Total Assets}}$



## Appendix 7.1

### UCR Industries Ltd Consolidated Statement of Profit & Appropriation For year ended March 31, 1989

	1989 (\$000s)	1988 (\$000s)
Sales	381,589	316,807
Cost of Sales		
Materials	189,245	161,178
Wages and Salaries	92,185	71,647
Other Operating Costs & Expenses	<u>65,310</u>	<u>39,467</u>
	<u>346,740</u>	<u>272,292</u>
Profit from Trading	34,849	44,515
Other Income	<u>10,901</u>	<u>11,057</u>
	45,750	55,572
Other Expenses (interest)	<u>35,458</u>	<u>29,699</u>
Net Profit Before Tax	10,292	25,873
Tax	<u>-1,757</u>	<u>6,505</u>
	12,049	19,368
Minority Interests	<u>1,659</u>	<u>66</u>
	10,390	19,302
Share of Profits of Associate Companies	<u>393</u>	<u>1,123</u>
Profit for Year	10,783	20,425
Extraordinary Items	<u>-69</u>	<u>2,042</u>
Profit for year after Extraordinary Items	10,714	22,467
Retained Profit Brought Forward	65,164	47,594
Prior Period Adjustment		3,734
Transferred from Capital Reserves	<u>497</u>	<u>8,082</u>
	76,375	81,877
Less Appropriations:		
Bonus issue ordinary shares	4,316	
Dividends Paid & Recommended	10,777	10,072
Net Capital Profits transferred to Capital Reserves	<u>2,216</u>	<u>6,641</u>
	<u>17,309</u>	<u>16,713</u>
Retained Profit carried forward		
UCR Industries Ltd & Subsidiary Cos	56,699	63,358
Associate Companies	<u>2,367</u>	<u>1,806</u>
	59,066	65,164

UCR Industries Ltd  
Consolidated Balance Sheet  
As at March 31, 1989

ASSETS	1989	1988
Fixed Assets		
Land	14,601	8,632
Buildings	55,450	34,242
Plant/Machinery/Vehicles	<u>80,531</u>	<u>70,453</u>
Total Fixed Assets	150,582	113,327
Investments & Advances (at cost)	14,215	7,885
Investments in Associate Companies	21,151	17,750
Current Assets		
Cash and Cash at Bank	897	2,994
Tax Credit	14,975	6,352
Other Receivables	27,002	27,853
Trade Debtors	56,182	55,866
Stocks	<u>80,081</u>	<u>88,323</u>
Total Current Assets	<u>179,137</u>	<u>181,388</u>
Total Assets	<u>\$365,085</u>	<u>\$320,350</u>
 LIABILITIES & EQUITIES		
Shareholders' Funds		
Capital	47,034	42,082
Capital Reserves	50,770	22,651
Retained Profits	<u>74,326</u>	<u>80,424</u>
Total Shareholders' Interests	172,130	145,157
Minority Shareholders' Interests	27,385	595
Long Term Liabilities		
Secured	52,574	62,944
Unsecured	<u>11,361</u>	<u>12,409</u>
Total Long Term Liabilities	63,935	75,353
Current Liabilities		
Trade Creditors	34,270	42,852
Bank Overdraft (secured)	13,987	35,325
Short Term Borrowing	33,319	300
Bills Payable	5,318	2,426
Recommended Dividends	5,629	5,544
Current Tax	166	445
Long Term Liabilities		
Current Portion - secured	8,777	12,185
- unsecured	<u>169</u>	<u>168</u>
Total Current Liabilities	<u>101,635</u>	<u>99,245</u>
Total Liabilities & Equities	<u>\$365,085</u>	<u>\$320,350</u>
 Contingent Liabilities	15,069	3,617
Capital Commitments	11,762	12,083

**Appendix 7.2**

Consolidated Changes in Financial Position  
of UCR Industries Ltd  
For the year ended 31 March 1989

<b>SOURCES OF WORKING CAPITAL</b>		(\$000's)
Provided from operations		
Group net profit after tax	10,783	
Charges not involving cash expenditure		
Depreciation	<u>10,507</u>	
		21,290
Provided from other than operations		
Increase investment by minority interests	26,790	
Proceeds on disposal of assets and		
other adjustments	3,906	
Increase in capital	636	
Share premium	731	
Net gains foreign exchange fluctuations	<u>1,114</u>	
		<u>33,177</u>
		54,467
<b>USES OF WORKING CAPITAL</b>		
Fixed Assets acquired	27,015	
Dividends paid and recommended	10,777	
Decrease in long term liabilities	11,418	
Net increase in investments and advances	<u>9,898</u>	
		<u>59,108</u>
<b>NET DECREASE IN WORKING CAPITAL</b>		<u>\$ 4,641</u>
<b>EFFECT OF DECREASE IN WORKING CAPITAL</b>		
Decrease (increase) in current assets		
Cash and cash at bank	2,097	
Tax credit	(8,623)	
Other receivables	851	
Trade debtors	(316)	
Stocks	<u>8,242</u>	
		2,251
Increase (decrease) in current liabilities		
Trade creditors	(8,582)	
Bank overdraft	(21,338)	
Short term borrowing	33,019	
Bills payable	2,892	
Provision for dividends	85	
Current tax	(279)	
Current portion of long term liabilities	<u>(3,407)</u>	
		<u>2,390</u>
<b>NET DECREASE IN WORKING CAPITAL</b>		<u>\$4,641</u>

**Appendix 7.3**Percentage Analysis - Income Statement &  
Balance Sheet, UCR Industries Ltd

	1989%	1988%	Change (88-89)	Dollar Effect*
Sales	100.00%	100.00%		
Cost of Sales				
Materials	49.59%	50.88%	0.0128	\$ 4,891
Wages and Salaries	24.16%	22.62%	-0.0154	-5,887
Other Operating Costs/Expenses	<u>17.12%</u>	<u>12.46%</u>	<u>-0.0466</u>	<u>-17,773</u>
	<u>90.87%</u>	<u>85.95%</u>	<u>-0.0492</u>	<u>-18,769</u>
Profit from Trading	9.13%	14.05%	0.0492	18,769
Other Income	<u>2.86%</u>	<u>3.49%</u>	<u>0.0063</u>	<u>2,417</u>
	11.99%	17.54%	0.0555	21,186
Other Expenses (interest)	<u>9.29%</u>	<u>9.37%</u>	<u>0.0008</u>	<u>314</u>
Net Profit Before Tax	2.70%	8.17%	0.0547	20,872
Tax <u>-0.46%</u>	<u>-0.46%</u>	<u>2.05%</u>	<u>0.0251</u>	<u>9,592</u>
	3.16%	6.11%	0.0296	11,279
Minority Interests	<u>0.43%</u>	<u>0.02%</u>	<u>-0.0041</u>	<u>-1,580</u>
	2.72%	6.09%	0.0337	12,859
Share Profits of Associate Companies	<u>0.10%</u>	<u>0.35%</u>	<u>0.0025</u>	<u>960</u>
Profit for Year	2.83%	6.45%	0.0362	13,819
Extraordinary Items	<u>-0.02%</u>	<u>0.64%</u>	<u>0.0066</u>	<u>2,529</u>
Profit after Extraordinary Items	2.81%	7.09%	0.0428	16,347
Retained Profit Brought Forward	17.08%	15.02%	-0.0205	-7,838
Prior Period Adjustment	0.00%	1.18%	0.0118	4,498
Transferred/Capital Reserves	<u>0.13%</u>	<u>2.55%</u>	<u>0.0242</u>	<u>9,238</u>
	20.01%	25.84%	0.0583	22,245
Less Appropriations:				
Bonus issue ordinary shares	1.13%	0.00%	-0.0113	-4,316
Dividends Paid & Recommended	2.82%	3.18%	0.0035	1,355
Net Capital Profits transferred to Capital Reserves	<u>0.58%</u>	<u>2.10%</u>	<u>0.0152</u>	<u>5,783</u>
Retained Profit carried forward				
UCR & Subsidiary Companies	14.86%	20.00%	0.0514	19,615
Associate Companies	<u>0.62%</u>	<u>0.57%</u>	<u>-0.0005</u>	<u>-192</u>
	15.48%	20.57%	0.0509	\$19,423

\* Dollar Effect is the percentage difference between 1988 and 1989 times the 1989 figure (Sales or Total Assets). By doing this, account is taken of the change in activity between the years, anchored relative to 1989 sales. Dollar Effect on materials is calculated by:

$$(50.88\% - 49.59\%) \times \$381,589 = \$4,891$$

Note: Percentages have been rounded.

A positive dollar effect means a relative efficiency over the previous year, a negative dollar effect means a relative increase in costs or a relative decrease in income.

	1989%	1988%	Change (88-89)	Dollar Effect*
Assets				
Fixed Assets				
Land	4.00%	2.69%	-0.0130	-4,764
Buildings	15.19%	10.69%	-0.0450	-16,426
Plant/Machinery/Vehicles	<u>22.06%</u>	<u>21.99%</u>	<u>-0.0007</u>	<u>-240</u>
Total Fixed Assets	41.25%	35.38%	-0.0587	-21,430
Investments/Advances (at cost)	3.89%	2.46%	-0.0143	-5,229
Investments in Associate Cos	5.79%	5.54%	-0.0025	-922
Current Assets				
Cash and Cash at Bank	0.25%	0.93%	0.0069	2,515
Tax Credit	4.10%	1.98%	-0.0212	-7,736
Other Receivables	7.40%	8.69%	0.0130	4,741
Trade Debtors	15.39%	17.44%	0.0205	7,485
Stocks	<u>21.93%</u>	<u>27.57%</u>	<u>0.0564</u>	<u>20,576</u>
Total Current Assets	<u>49.07%</u>	<u>56.62%</u>	<u>0.0755</u>	<u>27,581</u>
Total Assets	<u>100.00%</u>	<u>100.00%</u>	0.0000	0
Liabilities & Equities				
Shareholders' Funds				
Capital	12.88%	13.14%	0.0025	925
Capital Reserves	13.91%	7.07%	-0.0684	-24,956
Retained Profits	<u>20.36%</u>	<u>25.11%</u>	<u>0.0475</u>	<u>17,329</u>
Total Shareholders' Interests	47.15%	45.31%	-0.0184	-6,703
Minority Shareholders' Interests	7.50%	0.19%	-0.0732	-26,707
Long Term Liabilities - Secured	14.40%	19.65%	0.0525	19,160
- Unsecured	<u>3.11%</u>	<u>3.87%</u>	<u>0.0076</u>	<u>2,781</u>
Total Long Term Liabilities	17.51%	23.52%	0.0601	21,941
Current Liabilities				
Trade Creditors	9.39%	13.38%	0.0399	14,566
Bank Overdraft (secured)	3.83%	11.03%	0.0720	26,271
Short Term Borrowing	9.13%	0.09%	-0.0903	-32,977
Bills Payable	1.46%	0.76%	-0.0070	-2,553
Recommended Dividends	1.54%	1.73%	0.0019	689
Current Tax	0.05%	0.14%	0.0009	341
Long Term Liabilities				
Current Portion - Secured	2.40%	3.80%	0.0140	5,110
- Unsecured	<u>0.05%</u>	<u>0.05%</u>	<u>0.0001</u>	<u>22</u>
Total Current Liabilities	27.84%	30.98%	0.0314	11,469
Total Liabilities & Equities	<u>100.00%</u>	<u>100.00%</u>		
Contingent Liabilities	4.13%	1.13%	-0.0300	-10,947
Capital Commitments	3.22%	3.77%	0.0055	2,008

