

**Chapter 6: Planning, Understanding the Entity and
Evaluating Business Risk
in 'Auditing & Assurance Services in Australia' 4th Ed**

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various government agencies contain information that enables the auditor to understand the business practices and problems of the entity, as well as providing information for audit tests.

RELATED PARTIES

The auditor needs to have a level of knowledge of an entity's business and industry sufficient to identify events, transactions and practices that may have a material effect on the financial report. It is important, therefore, that the auditor's understanding of the entity's business covers the existence and identity of related parties and the extent of the entity's involvement with those parties.

Related parties are defined in AASB 124 (IAS 24) *Related Party Disclosures*. Entities are related if one entity can significantly influence or control the operating, financing or investing decisions of another; or if several entities are subject to control from the same entity; or if the party is a joint venture in which the entity is a venturer. Key management personnel, their close family members and entities controlled by them are also related parties, as are superannuation funds for the benefit of employees or related parties of the entity. Risks associated with related parties will be discussed further in Chapter 7.

INDUSTRY AND ECONOMIC CONDITIONS

As outlined earlier and identified through techniques discussed later, such as PEST analysis, the auditor should have a basic understanding of **industry and economic conditions**, government regulations, changes in technology and competitive conditions that affect an entity's operations. Of particular importance is knowledge about accounting practices common to the entity's industry.

Sources of such information include trade journals, books of industry statistics and, in some cases, professional statements. If government regulations are an important factor in recognition of revenues or expenses, the auditor may need to investigate the administration of those regulations and inspect contracts, noting pertinent conditions and terms.

In general, the auditor should be aware of developments pertinent to clients as identified through their knowledge management database (most large audit firms have knowledge management databases that, among other things, identify any news releases about their clients) or from normal reading of financial and business magazines and newspapers.

QUICK REVIEW

An auditor needs to gain knowledge of an entity's:

- 1 organisational structure;
- 2 operational and legal structure; and
- 3 industry and economic conditions.

LEARNING
OBJECTIVE

7

BUSINESS RISK

RISK-ASSESSMENT PROCEDURES

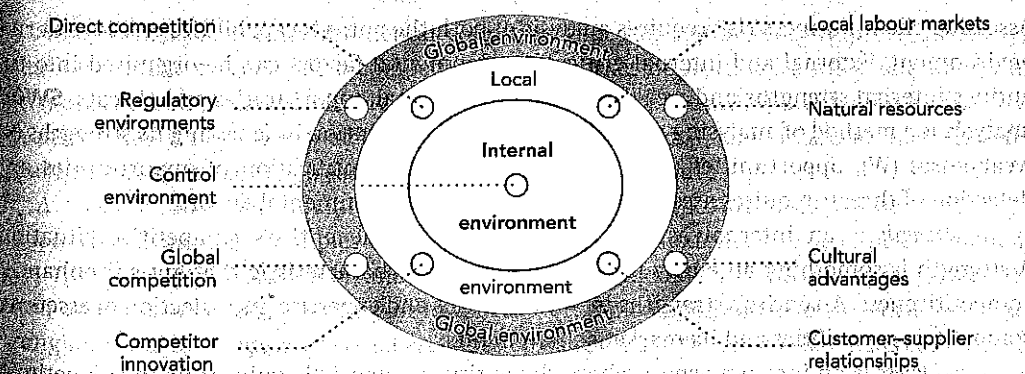
In Chapter 5, client **business risk** was defined as the risk that an entity's business objectives will not be attained as a result of the external and internal factors, pressures and forces brought

to bear on the entity and, ultimately, the risk associated with the entity's profitability and survival. In order to assess whether the financial report is fairly presented, the auditor must undertake risk-assessment procedures to understand the entity's business strategy and risks and its ability to respond to changing environmental conditions. The entity's business strategy is usually spelt out by top management and may be broad, such as 'to maximise shareholder value'. This is then supported by a number of operational strategies such as 'expand our sales by selling into Asia' or 'reduce costs by selling on the internet'. The auditor assesses the specific business risks that the entity faces in achieving these strategies to determine if they could result in a materially misstated financial report. Bell et al. (1997) argue that by taking a top-down view of the entity, rather than the traditional bottom-up transaction-based approach, where inferences about information contained in the financial report are made based on tests of transactions and balances, the auditor can use strategic analysis to plan the audit in a more efficient manner. Figure 6.2 shows some factors that affect the entity's internal, local and global environments.

ASA 315.A5-16 (ISA 315.A5-16) identifies a number of methods of obtaining knowledge of the entity's business. These are called risk-assessment procedures, and they include:

- consideration of previous experience with the entity and the industry;
- discussion with senior people within the entity;
- discussion with internal auditors within the entity and review of their reports;
- discussion with other auditors, legal advisers and other advisers who have provided services to the entity or within the industry;
- discussion with knowledgeable people such as industry economists, industry regulators, suppliers, customers and competitors;
- reading of industry publications such as government statistics, surveys, texts, trade journals, bank reports and financial newspapers;
- review of significant legislation and regulations affecting the entity;
- visits to the entity's premises;

FIGURE 6.2 The relationship between client business risk and the global, local and internal environments



Source: Adapted from Bell et al. (1997) Exhibit 3, p. 27.

- review of documents produced by the entity, such as minutes of meetings, promotional literature, previous annual reports, budgets, internal management reports, interim financial reports, management policy manuals, accounting manuals, chart of accounts, job descriptions and marketing and sales plans; and
- performance of analytical procedures.

In order to properly assess client business risk, the auditor must understand the entity's business and industry at two levels. Firstly, the auditor must obtain a thorough understanding of the industry within which the entity operates. Secondly, the auditor must understand how the entity fits within the industry.

The auditor uses this entity and industry information to identify business risks that may have an effect on the audit. Once the risks have been identified, the auditor should ascertain whether the entity has controls in place to monitor those risks and, if so, determine whether the auditor should test those controls. The assessment of client business risk is an input into the auditor's assessment of the risk of material misstatement in the financial report. Client business risk affects inherent risk and control risk and therefore the nature, timing and extent of the auditor's work through the required level of detection risk. This approach should result in a greater concentration of effort in areas where there is greater risk of misstatement of the financial report. The auditor is required to make a risk assessment for all audits and can no longer simply default to a high risk assessment.

The members of the audit engagement team should discuss the susceptibility of the entity's financial report to material misstatement (ASA 315.10/ISA 315.10). This discussion will allow all members of the audit management team to obtain a better understanding of the potential for material misstatement and how the results of audit procedures that they perform may affect other aspects of the audit. This discussion should be documented.

As discussed earlier, in order to obtain information about the risks arising due to the nature of the entity and its environment, auditors may use strategic management techniques such as SWOT analysis, PEST analysis, the value-chain approach and nonfinancial performance measurement, although there is no requirement to do so. Each of these techniques is discussed below.

SWOT ANALYSIS

Assessing client business risk requires analysis of both the entity's capabilities and its external environment. External and internal critical environmental factors can be organised into the entity's internal strengths and weaknesses and its external opportunities and threats. **SWOT analysis** is a method of analysing an entity's competitive situation by assessing its strengths (S), weaknesses (W), opportunities (O) and threats (T). This identification of opportunities and detection of threats requires assessment of all relevant environmental factors.

A *strength* is an internal aspect that can improve the entity's competitive situation. A strength is something an entity is good at doing or a characteristic that gives it enhanced competitiveness. An entity's strengths include its skills and expertise, its collection of assets, its competitive capabilities and its market achievements.

A *weakness* is an internal aspect where the entity is potentially vulnerable to competitors' strategic moves. Therefore it is something an entity lacks or does poorly in comparison to its competitors, or a condition that puts it at a disadvantage.

Major issues to consider in SWOT analysis

POTENTIAL INTERNAL STRENGTHS

- Powerful strategy
- Adequate financial resources
- Good competitive skill
- Strong brand name
- Acknowledgment as market leader
- Access to economies of scale
- Proprietary technology
- Superior technological skill
- Cost advantages
- Superior advertising campaigns
- Product innovation skills
- Proven management
- Superior manufacturing capability
- Superior product quality
- Wide geographic coverage
- Alliances/joint ventures with other entities

POTENTIAL EXTERNAL OPPORTUNITIES

- Serving of additional customer groups
- Entering of new markets or segments
- Expansion of product line to meet broader range of customer needs
- Diversification into related products
- Vertical integration
- Falling trade barriers in attractive foreign markets
- Complacency among rival firms
- Faster market growth
- Acquisition of rival firms

POTENTIAL INTERNAL WEAKNESSES

- No clear strategic direction
- Obsolete facilities
- Excessive debt
- Sub-par profitability
- Higher overall unit costs relative to key competitors
- Lack of managerial depth and talent
- Lack of particular key skills or competence
- Poor track record in implementing strategy
- Internal operating problems
- Inferior R&D
- Too narrow a product line
- Weak market image
- Weak distribution network
- Below average marketing skills
- Inability to finance needed changes in strategy
- Underuse of plant
- Inferior product quality

POTENTIAL EXTERNAL THREATS

- Entry of lower-cost competitors
- Rising sales of substitute products
- Slowdowns in market growth
- Adverse shifts in foreign exchange rates and trade policies of foreign governments
- Costly regulatory requirements
- Vulnerability to recession and business cycles
- Growing bargaining power of customers or suppliers
- Changing buyer needs and tastes
- Adverse demographic changes
- Vulnerability to industry-driving forces

Source: Adapted from Thompson and Strickland (1998) p. 107

An *opportunity* is an environmental condition that can significantly improve an entity's situation relative to that of its competitors. The market opportunities most relevant to an entity are those that offer profitable growth, those that offer the most potential for competitive advantage and those that match up well with the financial and organisational resource capabilities that the entity already possesses or can easily acquire.

A *threat* is an environmental condition that can significantly undermine an entity's competitive situation. Examples of factors in an entity's external environment that may pose threats to its profitability and market standing include the introduction of new or better products by rivals, the entry of lower-cost foreign competitors into the entity's market stronghold, and new regulations that are more burdensome to the entity than to its competitors (see Example 6.1). Most entities are aware of what their competitors are doing and actively plan strategies for coping with these threats. Auditors should be aware of both the threats and management's strategies for dealing with them.

EXAMPLE 6.1

Audit impact of a threat

Motor Limited is facing severe competition from existing competitors, new entrants and substitute products. These threats are likely to affect sales, creating downward pressure on prices and introducing the possibility of obsolete inventory. This will increase the audit risk associated with the valuation of inventory. It may also affect the valuation of manufacturing plant used to produce those goods and ultimately the ability of the entity to continue as a going concern.

Some of the issues that may be considered in SWOT analyses are shown in Table 6.1. SWOT takes into account the interactions between the entity and its environment with respect to what the entity does or plans to do to achieve its goals and objectives, and provides a starting point for the auditor to assess the client business risk.

PEST ANALYSIS

PEST analysis involves identifying the political (P), economic (E), social (S) and technological (T) influences on an entity. This involves consideration of the external environmental influences that have been particularly important in the past, and the extent to which there are changes occurring that may make any of these more or less significant in the future for the entity and its competitors.

Political risks arise from legal or regulatory constraints on an entity. Laws relating to employment, equal opportunity, occupational health and safety and consumer and environmental protection have a significant effect on an entity. Compliance with these laws may be complex and expensive, but non-compliance may be even more costly. Many laws and regulations are industry specific and need to be considered when auditing an entity within that industry.

Economic risks relate to general or regional trends in economic conditions that can have an adverse effect on an entity. Risks can arise from a change in interest rates, inflation, economic growth, foreign exchange rates or unemployment. For example, industries such as construction and real estate are sensitive to small increases in interest rates (see Example 6.2).

EXAMPLE 6.2

Audit impact of an economic factor

Ace Concrete Ltd's major customers are in the construction industry, which is in economic recession. As a result, receivables may not be able to be collected at the normal historic rate. This will increase the audit risk associated with the valuation of receivables, as the allowance for doubtful debts may have to be increased. It may also have going concern implications due to a shrinking customer base and its impact on cash flow.

Social risks are affected by cultural attitudes, lifestyles and social pressures. For example, in many countries, employees expect a level of benefits and management consideration, such as in-house childcare, that is unheard of in other countries. Some products, such as furs or ivory, are acceptable in some countries and unacceptable in others. A business that opens a branch or subsidiary in another country needs to carefully consider local employment practices, customs and social attitudes in the planning of the facility.

Technological risks typically relate to the rate of innovation in an industry. Technology can

affect many facets of an entity, including the manner in which it conducts its basic operations, processes information, markets its products, designs its manufacturing process and develops new products. A manufacturer lacking new technology may be at a competitive disadvantage.

Table 6.2 provides a summary of some of the questions to ask about key forces at work in the macroenvironment using a PEST analysis.

TABLE 6.2

A PEST analysis of environmental influences

- 1 What environmental factors are affecting the organisation?
- 2 Which of these are the most important at the present time? In the next few years?

POLITICAL/LEGAL FACTORS	ECONOMIC FACTORS
Monopolies legislation Environmental protection laws Taxation policy Foreign trade regulations Employment law Government stability	Business cycles GNP trends Interest rates Money supply Inflation Unemployment Disposable income Energy availability and cost
SOCIOCULTURAL FACTORS	TECHNOLOGICAL FACTORS
Population demographics Income distribution Social mobility Lifestyle changes Attitudes to work and leisure Consumerism Level of education	Government spending on research Government and industry focus on technological effort New discoveries/developments Speed of technology transfer Rates of obsolescence

Source: Johnson and Scholes (1999) p. 105.

PEST analysis may involve identifying a number of key drivers of change—that is, forces likely to affect the structure of an industry or market. A good example is the forces that are increasing the globalisation of some markets. PEST analysis may also help the auditor to examine the differential impact of external influences on entities, both historically and in the future. It looks at the extent to which key drivers will affect industries differently.

VALUE-CHAIN APPROACH

To effectively assess the entity's ability to generate cash flows and create value, the auditor should develop a comprehensive understanding of the entity's positioning within its value chain and its ability to create and sustain competitive advantage within that environment. According to Porter (1985), the **value-chain approach** is a way of systematically viewing the series of activities that an entity performs to provide its customers with a product. The value chain disaggregates an entity into its strategically important activities to provide an understanding of the behaviour of the entity's costs and the entity's existing or potential sources of differentiation. An entity gains competitive advantage by performing these strategically important activities or key internal factors at a lower cost or better than its competitors.

Every entity can be viewed as a collection of value activities that are performed to design, produce, market, deliver and support its product. A firm typically performs a number of discrete activities that may represent its key strengths or weaknesses. Service activities, for example, may include such discrete activities as installation, repair, distribution and upgrading, any of which could be a major source of competitive advantage or disadvantage. Through the systematic identification of these activities, auditors using the value-chain approach can target potential strengths and weaknesses for further evaluation.

NONFINANCIAL PERFORMANCE MEASUREMENT

Many risks, especially those within processes, are more effectively measured using **nonfinancial measures**. Common nonfinancial measures include the following.

- **Market share** This is the percentage of total market consumption that is filled by a specific entity or product. A successful company will have a larger market share than a less successful one.
- **Customer satisfaction** Long-term success for most entities depends on providing satisfying experiences to their customers. A drop in customer satisfaction generally leads to reduced revenue and profits (see Example 6.3).
- **New product success rates** Companies introduce many new products, and multiple product introductions maximise the chance that some of the products will prove successful and profitable.
- **Time-to-market for new products** This is the length of time it takes a company to conceive a new product and begin to sell it. The longer it takes to get a new idea to market, the more risk there is that a competitor will get there first, or external developments will cause early obsolescence. The computer industry, for example, is particularly sensitive to time-to-market issues.
- **Warranty rates** Warranty rates are an indicator of the quality of the product.

EXAMPLE 6.3

Audit impact of a nonfinancial performance measure

Diamond Engineering Ltd has experienced an increase in its volume of customer complaints. This could be due to a drop in the quality of its product, and may necessitate more rework or warranty claims. Audit risk would increase in relation to possible understatement of warranty expenses and accruals. It may also affect the valuation of inventory and the overall viability of the entity. For an entity that has adopted a strategy of high quality, loss of reputation is likely to significantly reduce its chances of success.

The use of nonfinancial measures is of course dependent on the availability of systematic and reliable data. Nonfinancial performance measures can be extremely useful for assessing the significance of strategic and process risks, and for evaluating the effectiveness of management responses to these risks. Nonfinancial measures are particularly important to process analysis because accounting measures are often not available nor feasible for many risks at the process level.

RESPONSE TO ASSESSED RISKS

In order to reduce audit risk to an acceptably low level, ASA 330.5 (ISA 330.5) requires that the auditor determine overall responses to assessed risks at the financial report level. Responses at the financial report level may include:

- emphasising to the audit team the need to maintain professional scepticism in gathering and evaluating audit evidence;
- assigning more experienced staff or staff with special skills;
- using experts;
- providing more supervision;
- incorporating additional elements of unpredictability in the selection of further audit procedures to be performed; and
- making general changes to the nature, timing and extent of audit procedures, such as performing substantive procedures at balance date instead of at an interim date.

At the assertion level, ASA 330.6 (ISA 330.6) requires that the auditor's assessment of identified risks provide a basis for designing and performing further audit procedures. There should be a clear link between the nature, timing and extent of the auditor's further audit procedures and the assessed risks. These further procedures may be tests of control or substantive tests or both, depending on the circumstances. In designing further audit procedures, the auditor must consider:

- the significance of the risk;
- the likelihood that a misstatement will occur;
- the characteristics of the class of transactions, account balance or disclosure involved;
- the nature of the specific controls used by the entity, including whether they are manual or IT controls;
- whether the auditor expects to obtain evidence to determine whether the entity's controls are effective in preventing, or detecting and correcting, material misstatements.

QUICK REVIEW

1. An auditor must understand an entity's strategy and associated business risks in order to assess whether its financial report is fairly presented.
2. To assist in assessing business risk, the auditor will use various strategic management techniques, including SWOT analysis, PEST analysis, the value-chain approach and nonfinancial performance measurement.
3. In order to reduce audit risk to an acceptably low level, the auditor should determine overall responses to assessed risks at both the financial report level and the assertion level.

ANALYTICAL PROCEDURES

ASA 315.6 (ISA 315.6) requires the auditor to apply **analytical procedures** at the planning stage as part of the risk-assessment procedures. Analytical procedures may reveal aspects of the business about which the auditor was unaware, and assist in determining the nature, timing and extent of other audit procedures.

LEARNING
OBJECTIVE 8

In accordance with ASA 520 (ISA 520), analytical procedures may also be used as a substantive audit procedure during the audit (see Chapter 10) and must be used to assist the auditor when forming an overall conclusion at the end of the audit (see Chapter 12).

As indicated in Chapter 5, analytical procedures involve the use of ratios, trend analysis and operating statistics for comparison with internal and external data. The different types of analytical procedures are discussed below. The use of these techniques in preliminary planning allows the auditor to identify areas requiring audit attention, thereby assisting in the determination of the nature, timing and extent of audit procedures. It also gives the auditor some knowledge of the business and a base against which to compare subsequent evaluations of the reasonableness of the financial report. The early identification of errors, omissions, changes in accounting policy or practice and the identification of unusual trends allows these matters to be dealt with on a timely basis. This prevents last-minute adjustments or reporting problems, and therefore improves the efficiency and effectiveness of the audit.

Analytical procedures applied during the planning stage assist the auditor to obtain knowledge of the entity and industry, via the information produced from the data analysis and investigation of the results. Also, the process of implementing the analytical procedures requires the auditor to obtain information about the entity and its industry. For example, the auditor needs to determine the relevant industry data and what statistics are appropriate for analysis and review. Also, it is necessary to consider the relationship between financial report items and any relevant nonfinancial data. Examples include the relationship between payroll costs and number of employees, or the revenue disclosed by an airline compared with the number of flights and the average number of paying customers per flight.

Most of the computer software used for trial balance preparation can also be used to perform analytical procedures on the financial report data. The software allows the auditor to (1) maintain previous years' financial report data so that absolute and percentage comparisons can be made, and (2) calculate financial report ratios for current and previous years. Spreadsheets can also be used to perform this type of analysis.

TYPES OF ANALYTICAL PROCEDURES

Simple analytical procedures include:

- simple comparisons;
- ratio analysis;
- common-size statements;
- trend statements; and
- time series analysis.

Complex analytical procedures include:

- time series modelling;
- regression analysis; and
- financial modelling.

While these procedures may be used at various stages of the audit, the most useful at the preliminary planning stage include:

- comparison of current balances in the financial report with balances of previous periods and budgeted amounts (simple comparisons); and

computation of ratios and percentage relationships for comparison with previous years' budgets and industry averages (ratio analysis). Significant variations indicate areas requiring investigation, and reasonable explanations should be obtained for these variations.

Biggs et al. (1999) state that a review of research studies of audit practice indicates that simple judgmental approaches such as comparisons and ratio analysis are used more frequently than complex statistical approaches such as time series modelling or regression analysis. This conclusion is supported by a survey of Australian practice by Smith et al. (1999), which found that the five most commonly used analytical procedures consisted of:

- three simple comparisons: current year with previous year's financial report; financial with budgeted information; and relationship of individual items with yearly totals; and
- two ratios: gross profit ratio; and accounts receivable turnover.

Other analytical procedures commonly used included activity ratios, such as inventory turnover, and solvency and liquidity ratios, such as current ratio, quick asset ratio and debt to equity ratio.

SIMPLE COMPARISONS

Simple comparisons are probably the most commonly used analytical procedure. The auditor can identify account balances that have changed significantly simply by comparing the amounts for the current and previous year on the working trial balance in the working papers. Similar comparisons can be made to budgeted amounts, or the entity's internal reports comparing and analysing budgeted and actual amounts can be reviewed.

An auditor may also compute percentage relationships between balances that are expected to be related (receivables and bad debts, equipment and depreciation, interest expense and borrowings) and compare them to previous experience and budget data.

RATIO ANALYSIS

To gain a better understanding of the entity, the auditor may use **ratio analysis**, calculating common liquidity, activity, profitability and solvency ratios. It must be remembered that at the planning stage the auditor is undertaking this ratio analysis on unaudited financial information. Thus any ratios not in accordance with the auditor's expectations will indicate areas requiring significant audit attention. These ratios may be compared to the following.

1 Industry data Information on average ratios in industries may be obtained from sources such as the Australian Securities Exchange, trade publications and computer database services.

2 Internal data Internal information useful for comparison of ratios includes the following.

Previous years Comparable ratios are computed for the entity for previous years, and trends are analysed.

Budgets If the entity has effective budgeting procedures, significant variations from the budget indicate activity that the entity did not expect at the time that the budget was prepared.

Segment or division data If an entity can disaggregate its financial information into geographic or operating segments or divisions, unusual figures or trends may help to isolate specific areas that should receive audit attention.

Comparisons of internal data (with previous periods, budgets or segment or division data) is most common. Initially, comparison with industry data may seem appealing and may, in fact, be useful. However, the industry information may not be comparable if the entity differs from industry norms in regard to its lines of business, accounting methods and geographical influences.

However, care needs to be taken, as research by Kinney (1987) has shown that material misstatements may not significantly affect certain ratios. This is particularly true for activity ratios. Also, the auditor needs to be careful not to evaluate a financial ratio in isolation. A ratio may be favourable because its components are unfavourable. If related ratios are not examined, the auditor may draw an incorrect conclusion. For example, suppose that an entity's accounts receivable turnover ratio and inventory turnover ratio are getting smaller. The negative trend in these ratios may indicate that accounts receivable are getting older and that some inventory may be obsolete. However, both of these factors positively affect the current ratio. If the auditors calculate only the current ratio, they may reach an incorrect conclusion about the entity's ability to meet current obligations.

There are many different financial ratios available to auditors to assist them in performing their analytical procedures. We will discuss below some of those used most commonly by auditors.

Short-term liquidity ratios

Short-term liquidity ratios indicate the entity's ability to meet its current obligations. Three ratios commonly used for this purpose are the **current ratio**, the **quick asset ratio** and the **operating cash flow ratio**.

Current ratio

The current ratio is calculated as follows.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

It includes all current assets and current liabilities and a commonly used benchmark is 2 to 1 or better, although the acceptable ratio may vary for different companies and industries. For example, a company that turns over its debtors and inventory quickly, such as a grocery shop, will require smaller levels of assets on a statement of financial position to generate a given level of cash to meet repayments and so can exist with a lower current ratio. Generally, a high current ratio indicates an entity's ability to pay current obligations. However, if current assets include old accounts receivable or obsolete inventory, this ratio can be distorted. It is also important to look at the trend in the ratio as well as the absolute amount. A declining trend in this ratio indicates prima facie that the entity is becoming short of working capital and may have difficulty in meeting its current obligations.

Quick asset ratio

The quick asset ratio includes only those assets that are most readily convertible to cash and is calculated as follows.

$$\text{Quick asset ratio} = \frac{\text{Liquid assets}}{\text{Current liabilities}}$$

Liquid assets include cash, marketable securities and net accounts receivable. Thus, inventories and prepaid items are not included in the numerator of the quick asset ratio. The quick asset ratio may provide a better picture of the entity's liquidity position if inventory contains obsolete or slow-moving items. A ratio greater than 1 is a commonly used benchmark indicating that the entity's liquid assets are sufficient to meet the cash requirements for paying current liabilities.

Operating cash flow ratio

The operating cash flow ratio measures the entity's ability to cover its current liabilities with cash generated from operations, and is calculated as follows.

$$\text{Operating cash flow ratio} = \frac{\text{Cash flow from operations}}{\text{Current liabilities}}$$

The operating cash flow ratio uses the cash flows, as opposed to assets, to measure short-term liquidity. It provides a longer-term measure of the entity's ability to meet its current liabilities. If cash flow from operations is small or negative, the entity is likely to need alternative sources of cash, such as additional borrowings or sales of assets, to meet its obligations.

Activity ratios

Activity ratios indicate how effectively the entity's assets are managed. Only ratios related to accounts receivable and inventory are discussed here because for most wholesale, retail or manufacturing companies these two accounts represent the assets that have high activity. Activity ratios may also be effective in helping the auditor to determine whether these accounts contain material misstatements.

Receivables turnover ratio and days in receivables

These two ratios provide information on the activity and age of accounts receivable. The receivables turnover ratio and days in receivables are calculated as follows.

$$\text{Receivables turnover ratio} = \frac{\text{Net credit sales}}{\text{Average receivables}}$$

$$\text{Days in receivables} = \frac{365 \text{ days}}{\text{Receivables turnover}}$$

The **receivables turnover ratio** indicates how many times accounts receivable are turned over during a year. However, the **days in receivables** may be easier to interpret, because this ratio can be compared to the entity's terms of trade. For example, if an entity's terms of trade are net 30 days, the auditor would expect that if management was doing a good job of managing receivables, the value for this ratio would be 30 days or less. If the auditor calculates the days outstanding to be 60 days, the auditor might suspect that the account balance contains a material amount of bad debts. Any declining trend in the actual collection period would raise doubts about the system of credit control and the adequacy of the provision for doubtful debts, and hence the valuation of accounts receivable. Comparing the days outstanding to industry data may be helpful in detecting a slowdown in payments by customers that is affecting the entire industry.

Inventory turnover ratio and days in inventory

These two ratios provide information on the inventory and are calculated as follows.

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

$$\text{Days in inventory} = \frac{365 \text{ days}}{\text{Inventory turnover}}$$

The **inventory turnover ratio** indicates the frequency with which inventory is consumed in a year. The higher the ratio, the better the entity is at liquidating inventory. This ratio can easily be compared to industry standards or to previous years. If the inventory turnover is below the industry average or is declining over time, the auditor might suspect that inventory contains obsolete or slow-moving goods; this raises doubts about the valuation of inventory. In addition, it may indicate that working capital is being tied up and liquidity reduced. Also, there is a risk that unnecessary costs are being incurred for storage space and that the buying, inventory control and production planning functions are inadequate.

Although a high inventory turnover is generally considered to be desirable, in some cases it may be a cause for concern. The auditor needs to check that inventory levels have not been reduced to such dangerously low levels that it is not possible to meet delivery dates or increase sales turnover.

The **days in inventory** measures the average number of days it takes to sell the inventory and, when added to the days in receivables, shows how long it takes to convert inventory to cash.

Profitability ratios

Profitability ratios indicate the entity's success or failure at generating a profit for a given period. A number of ratios measure the profitability of an entity, and each ratio should be interpreted by comparison to industry data.

Gross profit ratio

The **gross profit ratio** is generally a good indicator of potential misstatements, and is calculated as follows.

$$\text{Gross profit ratio} = \frac{\text{Gross profit}}{\text{Net sales}}$$

If this ratio varies significantly from previous years or differs significantly from industry data, the entity's financial data may contain errors. Numerous errors can affect this ratio. For example, if the entity has failed to record sales, the gross profit ratio will be less than in previous years. Similarly, any errors that affect the inventory account can distort this ratio as they affect the determination of cost of goods sold. For example, if the entity has omitted goods from the ending inventory, this ratio will be smaller than in previous years.

Net profit ratio

The **net profit ratio** is calculated as follows.

$$\text{Net profit ratio} = \frac{\text{Net profit}}{\text{Net sales}}$$

While the gross profit ratio measures profitability after cost of goods sold is deducted, the net profit ratio (usually measured after interest and taxes) measures the entity's profitability after all expenses are considered. Significant fluctuations in this ratio may indicate that misstatements exist in the selling, general or administrative expense accounts.

Return on total assets ratio

The **return on total assets ratio** is calculated as follows.

$$\text{Return on total assets ratio} = \frac{\text{Net profit}}{\text{Total assets}}$$

This ratio indicates the return earned on the resources invested by both the shareholders and the creditors. In practice, this ratio is usually calculated before interest and taxes. It indicates how well management has used the assets available to it. In using this ratio, the auditor needs to examine the underlying factors to explain the level of the rate of return compared to other entities and movements in the rate from previous periods.

Return on shareholders' equity ratio

The **return on shareholders' equity ratio** is calculated as follows.

$$\text{Return on shareholders' equity ratio} = \frac{\text{Net profit}}{\text{Ordinary shareholders' equity}}$$

This ratio is similar to the return on total assets ratio except that it shows only the return on the resources contributed by the shareholders. Thus, it is usually calculated after interest and taxes.

Solvency ratios

Solvency ratios provide information on the long-term solvency of the entity. These ratios give the auditor important information on the ability of the entity to continue as a going concern.

Debt to equity ratio

The **debt to equity ratio** is calculated as follows.

$$\text{Debt to equity ratio} = \frac{\text{Short-term} + \text{Long-term debt}}{\text{Shareholders' equity}}$$

This ratio indicates what portion of the entity's capital comes from debt. The lower the ratio, the less debt pressure there is on the entity. If the entity's debt to equity ratio is large relative to the industry's, it may indicate that the entity is too highly leveraged and may not be able to meet its debt obligations, including debt servicing costs, on a long-term basis.

Times interest earned ratio

The **times interest earned ratio** is calculated as follows.

$$\text{Times interest earned ratio} = \frac{\text{Net profit}}{\text{Interest expense}}$$

The times interest earned ratio indicates the ability of current operations to pay the interest that is due on the entity's debt obligations. The more times that interest is earned, the better the entity's ability to service the interest on long-term debt. An example of ratio analysis is contained in Example 6.4.

EXAMPLE 6.4 Analytical procedures

You are the auditor of Charles Company, a large hardware retailer with shops throughout the country. As part of the planning stage of the audit, you have performed analytical procedures with the following results.

	ACTUAL RESULTS	BUDGETED RESULTS	PREVIOUS YEAR	INDUSTRY AVERAGE
Inventory turnover ratio	4.35	5.00	4.70	4.66
Current ratio	1.80	1.70	1.51	1.66
Quick asset ratio	1.10	1.10	1.10	1.20
Debt to equity ratio	0.60	0.59	0.62	0.58
Number of times interest earned ratio	8.50	7.20	6.80	5.00

Analysis of ratios and audit implications

- The decrease in the inventory turnover ratio indicates an increased audit risk that inventory is overstated due to the presence of obsolete stock. This suggests that additional audit testing should be undertaken for the inventory valuation and allocation assertion.
- The increase in the current ratio is likely to be due to the increase in inventory, as indicated by the inventory turnover ratio.
- This is further supported by the fact that the quick asset ratio has not changed, also indicating that the increase in current ratio could be due to an increase in inventory levels.
- The liquidity position of a company is important in ensuring that the going concern basis of accounting is appropriate. Charles Company's ratios do not indicate any problem in this area, as the quick asset ratio is above the normal benchmark of 1:1.
- The debt to equity ratio indicates that the gearing level of Charles Company, although relatively high, is consistent with that of the industry average and thus does not significantly increase audit risk.
- The number of times interest earned considers the ability of the company to meet its interest commitments as they fall due. This rise in the ratio indicates reduced audit risk concerning the ability of the company to meet its interest commitments. This may be due to falling interest rates, good profitability or understatement of interest expense. This ratio needs to be investigated further to determine what has actually caused the change.

COMMON-SIZE STATEMENTS

Common-size statements express statement of financial position components as a percentage of total assets and income statement items as a percentage of total revenue. An example of a

common-size income statement is shown in Example 6.5. This technique can be undertaken either on a cross-sectional basis (for example, comparing the entity to competitors or to the industry) or on a time series basis, allowing the auditor to concentrate on changes in percentages over time. It is a particularly relevant technique for the evaluation of income statement items where variable expenses will have some relationship to total sales.

EXAMPLE 6.5
A common-size statement

Common-size income statement for Ace Manufacturers Ltd for the three years 20X1 to 20X3

	20X1	20X2	20X3
Sales	100	100	100
less Cost of goods sold	<u>60</u>	<u>58</u>	<u>60</u>
Gross profit	<u>40</u>	<u>42</u>	<u>40</u>
less Expenses	10	10	16
Operating	<u>5</u>	<u>5</u>	<u>8</u>
Administration	<u>25</u>	<u>27</u>	<u>16</u>
Net profit			

This common-size statement shows the increase in operating and administration expenses that may not be so obvious from the raw figures.

TREND STATEMENTS

Trends may be disclosed by comparison of account balances by month, within the year and between years, and by year with those of previous years. **Trend statements** are similar to common-size statements in that all numbers are expressed as a percentage of a base. However, each number in a trend statement is expressed as a percentage of its own level calculated from some base year. The focus is on the trend rather than the absolute magnitude of dollar changes. The trend statements would be evaluated by the auditor based on their knowledge of the business as to whether past trends are expected to continue or change. An example of a trend statement is shown in Example 6.6.

EXAMPLE 6.6
A trend statement

Income statement trend statement for Ace Manufacturers Ltd for the three-year period 20X1 to 20X3

	20X1	20X2	20X3
Sales	100	120	250
less Cost of goods sold	100	116	250
Gross profit	100	125	250
less Expenses	100	120	400
Operating	100	100	400
Administration	100	128	160
Net profit			

continued

EXAMPLE 6.6 continued

This trend statement shows that net profit is up 28% in 20X2 and 60% for two years to 20X3. It also shows that operating and administration expenses are increasing at a much faster rate than sales or cost of goods sold. This may not have been as easy to observe with other analytical procedures.

TIME SERIES ANALYSIS AND MODELLING

Simple **time series analysis** is a predictive technique involving the extrapolation of past values of an item of financial information into the current audit period. For example, the past values of sales are examined to identify a trend that can be used to predict the level of the current audit balances. This prediction is compared with the entity's records and unexpected fluctuations are further examined. Simple time series analysis can be accomplished through a graphical approach.

The aim of more complex **time series models** is to forecast what the current level of various financial report items should be, based on the pattern of past amounts of different variables. In their simplest or univariate form, these models provide forecasts based solely on the past history of the variable of interest. When additional independent variables are added to the model (multivariate form), the methodology generates forecasts based on past observations of both the variable of interest and the related independent variables. This technique is facilitated by the use of computer programs and can consider a wide range of models while searching for an appropriate model for a particular set of data.

REGRESSION ANALYSIS

Regression analysis estimates the relationship between a dependent variable (for example, sales) and one or more independent variables (for example, cost of sales or shipping costs). Values of the independent variable(s) are used to predict the dependent variable value. Regression analysis can be applied on a time series or a cross-sectional basis and provides a line of best fit for the data points.

The advantages of regression analysis are that it provides an objective quantification in statistical terms of the probability that an account is misstated by a material amount, it provides more precise evidence than simpler techniques because it incorporates more factors and builds more complex relationships, and, as a result, it allows the auditor to reduce the level of tests of details work. The major limitations of regression analysis are the high training costs, the unavailability of sufficient data over a short time to establish a stable plausible relationship, and the fact that if the assumptions of regression analysis are violated the model cannot be relied upon to produce statistically valid inferences about the entity's recorded values.

FINANCIAL MODELLING

Financial modelling involves the identification of a key input variable from which values of other accounts can be calculated. For example, using sales as the key variable, other accounts such as cost of goods sold, inventory, accounts receivable, selling costs and administration costs can be determined. On the basis of these values, an estimate of funds and profit from operations can be obtained and, along with the provision of other financial and investment information, a pro-forma financial report can be calculated. Significant deviations of this report from management's financial report can be highlighted to provide the basis for further

investigations, while if the two sets of reports generally agree the auditor will have increased confidence in the overall reasonableness of the financial report.

The main advantage of financial models is that they provide a complete financial report, while other analytical procedures focus on one relationship at a time and rely on auditor judgment to aggregate across tests to arrive at a conclusion on the overall reasonableness of the financial report. However, this technique can be very costly and does not have the advantages of regression analysis of providing statistical measures of reliability.

DATA USED IN ANALYTICAL PROCEDURES

In planning analytical procedures, the auditor must consider whether the data needed are easily available, and thus the amount of time that will be needed to gather the required information. Other audit procedures may be more effective for the same amount of effort.

The auditor must also consider the reliability of the data to be used in the analytical procedures. More reliable primary data result in analytical procedures providing more effective audit evidence. Factors influencing the reliability of data used in analytical procedures include the following.

- Data from an independent source outside the entity are generally more reliable than internal data.
- Data from a system with effective internal controls are more reliable than data from a poorly controlled system.
- Data audited in the previous year or in the current audit are more reliable than unaudited data. (Remember that unaudited data are used at the planning stage, while audited data are used at the completion stage, to achieve the different objectives of those stages.)
- Data from a variety of sources that corroborate each other are more reliable than data from only one source.
- Data from the department within the entity that is responsible for the amount being audited are generally less reliable than data from another department.

The auditor also considers the plausibility, predictability and precision of the analytical relationship. For example:

- Relationships in a stable environment are more predictable than relationships in a dynamic, changing environment.
- Direct relationships are more predictable than indirect relationships. For example, the auditor's prediction of annual rental income (12 times the monthly rent per lease) is more predictable than selling and administrative expenses as a ratio of sales volume.
- Disaggregated relationships are more precise and show clearer relationships than combined or aggregated relationships. For example, comparisons by line of business are generally more effective than entity-wide comparisons, and monthly comparisons are generally more effective than annual comparisons.
- Relationships involving income statement amounts (transactions over a period of time) tend to be more predictable than relationships involving only statement of financial position accounts (amounts at a point in time).
- Relationships involving transactions that are subject to management discretion are less predictable than transitions independent of management discretion.

EXAMINATION OF SIGNIFICANT FLUCTUATIONS

The auditor must decide which fluctuations are significant and thus warrant investigation. The auditor must also be alert to the possibility that the absence of expected fluctuations may also need to be investigated. Each significant fluctuation (or the lack of an expected fluctuation) must be investigated to determine the reason for it.

The auditor's first step in investigating significant fluctuations should be to discuss them with the entity's management. Management may already be aware of the fluctuations and have determined their causes or be able to provide an explanation for them. However, the auditor needs to consider whether the explanations received are reasonable in light of the auditor's knowledge of the entity and industry and the information obtained through other audit procedures. Explanations provided by management should not be accepted at face value. While the explanations may corroborate what the auditor already expects, they cannot be relied on without further checking unless they are supported by conclusions already arrived at as a result of other audit procedures. The auditor must maintain an attitude of scepticism.

Thus, the audit working papers must show:

- identification of significant fluctuations;
- explanations provided by management; and
- the results of work done to corroborate explanations received.

CASH FLOW ANALYSIS

Most analytical procedures such as ratio analysis are based on accrual accounting numbers. However, an entity must also generate positive cash flow over a reasonable period of time or it will not be able to pay its debts or satisfy its investors. The importance of cash flows is indicated by the fact that the *Corporations Act 2001* requires companies to prepare a statement of cash flows as part of their annual financial report. There are three components of cash flow: cash from operations, cash from investing activities and cash from financing activities. Cash from operations refers to the net cash flows generated from the day-to-day activities of the company such as producing and selling inventory. Cash from investing activities reflects the purchase (and sale) of long-lived assets such as plant assets and market investments. Cash from financing reflects the sources of financing (debt, equity) and payments to investors and lenders.

Over an extended period, an entity needs to generate a positive cash flow if it is to survive. The cash flow profile of an entity will generally follow a predictable pattern based on its life cycle. In the early growth stages, most entities will have a negative cash flow from operations, significant cash inflows from financing, and outflows for investments. In a mature, stable period, the entity should have a relatively balanced cash flow from all three sources, with any new financing activity being used mainly to fund replacement of productive assets. In the decline stage, cash flow from operations may still be positive (but reduced), investing activity will slow down and possibly create a positive cash flow as productive assets are sold, and cash will flow out to investors and creditors as the entity winds down its operations.

QUICK REVIEW

- 1 Analytical procedures are required at the planning stage of the audit to assist in understanding the business and identifying areas of potential risk.

- 2 Simple analytical procedures include simple comparisons, ratio analysis, common-size statements, trend statements and time series analysis.
- 3 Complex analytical procedures include time series modelling, regression analysis and financial modelling.
- 4 When planning the use of analytical procedures, the auditor considers the availability and reliability of data, and the plausibility, predictability and precision of the analytical relationship.
- 5 Significant fluctuations revealed by analytical procedures must be investigated.

SUMMARY

Before accepting an engagement, an auditor needs to determine that it can be completed in accordance with Australian auditing standards and professional ethics. Important steps in accepting the audit engagement include gaining ethical clearance from any previous auditor, evaluating management's integrity, identifying unusual risks or circumstances, evaluating the auditor's independence and determining whether the auditor has the required skills and competence. An audit engagement letter should be issued to confirm the terms of the engagement.

Appropriate planning is essential for the audit to be completed in an efficient and effective manner. Proper planning includes obtaining an understanding of the entity and its environment; assessing client business risk; completing analytical procedures to identify potential audit risk areas; determining responses to assessed risks; and developing audit strategies to obtain sufficient appropriate audit evidence for significant financial report assertions. An audit plan or audit program will then be developed to reflect that strategy and audit staff will be scheduled accordingly.

KEY TERMS

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REFERENCES

- Bell, T.B., Marrs, F.O., Solomon, I. and Thomas, H. (1997) *Auditing Organisations Through a Strategic Lens: The KPMG Business Measurement Process*, KPMG, New York.
- Biggs, S.F., Mock, T.J. and Simnett, R. (1999) 'Analytical procedures: Promise, problems and implications for practice', *Australian Accounting Review*, Vol. 9, No. 1, 42-52.
- Booth, P. and Simnett, R. (1991) 'Auditors' perceptions of analytical review procedures', *Accounting Research Journal*, Spring, 5-12.
- Carey, P., Clarke, B. and Smyrniotis, K.X. (1996) 'The audit engagement letter: Use, content and effectiveness', *Australian Accounting Review*, September, 64-71.
- Chang, C.J. and Hwang, N. (2003) 'The Impact of Retention Incentives and Client Business Risks on Auditors' Decisions Involving Aggressive Reporting Practices', *Auditing: A Journal of Practice & Theory*, 22 (2), 207-218.
- Cohen, J.R., Krishnamoorthy, G. and Wright, A.M. (2007) 'The Impact of Roles of the Board on Auditors' Risk Assessments and Program Planning Decisions', *Auditing: A Journal of Practice & Theory*, 26 (1), 91-112.
- Glover, S.M., Jiambalvo, J. and Kennedy, J. (2000) 'Analytical Procedures and Audit-Planning Decisions', *Auditing: A Journal of Practice & Theory*, 19 (2), 27-46.
- Harper, R.M., Strawser, J.R. and Tang, K. (1990) 'Establishing investigation thresholds for preliminary analytical procedures', *Auditing: A Journal of Practice and Theory*, Fall, 115-133.
- Houston, R.W., Peters, M.F. and Pratt J.H. (1999) 'The Audit Risk Model, Business Risk and Audit-Planning Decisions', *The Accounting Review*, 74 (3), 281-298.
- International Federation of Accountants (IFAC) (2001) 'IAASB Addresses Audit Risk and the Future of Auditing' IFAC, New York.
- Johnson, G. and Scholes, K. (1999) *Exploring Corporate Strategy*, 5th edn, Prentice-Hall, London.
- Kaplan, R.S. and Norton, D.P. (1992) 'The balanced scorecard: Measures that drive performance', *Harvard Business Review*, January-February, 71-79.
- Kinney, W.R. Jr (1987) 'Attention-directing analytical review using accounting ratios

- A case study', *Auditing: A Journal of Practice and Theory*, Spring, 59–73.
- Lemon, W.M., Tatum, K.W. and Turley, W.S. (2000) *Developments in the Audit Methodologies of Large Accounting Firms*, ABG Professional Information, London.
- Moroney, R. and Simnett, R. (2009) 'Differences in Industry Specialist Knowledge and Business Risk Identification and Evaluation', *Behavioral Research in Accounting*, 21 (2), 73–90.
- Niven, D. (2009) 'Audit issues in the downturn', *Charter*, July, 69.
- O'Donnell, E. and Schultz, J.J. (2005) 'The Halo Effect in Business Risk Audits: Can Strategic Risk Assessment Bias Auditor Judgment about Accounting Details?' *The Accounting Review*, 80 (3), 921–940.
- Porter, M.E. (1985) *Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, New York.
- Smith, G. Psaros, J. and Holmes, S. (1999) 'A research note on the use and perceived usefulness of analytical procedures by Australian auditors', *Australian Accounting Review*, Vol. 9, No. 2, 64–72.
- Thompson, A.A. Jr and Strickland, A.J. III (1998) *Strategic Management: Concepts and Cases*, 10th edn, Irwin/McGraw-Hill, Boston.

ASSIGNMENTS

REVIEW QUESTIONS

- 6.1** The following questions relate to client acceptance and communication with a previous auditor. Select the best response.
- (a) An audit firm's quality control procedures pertaining to the acceptance of a prospective audit client would most likely include:
- A inquiry of management as to whether disagreements between the previous auditor and the prospective client were resolved satisfactorily
 - B consideration of whether sufficient appropriate audit evidence may be obtained to afford a reasonable basis for an opinion
 - C inquiry of third parties, such as the prospective client's bankers and solicitors, about information regarding the prospective client and its management
 - D consideration of whether the internal control is sufficiently effective to permit a reduction in the extent of required substantive tests.
- (b) An auditor who finds that the client has committed an illegal act would be most likely to withdraw from the engagement when the:
- A illegal act affects the auditor's ability to rely on management representations
 - B illegal act has material financial report implications
 - C illegal act has received widespread publicity
 - D auditor cannot reasonably estimate the effect of the illegal act on the financial report.
- (c) In an audit situation, communication between the new auditor and previous auditors should be:
- A authorised in an engagement letter