

Graduate School of Business

**An Empirical Study of Corporate Turnaround Strategies in
Australia**

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of
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Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Signature:

Roy Cheo

Date: March 2012

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ABSTRACT

Despite more than three decades of empirical research there appears to be no general consensus as to which strategies are effective in successfully turning around a firm facing a decline that threatens its survival. There is a paucity of Australian corporate performance turnaround research using Australian based data. This research examines a sample of 88 financially distressed firms—from a population of 2220 ASX listed firms for the period 1995 to 2005 inclusive—to discover the effectiveness, intensity and timeliness of operational, strategic and financial strategies in achieving performance recovery.

This research study found that there is no 'one size fits all' single road to achieving recovery. But rather, firms examined adopt an eclectic approach consisting of a combination of operational, strategic and financial strategies. Both recovery and non-recovery firms pursued similar strategies. However, the discriminating difference is that recovery firms effected timely and intense retrenchment and operational efficiency improvements at an early stage to arrest the decline and were able to embark on strategic or entrepreneurial restructuring sooner than non-recovery firms.

This research fills a theoretical gap by adopting an integrated holistic approach, linking research findings to relevant extant theory by coupling

its findings with the resource based view (RBV) of the firm and the stage perspective of performance turnaround. Successful turnaround is conservatively measured as satisfying the operational management objectives of improvement in slack (surplus) financial resources, profitability and liquidity in a single study.

Possible reasons for the relative effectiveness of turnaround strategies are discussed together with implications of the findings for strategic management practitioners and researchers.

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CHAPTER 1 INTRODUCTION

'If you can look into the seeds of time and say which grain will grow which will not, speak then to me... ', Shakespeare—Macbeth, Act one, Scene three.

1.1 Background to the research

This thesis aims to evaluate and report on the relative effectiveness of corporate turnaround strategies undertaken by firms listed on the Australian Stock Exchange. This thesis is a mixture of finance and strategy. It uses finance tools (i.e. terms and formulas) and its findings have implications for managers and strategists enacting a firm performance turnaround.

Corporate turnaround research is like looking through the seeds of time and trying to discern between which grain (strategy) will grow (be successful) and which will not (be unsuccessful) in turning a firm around from performance decline. Despite more than three decades of empirical research, there appears to be no consensus as to which corporate strategies are effective in successfully turning around a firm facing survival-threatening decline (Chowdhury, 2002; Pandit, 2000), and which characteristics distinguish a firm that has successfully turned around from one that eventually spiralled into decline and insolvency (Arogyaswamy, Barker, & Yasai-Ardekani, 1995).

Since the publication of Schendel, Patton and Riggs' (Schendel & Patton, 1976; Schendel, Patton, & Riggs, 1976) seminal articles, the development of corporate turnaround literature and research has been 'patchy' and incoherent, concentrating and emphasising the relative merits of turnaround strategies. To date, the results of turnaround empirical research, mainly in North America, have also been inconclusive and contradictory. In addition, strategy management scholars are still debating the relative merits and effectiveness of retrenchment versus entrepreneurial or strategic turnaround efforts. On a theoretical level, there is no generally accepted corporate

performance turnaround theory or theoretical framework to guide research, as well as a failure to link research to extant management theory (Meyer 1988; Robbins and Pearce 1993; Pandit 2000; Chowdhury 2002). The literature review in Chapter 2 of this thesis attests to the present 'status quo'. Hence, within this 'charted but unsettled' research domain, further testing and research is needed to contribute to existing corporate performance turnaround knowledge and literature and in the process provide guidelines for practising managers to effectively deal with firms facing survival-threatening decline.

The bibliography on corporate turnaround research is, to date, populated in the majority by research conducted in the northern hemisphere economies of North America and the United Kingdom, (e.g. Argenti, 1976; Barker & Duhaime, 1997; Chowdhury & Lang, 1996; Grinyer, Mayes, & McKiernan, 1988; Hambrick & Schechter, 1983; Hofer, 1980; Mone, McKinley, & Barker, 1998; Robbins & Pearce, 1992; Schendel & Patton, 1976; Schendel et al., 1976; Slater, 1984; Sudarsanam & Lai, 2001). Comparable Australian turnaround bibliography or bibliography outside the Anglo-American context is scarce (Ahlstrom & Bruton, 2004; Bruton, Ahlstrom, & Wan, 2003; Sim, 2009). The research, in the main, measures performance decline and success of recovery based on firm profitability as a single construct (e.g. return on investment, return on assets, Altman's Z-score and earnings before interest and tax) over the distress and recovery years. Corporate turnaround research to date (examples of which are mentioned above) normally deals with the causes of decline (the 'why' question), the various turnaround actions undertaken by sample firms (the 'how' question) and outcomes of decline and recovery or failure (the 'consequence' question) as evidenced on an ex post basis (Ahlstrom & Bruton, 2004; Sim, 2009). In general, these research does not relate or tie the findings back to a theoretical framework or extant (management) theory (Pandit, 2000). This research aims to rectify these shortcomings.

Firstly, this research contributes to corporate turnaround theory and model construction by introducing a more 'holistic' financial construct of measuring turnaround recovery to meet the three-fold criteria of financial health:

profitability, liquidity and leverage, thus incorporating financial management theory and prudent financial policy (Van Horne, 1977) into the test model. Under the accrual accounting regime practised by most firms, especially public listed firms, profitability does not always equate with liquidity. Adequate liquidity is important as it ensures that a firm is able to pay its debt as and when the debts fall due. A proper level of financial leverage (amount of debt in the capital structure) is important as excessive debt level carries restrictive covenants and fixed repayment and interest charges which have to be met, irrespective of whether there are firm profits to meet such obligations. Hence, profitability without an adequate level of liquidity and affordable financial leverage is not sustainable for going concern purposes. The inclusion of the liquidity and financial leverage constructs will make the theory and criterion relating to recoverability more robust and realistic.

Secondly, for objectivity and theoretical rigour, this research introduces the Australian government three-year bond yield rate as the risk free rate for benchmarking recovery success. The theoretical rationale for this is that the three-year time frame ties in with extant corporate turnaround literature as reasonable recovery time frame of two years (Chowdhury & Lang, 1996; Hambrick & Schechter, 1983). Bibeault (1982) opines that the recovery time frame depends on firm size and ranges from one to three years. Also the risk free rate of return is the rate that a firm would have earned if it were risk-adverse and did nothing other than buying an Australian government bond. If the main purpose of a business is to make profits (Friedman, 1962) then earning a minimum return is a prerequisite for its existence. In this regard the introduction of the three-year Australian Government bond rate in the test model is in line with extant business and economics literature. Hambrick (1985) is of the opinion that firms earning less than their cost of capital require a turnaround.

Thirdly, this research uses the Resource Based View (RBV) (Barney, 1991; Penrose, 1959; Wernerfelt, 1984) of the firm, the resource dependence perspective (Pfeffer & Salancik, 1978) and stage perspective (Chowdhury, 2002) as the background theoretical framework for its analysis, thus rectifying the weakness identified by Pandit (2000:49), as discussed above. Linking

research to a theory or theoretical framework serves two purposes. First, a theory describes a phenomenon and is used to predict future events or behaviour. Linking research to a theory or theoretical framework enables the theory to be either confirmed or modified by research results (Pandit, 2000), thus knowledge is accordingly advanced. Second, the theory or theoretical framework can act as a guide to facilitate the research process (e.g. agency theory in corporate governance, board of directors and top management team research).

Fourthly, the researcher has proposed a new perspective—that of 'the opportunistic view of management' as an additional variant of the voluntaristic perspective. This perspective is discussed in detail in Chapter 2.

1.2 Justification for the research

The social and economic impact of business failures is often drastic and catastrophic. Business failures not only result in loss of capital and production but also in job retrenchment, thus adding to the unemployment statistics with undesirable social consequences (Weitzel & Jonsson, 1989). Organisational failures may have positive pedagogical outcomes in that firms learn from failures (Miner, Kim, Holzinger & Haunschild, 1999). But such positiveness pales into insignificance in the light of the negative social consequences.

The following Australian Securities and Investments Commission statistics attest to the high incidence of business failures. The following figures show an approximate 10% increase between calendar year 2001 and 2005 (i.e. 6634 to 7277).

Calendar year total firms entering external administration (insolvent):

2001	6634
2002	6208
2003	6661
2004	6618
2005	7277
Total	33,398

Source: Australian Securities and Investments Commission, Insolvencies terminations and new registrations (2001-2005).

In addition, a munificent economic environment does not necessarily reduce the risk of business failures as highlighted by the following extract from 'The Australian Financial Review, Wednesday, 23 August 2006' (Tingle, 2006:4):

Investment bank UBS has recently highlighted a "noticeable, not alarming" pick up in both business and personal bankruptcy in the first half of 2006, although employment growth is near record levels. It says that sharply rising loan arrears over the past six months and on-going wages pressures (which tend to correlate well with higher corporate bankruptcy) suggest the trend may deteriorate further over the coming year or so.

The recent global financial crisis, colloquially known as the sub-prime mortgage crisis, which started in the United States of America in October 2007 and plunged the world into the worst economic recession/depression since the great depression of the 1920s, brought home the point that despite years of economic prosperity and growth, economic downturn can suddenly occur. Marshall Jacobs reported in The Australian Financial Review, that, 'The number of companies appointing administrators increased 64 percent to 1095 in March 2009, compared with 668 for the same month last year, statistics from the Australian Securities and Investments Commission show'—italics added (Jacobs, 2009:3).

The following are reasons why Australian turnaround research may be different to its Anglo-American counterpart.

Despite the high incidence and risk of business failures and their related dire social consequences, in general, 'only a few studies have examined turnaround outside of Anglo-American settings' (Ahlstrom & Bruton, 2004:6). The majority of the Anglo-American corporate turnaround studies take for

granted that management has unobstructed autonomy to manipulate the empirical turnaround drivers of asset sales, initiate employee retrenchment, fire CEOs and the top management team, arrange finance, make strategic reorientation decisions—assumptions which may not be directly valid in the Australian context due to differences in regulatory regimes and institutional framework, for example, taxation, financial and workplace relations.

The drivers of causes of decline may also be different. For example, anecdotally one of the main causes of performance decline is the inability or difficulty of distress firms to obtain finance to ride out the crisis. Australian banks are generally more prudent in their lending policy than their American counterparts as evidenced by the recent much published US sub-prime and Wall Street financial crisis. The theoretical drivers and constructs in the Anglo-American studies may not 'behave' or be expected to behave in the same way in Australia. The high incidence of corporate failures as indicated in the above ASIC statistics highlights the need to study the phenomenon in an Australian context, in order to provide guidelines for Australian practitioners and strategic management to effectively deal with firm performance decline towards achieving recovery, and at the same time to make theoretical contributions to Australian turnaround research and test model construction.

Another reason for studying corporate performance turnaround in Australia, rather than relying on the findings of Anglo-American studies, is that other than the similarity (although varying in degree) of overall corporate governance and regulatory framework, there are practical dissimilarities. An Australian firm's response to performance decline may be different from its US counterpart's due to differences in industrial relations law between the two. For example, the new *Fair Work Act 2009* (Cth) restated the notion of unfair dismissal, which was absent from its predecessor—the Work Choices legislation. Declining firms seeking to retrench staff need to take heed of the new regulatory industrial law framework.

Another practical difference is in the area of corporate governance and its asymmetry with turnover of CEOs in declining firms. The Australian structure

and mechanism of corporate governance is quite similar to that of the Anglo-Saxon jurisdictions of the US and UK, but on a practical level there are dissimilarities. The Australian corporate governance system is not as regulated as the US or UK, with the principles of good corporate governance recommended by the Bosch (1991) report and the Australian Stock Exchange 'ASX'¹ (Suchard, Singh, & Barr, 2001).

In Australia, corporate governance is less prescriptive and more flexible when compared to the US Sarbanes-Oxley, that is, 'if a listed entity considers particular recommendations not appropriate to its circumstances, it can choose not to adopt them, as long as it explains why' (Chen, Dyball, & Wright, 2009:220) that is, the 'if not why not' approach (ASX Corporate Governance Council, 2010:5 & 6). Australian companies are encouraged by the Australian Stock Exchange's Corporate Governance Principles and Recommendations with 2010 Amendments to have board structures which add value to corporate governance by having a majority of the board consisting of independent directors—Recommendation 2.1 ASX Corporate Governance Council (2010). Duran (2010:3) reported that the 'Corporate Governance International, a governance ratings agency, grades Australia with a 7.3 out of 10 in terms of corporate governance practices, which puts it in fourth place worldwide'. GovernanceMetrics International's, an independent corporate governance research and rating agency, 27 September 2010 country rating of standards of corporate governance shows Australia has slipped to a sixth place from fourth place ranking in 2008 and 2009. The same agency's 27 September 2010 rating name the top six countries in descending order as United Kingdom first, Canada second, Ireland third, United States of America fourth, New Zealand fifth and Australia in sixth position (AMP Capital Investors Limited, 2011). The main reason why Australia has slipped from fourth place is because of its poor score in the area of environmental and social measures, whereby Australia is generally considered to lag behind countries like UK and Canada. The bottom six countries rated by the same agency as at 27 September in descending order

¹ Refer to ASX publication:ASX Corporate Governance Council. 2010. **Corporate governance principles and recommendations with 2010 amendments** (2nd ed.): Australian Stock Exchange.

are: Turkey, China, Japan, Indonesia , Mexico, and Chile (AMP Capital Investors Limited, 2011)

As per ASX listing rule 4.10.3, 'companies are required to provide a statement in their annual report disclosing the extent to which they have followed the Recommendations in the reporting period. Where companies have not followed all the Recommendations, they must identify the Recommendations that have not been followed and give reasons for not following them.' (ASX Corporate Governance Council, 2010). Compliance is not mandatory for all companies, only for ASX listed ones. In this less regulated corporate governance environment, boards of directors are less likely to and tardier about taking drastic action to initiate CEO departures in declining firms than in the US or UK, unless market pressures and institutional investor pressures are brought to bear (Suchard et al., 2001).

The Australian stock market is small by market capitalisation and of less trading depth and volume than the US or UK. In this environment, institutional shareholders are less aggressive and invasive in putting pressure on company boards of directors to get rid of incumbent CEOs in declining firms, unless the share price falls below their comfort zone. Suchard, Singh and Barr (2001:20) found that the above market factors and corporate governance environment account for a 'lagged response' between firm performance and CEO turnover for Australian firms, when 'compared to the US/UK markets where current poor performance results in CEO removal'. They also found that Australian boards of directors, especially in larger firms, 'are effective mechanisms in taking corrective action against poor performing CEOs'.

Further, although duality of CEO roles, that is, the same person acting as CEO and chairman, is not considered good corporate governance, it is not an illegal² practice in the Australian context. Anecdotally, the duality of the CEO role is often found in small or medium size firms where the founder or owner is the CEO and chairperson. Australian firms are generally smaller in size

² Although the ASX corporate governance rules discourage such a practice, it is not illegal in the context of the Corporations Act 2001. Further ASX rules only apply to listed entities.

than their US counterparts (see discussion on firm size, below). In this situation, removal of the CEO-owner is either highly unlikely or not a plausible consideration. Argenti (1976) found that one of the causes of firm decline is the dominance of the owner CEO over important firm decisions. In this situation, the internal control mechanism of 'checks and balances' between an independent chairman and the CEO is lacking and any wrong decision made could have a devastating effect on firm survival.

The state of the general economy is often thought to have an influence on firm performance (Altman, 1971). The Australian economy is a resource-based one. It relies heavily on the export earnings of resource firms. The volatility of the Australian dollar (AUD) exchange rate against the US dollar is testament to the cliché that the 'AUD is a resource-based currency'. The earnings of Australian firms, especially resourced-based ones, are often volatile (Yawson, 2004). Such volatility in earnings not only affects the profitability of resource firms but also the general Australian economy. In this environment firms are more prone to the risk of performance decline making this study highly relevant to management practice and knowledge contribution.

Another factor which differentiates the US corporate scene from the Australian one is firm size and its classification. The US Small Business Administration defines a small business as one with less than 500 employees (Headd & Kirchhoff, 2009:532). That is, US firms that have 500 employees would be classified as small, while in the Australian context they would be considered as medium to large. In Australia, to the best knowledge of this researcher, there is no such equivalent administrative body. However, two Australian regulatory regimes' regulations may help to enlighten this 'small business' classification issue.

The Australian *Income Tax Assessment Act 1997* (Cth) s 328.110 defines a small business as one which carries on business with an aggregated turnover for the fiscal income year of less than two million dollars. 'Aggregated turnover', according to the *Income Tax Assessment Act* s 328.115 includes connected entities' and affiliates' turnover. The terms

'connected with', 'affiliates' and 'aggregated turnover' are defined in the *Income Tax Assessment Act*. An entity's annual turnover (e.g. sales) for an income year is the total ordinary income (exclude abnormal income) that the entity derives in the income year in the ordinary course of carrying on a business, according to the *Income Tax Assessment Act* s 328.110.

The other regulatory regime, the *Corporations Act 2001* (Cth) s 45A, defines a small proprietary company as one which, during the financial year, 'satisfies at least two of the following paragraphs: (a) the consolidated revenue for the financial year of the company and the entities it controls (if any) is less than \$25 million, (b) the value of the consolidated gross assets at the end of the financial year of the company and the entities it controls (if any) is less than \$12.5 million, (c) the company and the entities it controls (if any) have fewer than 50 employees at the end of the financial year'. Conversely, a large proprietary company is similarly defined as one which satisfies two of the above criteria, except with the respective corresponding parameters in excess of those specified above. In general, a proprietary company is defined in the *Corporations Act* as one which is limited by shares or an unlimited company with a share capital and having no more than 50 non-employee shareholders. A 'public company' is defined therein as a company which is not a proprietary company and is listed on a prescribed financial market (*Corporations Act* s 9). Although it is not mandatory for a researcher to adopt the above small business criteria, they do illustrate the point that the parameters are in no way close to the 500 employees criterion in the US case. A logical deduction from this is that, in general, Australian firms are smaller in size than their US counterparts. This difference will have implications when firm size is used in research test models—for example, testing co-relation between variability of firm size and performance in corporate performance turnaround. In this context, research results and conclusions reached by US researchers relating to small firms may not be translated as directly applicable to the Australian context.

The above examples highlight the importance of the need for further testing in the Australian context using Australian data. It is from this premise that the present research is launched with the following research objectives.

1.3 Research objectives

1. To contribute to corporate performance turnaround theory development by relating the research findings to the Resource Based View (RBV) of the firm and the Stage Perspective of Turnaround (SPT).
2. To introduce a more 'holistic' definition of financial performance recoverability in terms of profitability, liquidity and leverage.
3. To add to management literature on organisation failure either from a *deterministic* perspective or a *voluntaristic* perspective.³
4. To provide empirical support, if any, for the causal contingency of intensity and timing of turnaround efforts which prior research studies have identified.
5. To identify effective corporate turnaround strategies as a guide for strategic management in dealing with firm survival-threatening performance decline in the Australian context.

1.4 Research questions

In the light of the above, the following are the research questions.

1. To what extent do the causal contingencies of Resource Based View (RBV) of the firm and Stage Perspective of Turnaround (SPT) relate to the research findings and affect the relative effectiveness of turnaround efforts?
2. How do Australian firms react when faced with performance shock or firm survival-threatening performance decline?
3. What strategies or measures account for successful turnaround situations in the Australian context?
4. Are intensity and timing of efforts in turnaround situations important?

³ The deterministic and voluntaristic perspectives will be discussed in Chapter 2.

1.5 Significance of research

Theoretical contributions are:

- contribute to extant Australian corporate turnaround empirical literature by adopting the RBV of the firm and SPT as the theoretical framework and relating/linking the research findings to the RBV and SPT, thus rectifying the weaknesses identified by Pandit (2000:31), that is, the lack of 'a priori theoretical guidance' and failure 'to relate findings to extant theory ex post '
- contribute to turnaround theory by adopting a 'holistic' performance construct by requiring financial performance turnaround to simultaneously meet improvements in the three critical areas of a firm's financial health, that of profitability, liquidity and leverage (Bird & Mchugh, 1977), thus integrating financial management theory (Van Horne, 1977) into the theoretical turnaround construct
- contribute to theoretical turnaround model construction by introducing the Australian government bond rate as the risk free rate of return as the recovery benchmark
- contribute to management literature by proposing a new variant to the voluntaristic perspective of management

Practical and societal contributions are:

- provide guidelines for Australian managers to discern between the relative effectiveness of strategic versus retrenchment turnaround efforts in response to different situational contingencies
- provide lessons and prescriptive performance turnaround suggestions that will help minimise the risk of business failures, which will undoubtedly result in reducing the risk of job losses and retrenchments

The empirical pluralism of inconsistent turnaround research results to date necessitates the need for further investigation. The paucity of empirical

turnaround research outside the Anglo-American context further compounds this need. Anglo-American experiences may not be entirely relevant or appropriate in the Australian context due to idiosyncrasies or peculiarities inherent in Australian management practice and the Australian commercial and industrial environment as described above.

Finally, although this research is Australian specific, it has significant universal contributory content, as it uniquely and conservatively measures successful turnaround—by satisfying a three-fold performance criterion of improvement in profitability, liquidity and financial leverage—in a single study. This will rectify the 'looseness' or lack of rigour of performance turnaround measurement highlighted by turnaround researchers.

1.6 Ontological perspective

The positivist ontological perspective is adopted by this research. The epistemological paradigm is empirically based on the belief that corporate performance decline and turnaround are real events which can be captured, measured and quantified. The justification of adopting this stance taken by the researcher is discussed in Chapter 4.

1.7 Methodology

The methodology adopted in this research involves examining a selection of firms listed on the Australian Stock Exchange (ASX) that had suffered performance decline or performance shock (Yawson, 2004) for the period 1995 to 2005⁴ inclusive. The main reasons for selecting this sample research period are as follows. This researcher started his doctoral studies in 2004-05. For contemporaneous, availability and currency of information reasons, the end period of 2005 was chosen. Also this period, 1995 to 2005, witnessed

⁴ The end year 2005 is extended to 2007 for sample firms that had two post-distress years extending into 2007.

the unfolding of certain macro economic events — the Asian financial crisis 1997, the introduction of the Australian goods and services tax on 1 July 2000, the technology wreck (dot.com) 2002 and the US sub-prime/oil crisis 2007. Such environmental events have an impact on organizations/firms since environmental factors are important determining factors on organizational/firm performance as discussed in the literature review of Chapter 2.

Following Yawson (2004), the selection of firms is made from the Aspect Huntley financial database (now called Morningstar DatAnalysis). The integrity of the financial database is test checked to publish financial reports and financial ratios developed for this research are based on those obtained from the financial database, whilst the majority are computed from sample firms' published financial reports. Selected firms are those that suffered performance decline, defined as having experienced three consecutive years of profitability followed by one year of sudden operating loss. Pictorially this is represented by '+++-' selection rule⁵.

This research uses multiple regression analysis (MRA) as the statistical methodology and the pc based SPSS software to analyse the relative effectiveness of turnaround strategies carried out by the sample firms. The MRA is considered more appropriate for this research because of its ability to handle multiple predictor variables and to assess their relative impact on the dependent variable. The MRA is preferred in this thesis as it enables the researcher to adopt an 'exploratory' approach rather than the (restrictive) bipolar/binary perspective of turnaround versus non-turnaround firms in matched pair bankruptcy studies—for example, Mueller and Barker (1997)—and other turnaround studies (Chowdhury & Lang, 1996) using logistical regression analysis as the statistical tool.

⁵ The sample selection rule is adapted from that used by Sudarsanam and Lai (2001) of '++-' and amended to '+++-' for the purpose of this research.

This research defines successful turnaround firms as those meeting the three-fold performance criteria of improvement in profitability, liquidity and financial leverage. This thesis envisages that the research results will indicate that sample firms fall into three groups. For want of a better name, category one firms are those that had a successful turnaround and met the three-fold performance criteria mentioned above and detailed in Chapter 3. Category two firms are those that met the profitability criterion only and category three firms are those that did not meet the profitability criteria. A bipolar/binary perspective may not be appropriate or may constrain the subsequent analysis in this research. Further, this thesis is not a matched pair study.⁶

Another statistical tool used.

The effectiveness of the sample selection rule of '+++-' is validated by a review of the financial profile of sample firms by using the non-parametric Wilcoxon signed-rank T test statistic as reported in Chapter 4, section 4.11.

Intensity and timing of turnaround efforts are critical determinants in achieving successful turnarounds (Argenti 1976; Schendel, Patton et al., 1976; Hoffman 1989; Weitzel and Jonsson 1989; Sudarsanam and Lai 2001). To test this proposition, the intensity and timing of turnaround efforts enacted by sample firms are tested in Chapter 5, section 5.4, by using the non-parametric Mann-Whitney U test.

Theoretical framework.

The theoretical backdrop utilises the Resource Based View 'RBV' of the firm (Penrose, 1959; Wernerfelt, 1984) and the Stage Perspective of Turnaround 'SPT' (Chowdhury, 2002), where applicable. The applicability of the RBV and

⁶ The researcher is aware of certain statistical restrictions (e.g. normality and linearity assumptions) imposed by the MRA methodology versus the non-parametric logistical regression methodology. However, such restrictions can be mitigated by using certain statistical procedures (e.g. normalisation and SPSS treatment of outliers) described in Chapter 4.

SPT perspectives will be assessed in Chapter 6 in the light of the research results.

1.8 Outline of thesis

Chapter 1 sets the 'road map' to this thesis by providing an overview of the research background, research problem, justification for this research and the paradigm and methodology adopted to solve and answer the research problem and questions. It also defines operational terms used in this research and discusses the delimitations, scope and assumptions adopted.

Chapter 2 sets out the literature review of extant literature and related disciplines/fields of study relevant to corporate performance turnaround research.

Based on the results of the literature review of Chapter 2, Chapter 3 describes the development of hypotheses for testing and the design of a conceptual model.

Chapter 4 describes the justification for the ontological paradigm chosen, methodology, data collection and sampling.

Chapter 5 presents the test results and data analysis.

Chapter 6 discusses the test results and their implications in relation to extant corporate performance turnaround literature, practice and knowledge contribution. It also discusses the limitations of this research and concludes by suggesting directions for further research.

To avoid ambiguity, the following operational definitions are offered.

1.9 Operational definitions

a) *Financial distress*: is the risk of insolvency or the threat of 'going concern' viability when a firm has difficulty in its ability to 'pay its debts as and when they become due and payable', as defined in the *Corporations Act*, (ss 9, 95A, 347A). A prolonged period of financial distress without remedial efforts to turn it around often leads to business failure when a firm 'involuntarily becomes unable to attract new debt or equity funding to reverse decline; consequently, it cannot continue to operate under the current ownership and management' (Pretorius, 2009:10). In the Australian context, directors of financially distressed firms can file for voluntary administration under the *Corporations Act* whereby the firm and its business will be placed under the administration of a receiver manager/administrator.

b) *Organisational decline and Performance decline*: a firm is said to experience *organisational decline* if it experiences deterioration in its ability to utilise its resources sufficiently to achieve viability and sustainability (Cameron, Kim, & Whetten, 1987; Lohrke, Bedeian, & Palmer, 2004). Cameron, Kim & Whetten (1987:224) define organisational decline as a 'condition in which a substantial, absolute decrease in an organisation's resources base occurs over a specified period of time'.

On the other hand, *performance decline* is a consequence or manifestation of organisational decline. Pretorius (2009:10) defines a firm in

performance decline 'when its performance worsens (decreasing resource slack) over consecutive periods and it experiences distress in continuing operations. Decline is a natural precursor in the process to failure'. Performance decline may be as mild as a performance shock or severe, threatening the viability of the firm (Pretorius, 2004, 2009). Severity is often measured in quantifiable terms. For example, Hofer (1980) views severity of decline as distance from a firm's breakeven profitability level. Situations requiring turnaround can include firms earning less than their cost of capital (Hambrick, 1985) or organisations not meeting performance expectation of their stakeholders, analysts, vendors and employees (Kow, 2004). 'Performance decline' and its severity in this thesis refer to financial performance decline. 'Performance decline' is operationalised as satisfying the conditions in section 3.3.4.

c) *Performance turnaround*: a firm is said to have had a 'turnaround' or adequately recovered from a performance decline or firm-threatening survival/crisis when it reverses that decline and achieves improved financial performance, profitability. (Gopal 1991; Robbins and Pearce 1993; Barker and Duhaime 1997; Lohrke, Bedeian et al. 2004). 'Performance turnaround' is operationalised in section 3.3.5.

d) *Top management team (TMT) and chief executive officer (CEO)*: Barker and Barr (2002:966) define TMT as the 'executive leadership that initiates and

directs strategic reorientation and includes two basic groups of leaders, the TMT and the board of directors (BOD)'. The top *operational* representative of the TMT is the chief executive officer (CEO) or managing director (MD). The CEO or MD is the person who has significant authority over operational management and is often responsible for the profitability and strategic direction of the firm. Results of empirical research on strategic change and top management team lends support to the above-mentioned definitional functional role (Westphal & Fredrickson, 2001).

1.10 Delimitations of research scope and key assumptions

The following are the delimitations, key assumptions and scope of this thesis.

Formal versus informal turnarounds

Firstly, in the parlance of turnaround practitioners (e.g. professional liquidators and receivers) this thesis *mainly* deals with corporate *informal* performance turnaround strategies as opposed to *formal* turnarounds or corporate reconstructions. In Australia, *formal* turnarounds or corporate reconstructions are normally enacted within a formal legal framework of the *Corporations Act* —for example, Voluntary Administration within Part 5.3A of the *Corporations Act*. Receiver managers and liquidators under a formal reconstruction often adopt a 'slash and burn' realisation of assets approach with the objective of reviving the 'living dead', whilst this research deals with the relative effectiveness of turnaround strategies effected by corporate managers whose principal objective is to revive the 'living sick'.

As far as the sample selection criteria described in Chapter 4 selected some firms undergoing formal reconstruction, they will be included in the study sample. Therefore, this thesis is not a liquidation-reconstruction study, but

rather it deals with informal corporate performance turnarounds—of firms that had experienced varying degrees of severity of performance decline—effected by internal corporate managers rather than by appointed receiver managers or liquidators.

In line with the above stance, it is worth emphasising that firms that had suffered firm-threatening survival/going concern crisis are those that are considered, in this thesis, to be in 'financial distress' as defined in section 1.9(a) above. Selected firms that are outside this category are classified, in this thesis, as those that had suffered 'performance decline' defined in section 1.9(b), which if left uncorrected will spiral into 'financial distress'.

Availability of information

Secondly, corporate performance turnaround research often suffers from the availability of information due to firm sensitivity and confidentiality reasons. As information relating to private non-listed firms is not readily available, this research will only consider public firms listed on the ASX. According to Barker, Patterson and Mueller (2001:245) 'there is no evidence that findings from turnaround studies are not generalisable to private firms'. Hence, data will be sourced from secondary sources in the public domain, as described in Chapter 4.

Quantitative paradigm

Thirdly, this research has adopted a quantitative ontological paradigm rather than a qualitative one. This is because the delimitations caused by sensitivity and confidentiality factors will further be complicated by the human tendency to blame the other person or external environment when things go wrong. Corporate managers are no exception. In this regard the findings of interviews done via a qualitative paradigm would most likely be skewed or biased by personal/subjective factors of the interviewee in protecting his/her reputation or past actions. Further, the likelihood of high turnovers of corporate managers in distressed firms would most likely impose spatial and temporal limitations for the researcher when trying to organise interviews with

corporate managers who were present during the time when the firm suffered performance decline leading to financial distress.

Business strategy versus Corporate strategy

In the strategic management literature, business strategy refers to how a single-business firm or an individual business unit of a larger group of firms competes in the industry or market in which the firm belongs (Bowman & Helfat, 2001; Grant, 2002:23,24). Corporate strategy deals with how a corporation manages a group of firms or business units together (Bowman & Helfat, 2001; Grant, 2002:23,24). 'Corporate' would generally denote the presence of a head office (in most situations, where the top management of the corporation is located) or parent company running multibusinesses, with associated firms and subsidiaries. Grant (2002:24) discusses the distinction between the two as: business strategy deals with the question of 'how should we compete?' and corporate strategy deals with the question of 'what business or businesses should we be in?' Bourgeois (1980:25) as cited by Grant refers to corporate strategy as 'domain selection' and business strategy as 'domain navigation'.

This researcher is aware of the above distinction, especially in the area of research regarding the question of the relative determinants of firm profitability among business unit/firm effect, corporate effect and industry effect. However, this thesis is about turnaround strategies. The thesis title has the term 'corporate turnaround strategies'. This researcher is also aware that the term 'corporate turnaround' has been used in the extant research literature and similarly no attempts were made to distinguish between 'business strategy' and 'corporate strategy' in their findings, (e.g. Smith and Graves (2005); Sudarsanam and Lai (2001)). The word 'corporate' in the title of this thesis is used in the generic sense to denote companies or firms listed on the ASX.

Most North American researchers use the US Compustat data base for their business research. US researchers are able to distinguish between firm-specific effect, corporate effect and industry effect due to the different levels

of 'SIC' digit code reporting format of the Compustat data base. As far as this researcher is aware there is no comparable Australian data base reporting to that level of detail. Also currently the published annual reports of ASX listed companies do not have enough information to make the distinction between the two types of strategies enacted by management. Hence, this researcher cannot make the distinction between corporate versus business strategy in his findings. As far as this researcher is aware he has not come across any Australian *turnaround* research able to make a differentiation/distinction in its findings. Arguably, such delimitation may weaken but not invalidate the findings of this thesis.

Despite the above factors, it is noted that firms seeking ASX listing have to satisfy, among other conditions, certain 'size' (e.g. amount of profit or assets test) threshold requirement per ASX listing rules⁷. The logical deduction or implication would be that listed firms are generally in the main bigger businesses, either single or multibusiness corporations with head office(s). Also Sheppard and Chowdhury (2005:243) state that:

Strategy changes at the corporate-level usually bring changes at the business-level. Such strategic coherence entails multi-level analysis, and so makes it hard to separate strategies related to one level as against another. Since strategies have 'fluid' characters that spread out over time and space, a clear-cut delineation of strategies or their effects proves difficult.

Hence, it is difficult or not feasible to separate out or determine which strategy is at the business level and which at the corporate level, especially given the present Australian companies reporting format and regulatory regime.

⁷ Australian Stock Exchange Listing Rules, Chapter 1 Admission, <http://www.asxgroup.com.au/media/PDFs/Chapter01.pdf>

1.11 Conclusion

This chapter provides a foundational synopsis and 'road map' for the thesis. It introduces the background, objectives and questions relevant to the research. Justification for the research and definitions used has been presented. The ontological stance and methodology taken has been justified and briefly described, then the thesis has been outlined and its delimitations discussed. Having laid this foundational synopsis, the following chapters provide a detailed description of the thesis.

CHAPTER 2 LITERATURE REVIEW

2 INTRODUCTION

For many years, organisational performance has been a subject of interest to economists, organisational theorists, strategists, management theorists and management practitioners. In a capitalist economy where price acts to allocate scarce resources, Adam Smith's 'invisible hand' allocates resources to the most efficient players—for example, firms, institutions and individuals (Smith, 1776). An efficient player in a market economy is one who utilises input resources to produce an output (e.g. a product or service) at the lowest cost and maximum or acceptable quality, and financial performance success or failure is embodied in the notion of 'profit' or 'loss' respectively. From a financial perspective, 'profit' is defined as the excess of exit price of output versus the entry cost of input. 'Profit' or 'loss' is often referred to collectively as 'financial return'. In a monetary economy, the pricing of inputs and outputs is expressed in terms of a common denominator, called 'money'. Hence, organisations and companies must make enough return (profit) to survive as summed up by Walsh (2008:5):

All commercial enterprises use money as a raw material which they must pay for. Accordingly, they have to earn a return sufficient to meet these payments. Enterprises that continue to earn a return sufficient to pay the market rate for funds usually prosper. Those enterprises that fail over a considerable period to meet this going market rate usually do not survive – at least in the same form and under the same ownership.

In this regard the manifestation of Adam Smith's invisible hand is seen to work by allocating scarce resources to successful firms, and firms that are unsuccessful will not attract resources to survive. Despite the obvious bipolar manifestations of firm financial performance of success or failure measured in terms of 'profit' or 'loss', the question of why some firms survive and prosper while some fall by the wayside cannot be unequivocally answered as set out in the following literature review.

Firm failure has a considerable social cost as job losses have extensive negative social consequences. Since Schendel et al. (Schendel & Patton, 1976; Schendel et al., 1976) published their seminal article on corporate distress and turnarounds in 1976, the subject has attracted considerable academic interest and research. It is worth noting that this interest has not been consistent over recent decades. Management scholars, particularly in the area of strategy, have considered this issue far less frequently since the 1980s and much recent work has its roots and primary audience in the field of finance. However, the question of which strategies are more effective in turning round declining firms' financial performance is shrouded with controversy as set out in the following literature review.

The structure of this chapter is as follows:

A schematic diagram which summarises the literature review is presented in section 2.1. This gives a quick overview of the structure of the literature review. Section 2.2 traces the historical development of what constitutes organisational decline and its related response as found in relevant extant literature. Section 2.3 reviews corporate performance turnaround theoretical issues and research gaps. Section 2.4 reviews the background of corporate turnaround strategic management research literature since the 1970s. Section 2.5 reviews the various types of turnaround strategies. Section 2.6 reviews the relevance of timeliness, as well as contextual and situational contingencies. The last section 2.7 summarises and concludes the key themes identified.

2.1 Literature review: a schematic presentation

The following figure below, Figure 1, gives a quick diagrammatic overview of the literature review.

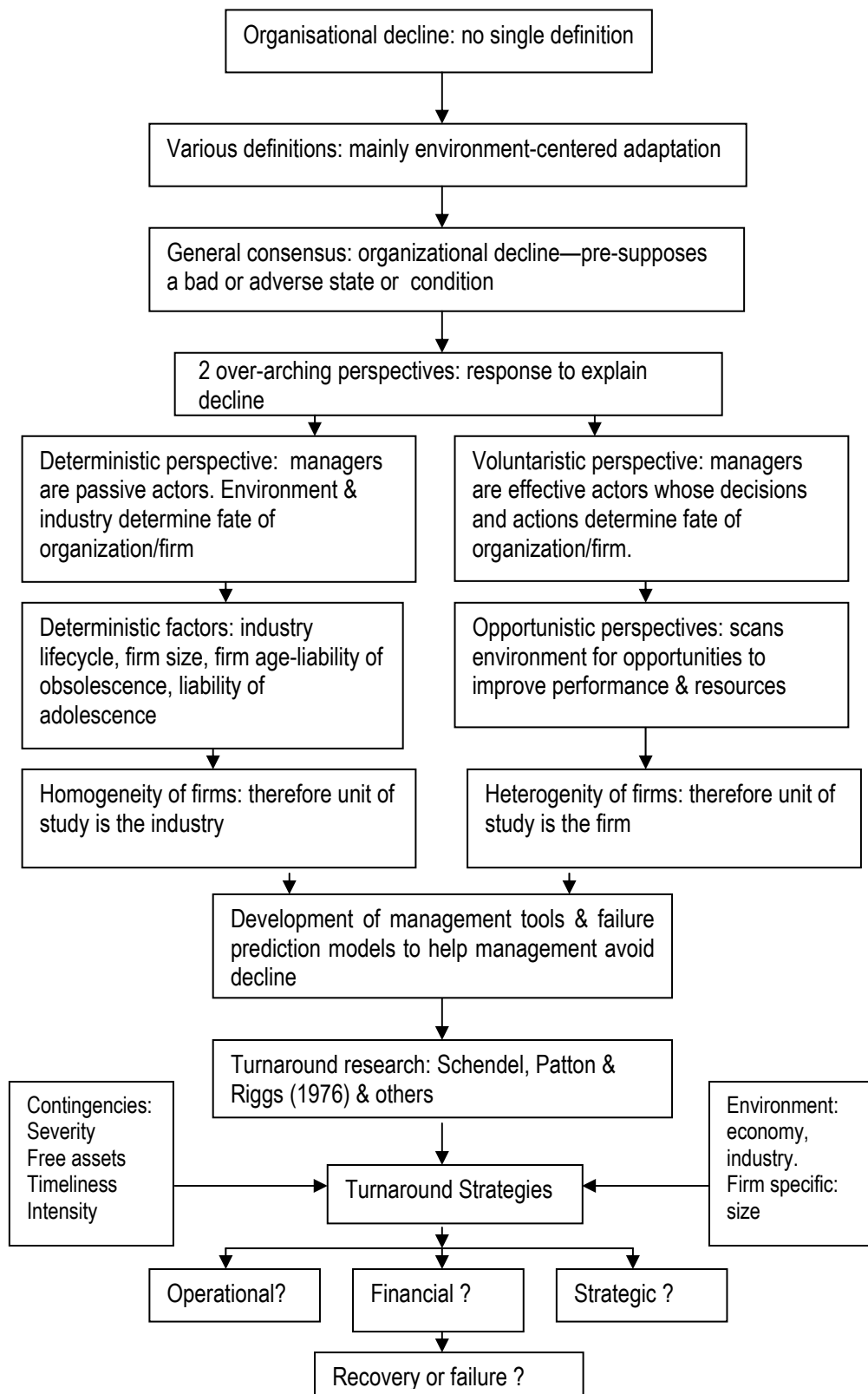


Figure 1. Schematic presentation of literature review
 Note. Source: developed from analysis and synthesis

2.2 Historical perspectives

Organisational decline—a singular definition?

For decades, the question of why and how some organisations manage to survive and thrive while others decline and fail to exist has intrigued and been debated upon by the organisational theorist and management researcher (Ahlstrom & Bruton, 2004; Cameron, Whetten, & Kim, 1987b; Mellahi & Wilkinson, 2004; Pandit, 2000; Singh, House, & Tucker, 1986a; Whetten, 1980).

There is no one precise or singular definition of organisational failure or what it entails across a whole range of disciplines and even within the relevant business disciplines of industrial organisation, organisation ecology, organisation studies and organisational psychology (Mellahi & Wilkinson, 2004). This lack of a precise definition appears to be due to the different perspectives adopted by researchers and writers.

Cameron, Sutton and Whetten (1988) define organisational failure as a two stage process: the first being the deterioration of a firm's ability to adapt to its domain or microniche—defined as a firm's market or product domain—and the second, the deterioration of a firm's resources, for example, financial and human resources. The 'failure to adapt to the environment' perspective is also expounded by Greenhalgh (1983:232) when he views decline as the antithesis to successful adaptation by an organisation to its environment and defines decline as occurring 'when the organisation fails to maintain the adaptiveness of its response to a stable environment , or when it fails to broaden or increase its domination of a niche which has diminishing carrying capacity'. According to Greenhalgh, it is important for an organisation to adjust its speed and magnitude of organisational change in its adaptation to the changing environment. In a slow changing environment it is sufficient to adopt an adaptive or reactive response, whilst in a fast changing one proactive or anticipatory response is required. Organisational failure results from inappropriate response to the environment.

Whetten (1980) takes a different view by identifying two types of organisational decline: stagnation decline and cutback decline. The first relates to passive, bureaucratic organisations. In this instance there may not be loss in revenues as normally happens in a munificent environment or when there are few competitors. Cutback decline relates to reduction in total market size or a reduction of the organisation's ability to compete with its competitors in the market. Levy (1986) views organisational decline as an organisation's failure to take heed of internal and external warning signs indicating the need to change. Alternatively, environmental warning signs are recognised but the lack of interest or resources leads to no corrective action being taken. The uncertainty literature sees organisational decline as the failure to deal with or manage uncertainty (Cohen & James, 1972; Thompson, 1967). Weitzel and Jonsson (1989:94) define decline as: 'Organisations enter the state of decline when they fail to anticipate, recognise, avoid, neutralise, adapt to external or internal pressures that threaten the organisation's long-term survival'.

Despite this lack of a singular definition of organisational decline, Mellahi and Wilkinson (2004:22) are of the opinion that there is general consensus in the literature regarding the manifestation or symptoms of organisational failure encapsulated by negative descriptive words or terms like 'bankruptcy' (Altman, 1971) 'organisational death', 'shrinking financial resources' (Cameron, 1983) 'negative profitability' (D'Aveni, 1989; Hambrick & D'Aveni, 1988) 'exiting shrinking markets' (Harrigan, 1982) 'a loss of legitimacy' (Benson, 1975) 'exit from international markets' (Burt, Mellahi, Jackson, & Sparks, 2002) and 'severe market erosion' (Mellahi, Jackson, & Sparks, 2002; Starbuck, Greve, & Hedberg, 1978).

Performance decline and business failure

Just as there is no one single definition of organisational decline, there is also a plurality of definitions and shades of meanings regarding business 'failure' and business 'decline' (Pretorius, 2008, 2009). From a fine-grained theoretical perspective 'organizational decline' and 'performance decline',

although related, are not of the same construct. Hence, the following paragraphs discuss and distinguish between 'performance decline', 'organisational decline' and 'decline' versus 'failure'.

Pretorius (2009) is of the opinion that the reason why business turnaround research results to date lack comparability and are equivocal is because of the lack of a standard and acceptable definition of 'failure' and 'decline' and the failure to distinguish between the two.

Performance decline is usually the manifestation of organisational decline. A prolong period of organisational decline often leads to performance decline, and if left unattended or 'turnaround', often leads to failure. In a business context, a firm is said to have failed if it is no longer a viable going concern, that is, it has liabilities in excess of its assets and is unable to meet its obligations and pay its debts as and when they fall due. The firm then 'becomes insolvent and is unable to attract new debt or equity funding; consequently it cannot continue to operate under the current ownership and management'(Shepherd, 2005:318). According to Pretorius (2009:10), 'failure connotes finality about the inability to operate any further'. A firm is said to be in decline 'when its performance worsens (decreasing resource slack) over consecutive periods and it experiences distress in continuing operations. Decline is a natural precursor in the process to failure' and therefore, 'decline' and 'failure' are 'distinctly different manifestations'(Pretorius, 2009:10) and not synonymous (Bates, 2005; Stokes & Blackburn, 2002). In short, 'decline' is process-oriented and 'failure' is the end result, that is, the finality of decline.

This thesis deals with financial performance decline, which is taken to mean a deterioration of a firm's financial performance, and its turnaround or return to profitability. The severity of financial performance decline varies from mild shock to one which may threaten a firm's going concern viability (Hofer, 1980).

In summary, the commonalities in the above definitions and perspectives of organisational decline are: decline assumes that there was a better pre-existing state of affairs; most of the definitions are 'environment centred' (externally generated) or internally generated (internal sources), that is, failure to appropriately take heed and respond to external and internal threats caused by environmental (external) and organisational (internal) changes; the assumption of negativity and adverse consequences associated with organisational decline; the erosion or depletion of an organisation's resources; and failure to deal with uncertainty. These theoretical perspectives are, in the main, descriptive and not prescriptive in that although some mention the need to adapt to the changing environment, there is no mention of the need for turnaround strategies—which Mukherji, Desai and Francis (1999) believe are needed to restore an organisation's competitiveness in the face of environmental exigencies and pressures.

Response to organisational decline

Despite the pluralism of organisational theory, the two over-arching views in the literature regarding the response (explanation) to organisational decline or failure are: the *deterministic* school of thought, expounded by the disciplines of classical industrial organisation and organisation ecology and the opposite *voluntaristic* view, expounded by the disciplines of organisation studies and organisational psychology (Astley & Van de Ven, 1983; Mellahi & Wilkinson, 2004; Rasheed, 2005). The deterministic perspective posits that the environment determines the fate of an organisation and strategies undertaken by management are ineffective, symbolic or have limited influence on organisational outcome (Morrow, Johnson, & Busenitz, 2004; Pfeffer & Salancik, 1978). In this respect, organisational failures are caused by external factors, rather than firm factors, beyond the control of internal management. The voluntaristic perspective posited by organisation studies and organisational psychology theorists attributes the cause of organisational failures to the perceptions, decisions and actions of internal management, that is, firm factors.

The deterministic perspective

Population and organisational ecologist viewpoint

As the name suggests, the organisational ecologist shares the same view as the population ecologist, that organisations are passive actors and their destiny (e.g. mortality versus survival) is shaped (determined) by the forces of the environment much like the Darwinian natural selection thesis which seeks to explain the rise and fall (evolution) of natural species (cf. organisations and population). As both share similar theoretical viewpoints, the terms 'population ecology' and 'organisational ecology' are often used interchangeably (Scott, 1998). Mellahi and Wilkinson (2004) are of the opinion that the organisational ecologist takes the cue from organisational theories of the 1950s called human ecology (Hawley, 1950) which posits that population of organisations that share the same strategy or form often respond in the same way to environmental forces. The emphasis here is that characteristics of population which a focal organisation belongs to affect its survival or failure and not organisation specific factors (Barnett & Carroll, 1987; Hannan & Carroll, 1992; Hannan & Freeman, 1977, 1989). This assumption of equivalence maintains that there is no variation among organisations in the same population because they compete for the same scarce resources and are equal competitors (Baum & Mezias, 1992). This population ecology view is a macro view of organisation–environment relations, based on the notion that 'environmental resources are structured in the form of "niches" whose existence and distribution across society are relatively intractable to manipulation by single organisations' (Astley & Van de Ven, 1983:249).

Following on from the above, organisational ecologists believe that collective actions of other organisations—for example, in the same industry—and population characteristics over time determine the mortality or survival of a particular organisation. Hence, organisations are at the mercy of the environment or industry as they either fit into a niche or are selected out and fail, a kind of 'survival of the fittest' (Astley & Van de Ven, 1983). According to Mellahi and Wilkinson (2004) wide empirical support exists for the

organisational ecologist's viewpoint—for example, automobile manufacturers (Hannan, 1997; Hannan, Carroll, Dobrev, & Joon, 1998) breweries (Carroll & Swaminathan, 2000) newspaper publishing (Carroll & Delacroix, 1982) and the hotel industry (Baum & Mezias, 1992).⁸

The above proposition provides the theoretical foundation of the much quoted population ecologists Hannan and Freeman's (1977) natural selection model in explaining the rise and decline of organisational populations. Accordingly, because of the reasons of inertia, structural and environmental constraints, organisations seldom make major adaptive changes and the law of environmental selection is a more appropriate way of explaining the death or survival of organisation (Aldrich & Auster, 1986; Hannan & Freeman, 1977). This environmental selection favours firms that are well fitted to the environment or 'niche' that they operate in (Hannan & Freeman, 1977). According to this perspective the logical unit of analysis should be the population or industry the focal organisation belongs to.

The above macro perspective is in line with that taken by the industrial economist whereby industrial structure is 'defined as the relatively stable economic and technical dimensions of an industry that provide the context within which competition occurs.' (Astley & Van de Ven, 1983:250). Industry structure is preserved by entry barriers which inhibit firms from easily traversing different markets and place limits on firm strategic alternatives for each particular type of industry (Caves & Porter, 1977). Similar views are shared by the economic historians like Chandler (1977) and institutional economists like Williamson (1975) who 'contend that industrial structure evolves in determinate ways' (Astley & Van de Ven, 1983:250). Such determinate ways in a competitive economy are due to the market transactions of small traditional enterprises, which eventually evolved into a

⁸ Baum, J. A. & Mezias, S. J. 1992. Localised competition and organisational failure in the Manhattan hotel industry, 1898-1990. *Administrative Science Quarterly*, 37: 580-604. 1992 looked at the consequences of localised competition in the Manhattan hotel failure rates in terms of variations in exogenous organisational variable of size, geographical location and price. In this study there was acknowledgement that localised organisational variables do play a part in influencing failure rates.

regulated economy dominated by big businesses the rise to dominance of which is due to them collectively being a more efficient instrument in minimising transaction costs (Williamson, 1975) and the distribution of goods and services in the economy (Chandler, 1977). Following on from this, the determinate ways of the environment therefore are more powerful than the individual strategic actions taken by the individual firm.

According to Mellahi and Wilkinson (2004:23) the ancestor of the deterministic perspective is the Schumpeterian economics thesis of 'creative destruction' whereby 'jolts in the external environment generate waves of organisation failures'. Such environmental jolts may be caused by technological, new regulatory, economic or demographic changes (Scott, 1998). The result of the creativeness of the environmental changes is that firms that are weak and not able to adapt to the new environment will fail or exit leaving new and better firms in the market; a sort of Darwinian survival of the fittest. The deterministic perspective is premised on three assumptions (Mellahi & Wilkinson, 2004): 1. Environmental changes affect the strategies of management and are more influential or powerful rendering them ineffective. 2. Firms in the same industry or segment of the same industry will pursue similar strategies. 3. Management are assumed to be rational thinkers acting in the best interests of the organisation and as such organisational failures cannot be attributable to or caused by their actions.

Organisational ecologists consider the ultimate of organisation decline is organisational failure. In accordance with this, Mellahi and Wilkinson (2004) cite Freeman, Carroll and Hannan's (1983:694) definition of organisation dissolution as the stage when the organisation 'ceases to carry out the routine actions that sustain its structure, maintain flows of resources, and retain the allegiance of its members'. Since external environmental factors are considered central to the deterministic perspective, a considerable amount of the literature on organisation deals with causes of environmental changes and their effect on organisational behaviour and outcome (Barnett & Carroll, 1995; Child, 1972; Jurkovich, 1974; Lawrence & Lorsch, 1967; Pfeffer & Salancik, 1978; Scott, 1998; Starbuck, 1976; Staw & Sz wajkowski, 1975). Dess and Beard (1984), combine Aldrich's (1979) six environmental

dimensions⁹ into three broad kinds of environment dimensions affecting organisational behaviour and outcome (e.g. organisation exit from industry). Using Dess and Beard's three environmental dimensions (refer below), Anderson and Tushman (2001) seek to find out how changes in environmental factors and their relative impact affect firm exit rates. Influential environmental factors include drivers like technological change, regulatory change, economic change and demographic change (Anderson & Tushman 2001; Scott, 1998). According to Weitzel and Jonsson (1989:98) 'failure to scan the environment is an indicator of an early stage of decline'. The environmental factors are grouped into: dynamism, munificence and complexity (Dess & Beard, 1984).

Dynamism refers to the unpredictability created by the environment which caused uncertainty for firm management (Anderson & Tushman 2001:682). Firms operating in a dynamic environment, that is, fast changing, will try to adopt strategies (e.g. better administrative systems, mergers, entering into long-term contracts, backward and/or vertical integration, alliances) to cope with uncertainty and increase their ability to predict the environment. Environmental dynamism tends to increase the likelihood of organisational failures (Anderson & Tushman 2001).

Environmental munificence—or a benign environment which enables accommodation of firms—is an environment which allows firms to grow, achieve stability and enable accumulation of slack resources to act as a buffer during lean times. Such an environment is characterised by higher demand for products, lower competition and availability of resources. Among some of the business strategies to adopt during this munificence of resources are those which aim to increase the rate of sales growth and market growth. Environmental munificence and resource availability often influence the choice of turnaround strategies (Pretorius, 2008). 'Industrial organisation scholars suggest an adverse relationship between failure rates and availability of resources' (Mellahi & Wilkinson, 2004:23).

⁹ Capacity, stability-instability; turbulence, homogeneity-heterogeneity; concentration-dispersion and consensus-dissensus.

Environmental complexity refers to the complex web of linkages both within and outside the organisation, like its range of input-output activities, external competitors, stakeholders, competitors, alliance partners, institutions and communities which the firm has to interact with (Anderson & Tushman 2001; Child, 1972; Dess & Beard, 1984). Anderson and Tushman (2001) contend that from a resource dependence perspective, firms with a complex input-output mix—for example, multiple product lines—face more complex (uncertain) procurement of inputs and sales of output problems than those with fewer input-output mix. The main reason for this is the greater number of customer networks and suppliers the organisation has to contend with. A complex or heterogeneous environment increases uncertainty and management would require better and greater administrative control systems and information processing systems to monitor the various linkages and actors in the environment (Duncan, 1972; Galbraith, 1973; Pennings, 1975; Tung, 1979).

Economic and technological change

Anderson and Tushman's (2001:678) longitudinal study of exit rates in the US industries of cement manufacture (1888–1980) and minicomputer manufacture (1958–1982) found that 'both economic and technological uncertainty pose significant challenges for organisations struggling to survive, while munificence and complexity appear unrelated to the hazard of exit. These effects are significant even after ecological and economic conditions are controlled. Firms seem able to cope with the ups and downs of the business cycle and of demand growth much more readily than they are able to cope with relatively unpredictable demand conditions and technological regimes'.

A recent example of the damaging effect of sudden economic change is the 2007–2010 global financial crisis (GFC). The GFC, which many reckon as the worst economic crisis since the Great Depression of the 1920s, saw an increase in firm failures (Jacobs, 2009) in Australia. The GFC bears witness

to the unforeseeable and unpredictable uncertainty exerted by changes in the economic environment in Australia despite the munificent environment of the Australian mining sector.

Gupta and Wang (2004) found the globalization-induced 1997 East Asian crisis rendered the organizational design and management structure of a Chinese technology-electronics group obsolete, driving the group to near-bankruptcy state. The crisis forced the group to make organizational change, adopt entrepreneurial leadership and improve on their value generation capabilities to achieve a successful turnaround.

The advent of Internet trading in recent years is an example of the unforeseeable and unpredictable uncertainty exerted by changes in the technological environment. The introduction of Internet trading saw the demise of other book sellers who could not adapt to the new Internet technology and compete with the online trading activities of Amazon.com. Such uncertainties bear testimony to the workings of Schumpeterian thesis of 'creative destruction' (Mellahi & Wilkinson, 2004). In the same vein, this researcher believes that the introduction of mini computers and personal computers (pc) led to the gradual decline of main frame computers in favour of a decentralised computing environment typically represented by a dedicated pc server connected to a network of personal computers and terminals.

According to Mellahi and Wilkinson (2004), organisation ecologists posit that the *four* critical factors which determine the survival or failure of organisations are: population density, industry lifecycle, organisation size and organisation age.

Population density

Population density refers to the overcrowding of participants in the industry which leads to legitimization of the industry and competition. As an industry becomes bigger (more crowded) it gradually becomes an acceptable

legitimate institution able to attract resources, which assists its members to survive and prosper. But overcrowding eventually leads to keen competition over scarce resources, resulting in weak firms failing. Mellahi and Wilkinson (2004) cite Hannan and Freeman's (1988) suggestion that the opposite effect of legitimation and competition leads to a U-shaped relationship between density and failure in that legitimation attracts entrants into an industry but eventually competition kills some of them off.

Industry lifecycle

Proponents of the *industry lifecycle* view believe that an organisation follows a set course, just like any organism, irrespective of the actions of its management (Klepper, 1997). This inevitable life cycle view is also shared by the system theory of organizational science, which views an organization as an organic entity with a metamorphosis life-cycle of birth, growth and maturity (Whetten, 1980). Expansion (growth) and decline are part of the dynamics and life cycle of an organization (Weitzel & Jonsson, 1989). Organisational failure is a natural phenomenon due to the efficient operation of markets.

Firm size

Larger firms have always been taken to have more resources than smaller ones. According to Whetten (1980), the literature of the dynamics of organization is premised on the belief that growth is good for an organization and that bigger is better. Although there are studies and literature which support the advantage of smallness (Child, 1972; Hambrick & D'Aveni, 1988; Myer & Zucker, 1989; Pant, 1991)—characterised as being nimble versus size related inertia, in a changing, uncertain dynamic environment—the majority of research supports the advantage of size in relation to mortality rate.

Economists believe that big equates to market power (Bain, 1956) and economies of scale (Jovanovic, 1982; Mansfield, 1962). The resource dependency view also inherently assumes bigger firms have more resources—financial and managerial capacity—which can insulate the firm from adverse economic downturns and better accessibility to external funding sources (Haveman, 1993; Mahoney & Pandian, 1992). Failure rates are reported to have a negative relationship to firm size (Dunne, Roberts, & Samuelson, 1989; Hannan & Freeman, 1984; Sutton, 1997). Bankruptcy and related reorganisation studies have shown that larger firms are more likely to possess unsecured capital and assets to provide as collateral security toward obtaining additional borrowing in times of financial distress (White, 1983).

Economy of scale, in terms of firms' bankruptcy costs, was found to be in favour of larger firms (Campbell, 1996; Wagner, 1977). Size—the manifestation of the pursuit of growth and diversification—automatically brings with it operational efficiency and effectiveness. It enhances the coping ability of an organization with a changing external environment and brings with it competitive advantage (Argenti, 1976). The emphasis and analysis of competitive advantage is to earn above normal rates of return (i.e. superior performance) (Porter, 1985).

Agarwal, Sarkar and Echambadi (2002), applying the time-variant and industry life cycle approach, found that the mortality rate of smaller firms is less during the mature phase of an industry within which the firm operates than during the industry growth phase. This is because during the growth phase, when competition is fierce, the bigger firms have more resources to access, develop and commercialise technologies, create customer demand and marketing infrastructure, thus squeezing the smaller firms out of the competition. According to Caves and Porter (1977) smaller firms have a place in niche markets ignored by the bigger players in the mature phase. Such a view is supported by Klepper (1996) who suggests that small firms venturing into peripheral markets may be profitable due to the lack of incentives of large firms in pursuing all innovative opportunities or because of slowness to act due to size inertia.

However, growth brings additional challenges to an organization constrained by the availability of scarce resources and extra information flow and needs. Such challenges often bring stress to an organization, which unless properly managed and resourced, leads to organizational decline and eventual death. Yet, despite this inevitability of decline as part of an organisation's life-cycle, the literature on organisational decline was a bibliographical rarity until the late 1970s and early 1980s (Weitzel & Jonsson, 1989).

Firm age

Organisation ecologists posit that *age* is a determinant factor in firm survival and failure rate. Since Stinchcombe's seminal article (1965)—in which he argued that younger organisations have higher mortality rate than older organisations—introduced the concept of the liability of newness, a considerable number of studies have shown that new ventures and newer firms have higher failure rates, for example, Swaminathan (1996); Carroll and Delacroix (1982); Gaskill, Van Auken and Manning (1993); O'Neill and Duker (1986); Bruno and Leidecker (1988); Sutton (1997); Caroll (1983); Freeman, Carroll and Hannan (1983). The negative relationship between age and mortality holds true even after controlling firm size (Freeman et al., 1983) and population heterogeneity (Carroll & Delacroix, 1982). The rationale supporting this liability of newness-age proposition is that older firms have more established sources of resources, are less resource deficient, have avenues for capital accessibility, established procedures, systems and routines and management structures, more accumulated experience and established customer relationships (Nelson & Winter, 1982; Stinchcombe, 1965). Stable organisational structure of older firms leads to customer trust and is one reason for the higher mortality rates of newer firms (Hannan & Freeman, 1989). Ooghe and Prijcker (2008) found that the common characteristics among bankrupt start-up companies were: poor management with limited managerial and industry experience, had weak administrative, operational and financial structure and lacked strategic advantage. The

causes of failure appear to be internal as they found the external environment had no influence on their demise.

This 'most firms die young' firm failure distribution is also demonstrated by Robert Cressy's (2006) theoretical model of firm growth under uncertainty. Basing his model on portfolio theory of balancing risk and return, the Random Walk for growth under uncertainty and managerial risk aversion influencing market positioning and expected returns, he demonstrated that the important determinants of firms dying young are financial capital and management's skill in entrepreneurial risk management. Initial financial capital is often depleted through trading losses and bad luck. The role of managerial human capital was shown to be important as it 'enabled the more talented entrepreneur to grow faster at lower cost measured by the increase in her firm's equity risk', which 'reduces the chances of equity falling below acceptable levels' (Cressy, 2006:113). The results of his model confirmed empirical research findings in that the distribution chances of 'failure first rise deeply and then tail off gradually to converge on a small long run failure rate'.(Cressy, 2006:113).

Younger firms find it harder to attract customers away from older firms that have, over the years, built up established links with external stakeholders (Freeman et al., 1983). Hence, older firms have over the years built up external legitimacy with long standing customers, suppliers, stakeholders and players. Henderson (1999) found failure rates decline with age, as a firm faces a more hazardous journey during its early and adolescent years. The advantage of age is also consistent with the findings of other organisation ecologists, for example, Freeman et al. (1983), Carroll and Delacroix (1982), and evolutionary economists, for example, Sutton (1997).

Given that the literature shows the risk of failure is higher for firms who are young and small, Thornhill and Amit surveyed and examined a sample of 339 bankrupt Canadian firms between March to August 1996, with different firm ages, for the underlying causes of their demise in order to understand the 'age-varying determinants of firm failure'(2003:505). Their results confirmed the liability of newness proposition, that the risk of failure is directly related to

youth. Within the theoretical context of the Resource-based view (RBV) of the firm, they found empirical support for the link between success and the possession of valuable strategic resources and capabilities (e.g. management skills and organizational systems). Younger firms failed because of poor managerial knowledge, general and financial management skills. Surprisingly, marketing development was not found to be a significant contributory factor (Thornhill & Amit, 2003:504). They found, older firms were 'vulnerable if they did not adapt to the demands of a changing competitive environment' (Thornhill & Amit, 2003:505) due to rigidity and inertia. Lastly, their results confirmed the influence of industry membership on firm survival. Early failure was found to be more prevalent in the food, beverage, and accommodation sector as when compared to manufacturing. In addition, they found failed firms in the wholesale and retail sectors were typically older when they went into insolvency.

Firm age and organisational change

The Singh et al. (1986b) study of non-profit Canadian voluntary social service organisations, as to whether internal organisational changes or external factors are significant in affecting the liability of newness proposition, found more support for external legitimacy factors (e.g. gaining Community Directory listing, acquisition of a Charitable Registration Number and board size at birth) than internal changes. They found that except for internal CEO changes, which lower death rates, external legitimacy factors 'significantly depress organisational death rates' (Singh et al., 1986b:171). Results of research on the interaction between the liability of newness, organisational changes and failure rates are mixed. Mellahi and Wilkinson (2004) cite Amburgey, Kelly and Barnett's (1993) study of Finnish newspapers that changed their newspaper content or frequency and thereby increased the risk of failures, while a majority found the opposite results, in that firm survival rates improve or firm performance improves due to major organisational change (Barnett, Greve, & Park, 1994; Kelly & Amburgey, 1991; Stoeberl, Parker, & Joo, 1998). This tends to imply that major organisational changes

may mitigate the disadvantages associated with the liability of newness factor.

Firm age and lifecycle of industry

Applying the passage of time and the life cycle of industry to the liability of newness-age perspective, Agarwal, Sarkar and Echambadi (2002) found newer firms in the growth phase of their industry, when barriers to entry are lower, have lower mortality rates than in the matured phase of their industry when barriers to entry are higher. They argue that during the growth phase of an industry, newer firms are less fixed in their modus operandi, are more entrepreneurial, have access to newer technology and are more willing to experiment with newer innovations. The newer firms help to mould and reshape the evolving industry population during its growth phase until it reaches an equilibrium stage towards industry maturity (Christensen, Suarez, & Utterback, 1998). The growth phase favours entrepreneurial activities as older firms are less nimble with routinized regimes (Winter, 1984).

Firm age—liability of obsolescence

Closely related to the liability of newness and failure is the *liability of obsolescence*. According to the *liability of obsolescence* (or liability of senescence) viewpoint, older firms are set in their ways and over time inertia makes them misalign or fail to be responsive to their changing environments and they die of obsolescence. The consequence of this is that failure rates are expected to increase with age and growth rates are expected to decline over time as inertia sets in. (Barron, West, & Hannan, 1994; Ranger-Moore, 1997).

Firm age—liability of adolescence

In an alternative argument to the liability of newness viewpoint that firm failure rates decrease monotonically with age, organisational ecologists also proposed the *liability of adolescence* viewpoint: that new firms tend to die at a *young* age (Brunderl & Schussler, 1990; Fichman & Levinthal, 1991). This view argues that new firms take a while to fail, as their initial founding stock of resources (e.g. capital) would last them for a few years before they disband or fail (Henderson, 1999). This 'honeymoon period' and eventual decline into failure manifest an inverted U-shaped curve when plotting the relationship between failure rates and age (Fichman & Levinthal, 1991; Levinthal & Fichman, 1988). Empirical support exists for this 'honeymoon period' (Mitchell, 1991; Singh et al., 1986a).

On the whole, the newness–age liability perspective tends to support the first mover advantage principle. The first mover advantage principle posits that firms who enter the industry first (i.e. earlier entrants) have an advantage over newer entrants as they have already established their market share and dominance making it difficult for the newer entrants to break in. Hence, on balance, older firms have an advantage over younger ones and are better placed to weather the changing environment. However, in general, the majority of liability of newness–age research fails to demonstrate unequivocally what 'newness' entails, although a study of small firms in the US by Bracker Keats and Pearson (1988) found about 65% of start up firms failed in their first five years. Also, does this average age vary from one industry to the next? In a twenty-first century digital information world, new revolutionary innovations by younger firms may upset the conventional knowledge of older firms, for example, as in the Microsoft and Amazon.com cases.

In sum, the deterministic view¹⁰ posits that the influence of the environment (e.g. industry influence) is powerful in affecting the mortality rate of firms,

¹⁰ In this study, deterministic factors are allowed for by the control environmental variables defined in Section 5.2 in Chapter 5.

rendering the efforts of internal management futile. This 'black box' view of the firm leads critics like Mellahi and Wilkinson (2004:27) to remark that: 'The main weakness of IO/OE scholars is not what they examine but what they ignore'. If environmental factors alone account for firm failure, such a simplistic view sits contrary with the question of why some firms in the same industry fail while others prosper. Also some critics of the organisational and population ecology perspective point out that all members in the same population may not compete for the same resources or be equal competitors (Winter, 1990), hence 'population density, a count of the number of organisations, may not provide the most precise measure of the competition faced by different organisations in a population' (Baum & Mezias, 1992:580).

The voluntaristic perspective

According to Mellahi and Wilkinson (2004) this view is premised on the heterogeneity of firms and that the actions and strategies of internal management are more powerful than environmental influence in shaping the destiny of firms. Managers are considered principal decision makers (Hambrick, Cho, & Chen, 1996; Hambrick & Mason, 1984; Lohrke et al., 2004; Szilagyi & Schweiger, 1984) and their actions premised on their perception of the external environment, constrained by available resources and commitments, are important determinants in firm success or failure (Greenwood & Hining, 1996).

This view considers firm failures as the result of management's inadequacies or inappropriate response to environmental threats. Francis and Desai's (2005) study of 97 US firms from the industrial and commercial machinery and computer equipment-manufacturing industry, reported that successful turnarounds are more attributed to factors under the control of management and management actions than situational (e.g. size) and environmental factors (e.g. environmental munificence-industry growth). Bibeault (1982:30,35) found that internal causes account for 80% of organizational decline. Prominent among the causal factors of firm decline identified by

Argenti (1976) in his seminal book, *Corporate Collapse: The causes and symptoms*, are factors relating to top management actions, for example, over-trading relative to limited capital and the danger of a dominating 'one-man band' CEO (especially in an owner CEO situation).

The voluntaristic perspective has led to a proliferation of literature and related studies concentrating on the 'micro' aspects of a firm (often termed firm level factors), that is, on the attributes and actions of its decision makers (top management) and the heterogeneity of its resources in trying to explain derivation of competitive advantage and relative effectiveness of turnaround strategies. Mellahi and Wilkinson (2004:28) note that the voluntaristic perspective expounded by organisation studies and organisational psychology 'lacks a grand theory in explaining organisational failure', so much so that there are a whole series of what they call 'middle range theories' resulting in contradicting research results. Examples of contradicting research results due to different factors, in the context of enacting successful turnarounds, include the effectiveness of frequency of CEO changes, inside versus outside directors, optimum board size, demographics of TMT, long versus short tenured TMT, just to name a few examples. Mellahi and Wilkinson (2004:31,35) are of the opinion that this lack of a grand theory to tie the bits and pieces of uncoordinated issues and observations relating to firm level factors into a coherent whole is an 'Achille's heel', endangering the study of organisational failure by falling into a 'fragmentation trap'. (They define fragmentation trap as a trap which 'emerges when too many new middle range theories are proposed at too fast a pace in order for the scientific community to be able to evaluate each contribution properly and to integrate them into a reasonable coherent knowledge structure').

The adaptation viewpoint

A variant of the voluntaristic perspective is the adaptation viewpoint which historically has occupied a central place in organisational studies. The adaptation viewpoint posits that management scans the environment and

responds by adopting appropriate strategies to adapt to the changing environment for organisational survival (Cyert & March, 1963; March & Simon, 1958; Pfeffer & Salancik, 1978). Organisations which fit the environment will survive. This adaptation view runs contrary to the deterministic (selection) view held by the organisational ecologist or population ecologist (Astley & Van de Ven, 1983).

As described above, the organisational ecologist believes in the deterministic natural selection principle, whereby unfit or environmentally unaligned organisations are 'selected' or weeded out of the organisational population. Organisational changes are not important in the grand scheme of things. Singh et al., (1986a:588) believe that Hannan and Freeman in their (1984) publication modified their view on organisational inertia in relation to the deterministic environmental effect on organisational population, when they see structural inertia 'as a consequence of selection processes rather than a precursor to them'. This effectively opens up the role of organisational change, as they posit that structural inertia is due to the rate of environmental change outstripping the rate by which an organisation can make structural reorganisation or changes.

The Singh et al. (1986a) study of organisational change and organisational mortality, found that organisational changes that increase the legitimacy of the organisation result in lower (higher) organisation death (survival) rates. Their findings did not support the extreme ecological proposition that all organisational changes lead to increases in organisational death rate (Singh et al., 1986a:605). In addition, another significant finding was that the stage of the organisation in its life cycle has an impact on the effectiveness of organisational change. They found organisational changes effected 'earlier in the life cycle are more likely to influence the hazard of death, whether adaptively or non adaptively, than changes made later in the life cycle' (Singh et al., 1986a:605). However, Singh et al. (1986a:606) warned of the danger of generalising their findings as they may be peculiar to the Canadian non-profit voluntary social service organisations, which are normally institutions with ambiguous technologies and goals.

The opportunistic viewpoint

This researcher proposes 'the opportunistic view' of the firm as another variant of the voluntaristic perspective. During normal times, firms often scout the environment for investment and entrepreneurial opportunities to increase profitability. In times of performance decline, one would logically expect a declining firm to curtail investment and entrepreneurial activities and not choose a growth strategy due to lack of slack resources. Chowdhury and Lang (1996) found in their study of turnaround of small (less than or equal 500 employees) US manufacturing firms that sample firms chose efficiency over entrepreneurial/strategic moves in the short-run to alleviate immediate emergency, as small firms often lack the resources to embark on entrepreneurial ventures especially during the decline stage.

However, Rasheed's (2005) study of small government contractors in the USA found small business owners are likely to choose growth (entrepreneurial) strategies during decline, irrespective of whether their perceptions of past financial performance and resource availability are high or low. This is because as owner/founder operators, as distinct from employee managers in multi-nationals who are fearful of losing their jobs, they are emotionally involved in the business, are used to risk-taking, have assumed a personal risk in the founding days and therefore are more prone to strategic thinking to solve problems. Rasheed (2005) notes that entrepreneurial management (e.g. owner manager) often thrives on introducing innovation, and according to the theory of disequilibrium and chaos, creates disequilibrium by doing so (Stevenson & Harmeling, 1990). In the declining stage of his firm the manager/owner with an inherent venturing and aggressive spirit finds it hard to make a mental transformation to the role of a professional turnaround manager. This lends support to other studies of threat-rigidity thesis in dealing with adversity (e.g. Staw, Sandelands, & Dutton, 1981) and indicates that small business owner/managers will pursue opportunistic growth strategies and remain aggressive even in periods of performance decline. D'Aveni (1989) found evidence that public firms with

deficient resources and near bankruptcy also pursue growth strategies in an effort to turnaround.

It is proposed here that this *opportunistic perspective* of the firm is best manifested by the modus operandi of private equity and venture capital firms/funds. Putting the question of ethics and social responsibility aside, for example, the debate over the public good, these firms or funds scan the business environment looking for business opportunities, to make a fast return on their equity funds (Clark, 2007; Morrell & Clark, 2010:250). Typically these firms/funds look for undervalued and/or underperforming assets/firms, restructure them, run them for approximately two to three years, turn them around and list them on the stock exchange. The recent Myer acquisition in Australia by private equity firms is a typical example of this opportunistic modus operandi of the private equity firms/funds. Venture capital firms, on the other hand, scan the environment for opportunity to invest in projects or start up firms with promising upside potential, for example, in new technology or new products (Morrell & Clark, 2010).

The deterministic, voluntaristic and opportunistic perspectives are expository attempts to find a theory of the firm (and turnaround), and at the same time provide an explanation or response to the question of why firms prosper and/or decline. The answer to this question inevitably involves the determinants of firm performance. The two streams of research in the business policy literature identified by Hansen and Wernerfelt (1989) regarding the determinants of firm performance are: one based on the economics tradition of influencing external markets factors; the other is firm specific whereby firm organisational factors and their fit or alignment with the environment determines firm performance success. The economics tradition, more specifically microeconomics essentially, sees the firm as a 'black box' (Hoskisson, Hitt, Wan, & Yiu, 1999) and profit maximisation is based on the normative pricing theory of setting marginal revenue equal to marginal cost (Rumelt, Schendel, & Teece, 1991). The two streams of research are 'macro' in their approach and firm management needs specific tools to manage and help them to increase or determine firm performance (antithesis of

performance decline). Hence, this led to the birth of operation research and management science as academic disciplines and tools of management aid.

Tools of management

In the area of Management Science (e.g. Operation Research), since the 1960s and 1970s a considerable number of preventative and diagnostic management tools were developed to help management cope with the stress and challenges of growth and change. Such tools include linear programming, marketing plan, marketing audit, balanced score card, SWOT (Strength, Weakness, Opportunities and Threats) analysis and competitive five forces framework analysis, to name a few (Andrews, 1971; Kaplan & Norton, 1996; Porter, 1980). Yet, despite this impressive repertoire of management tools, organizations do continue to suffer performance shock and decline, which if left unchecked or does not 'turnaround' will spiral into demise and oblivion.

In the discipline of Finance, in the 1960s and 1970s, Altman (1968) was one of the pioneers to use financial ratios to predict a firm's performance decline and risk of firm bankruptcy. His pioneering work is one of the first to study the subject of corporate failures in an analytical manner.

Altman distinguishes between the various degrees or types of financial distress, those of *failure, insolvency and bankruptcy* (Altman, 1971). *Failure* is when a firm is not earning a sufficient return on its capital. This loss making situation can go on for years without having to shut down and discontinue operations so long as it is able to pay/meet its liabilities as and when they fall due. *Insolvency* is a more restrictive and definitive term—meaning a firm is not able to pay its debts as and when they fall due, thus affecting its going concern viability. This is also the definition contained in the *Corporations Act* (ss 9, 95A, 347A). This is much more serious than failure and is often reflected by a negative net worth balance sheet, that is, a firm's liabilities exceed the value of its assets. Such a negative net worth situation can go on for years and would not breach the insolvency definition as per the

Corporations Act so long as the firm is able to pay its debts as and when they fall due—for example, ongoing support by its owners or its parent entity. (In this situation, it is a serious offence for the directors of an insolvent company in Australia to continue to trade). Ultimately such a situation is not sustainable and the firm will run out of cash reserves to meet its financial obligations and slide into *bankruptcy*.

In Australia, as in the United Kingdom, the term 'bankruptcy' often refers to an individual as opposed to companies being 'insolvent'. Bankruptcy is the ultimate destination for failing firms, and is petitioned by the failing firm to the courts to liquidate its assets, to meet its liabilities or to enter into a recovery programme of bankruptcy—reorganisation or reconstruction, the main aim of which is to salvage and preserve any remaining value in the firm, which is worth more to its creditors than having the firm liquidated, that is, 'letting it die'. In Australia, directors of a firm can protect themselves by opting for voluntary administration (VA) whereby a professional, normally an accounting firm acting as the administrator, will be appointed to run and control its operations. The insolvency accountant is required to assess the company's viability and situation and make recommendations for a suitable outcome within a short time frame—*Corporations Act s 438A*.

Altman believes that despite the influence of external factors like gross national product, money supply and stock market performance on a firm's financial performance, internal factors pertinent to a firm are more important in predicting firm financial collapse and bankruptcy. By using multiple discriminant analysis technique, he evaluated a paired sample of 33 bankrupt firms and 33 non-bankrupt firms, matched on industry and size and developed the famous Z-score, a single composite score/indicator, calculated from the following equation using 5 financial ratios derived from the subject firms' financial statements.

$$Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5 \quad (\text{Altman, 1968:594})$$

Where X_1 is working capital/total assets, X_2 is retained earnings/total assets, X_3 is earnings before interest and taxes/total assets, X_4 is market value of equity/book value of total debt and X_5 is sales/total assets.

Altman found that if Z is less than 1.8 there is high chance that a firm will become bankrupt and that if Z is more than 3.0, it is unlikely that the subject firm will fail. A Z -score between 1.8 and 3.0 is the zone of uncertainty, where misclassification can occur, termed by Altman as the 'zone of ignorance'. Altman believes that the predictive power of the model is such that it is 95% accurate for firms failing within one year, 72% within two years with falling accuracy of 48% within three years and about 30% accuracy for years four and five preceding bankruptcy.

The Altman Z -score model is widely used by credit agencies and banks and was subsequently tested by other researchers and found to be fairly accurate within two years of bankruptcy occurring. An Australian study by Lincoln (1984) of 90 survived Australian public listed companies and 41 failed ones covering four different industries of manufacturing, retail, property and finance for the period 1969 to 1978 found Altman's Z -score model to be highly accurate in predicting levels of insolvency risk, especially between one to three years before failure. Other published Australian studies using financial ratios in the prediction of corporate distress/failure and classification of bankrupt firms versus non-failed ones include the works of Izan (1984), (Altman & Izan, 1982) and Castagna and Matolcsy (1981). Other non-Australian Anglo-US researchers using financial ratios as predictors of firm failure include, for example, Beaver (1966a, 1966b, 1968); Deakin (1972); Johnson (1970) and Taffler (1982).

Types of decline

In the area of management literature, D'Aveni (1989) distinguishes three types of decline from a temporal perspective, those of: sudden decline, gradual decline and lingering decline.¹¹

Sudden decline refers to the rapid deterioration of resources and performance from organisation health to a sudden collapse of a firm followed by bankruptcy—in the Australian context receivership and liquidation—in a short period of time. Some researchers (Cameron & Zammuto, 1988; Chowdhury & Lang, 1993:8) refer to sudden decline as 'crisis' which 'involves a sudden performance drop, involving a major downward shift in the performance trends. Therefore, crises are more perceptible, more rapid, and appear to be more immediately threatening to the firm'. Sudden collapse is often brought about by some serious error of management, for example, a firm overextending beyond its means—for example, beyond its capital base or ability to service financing commitment—in expansion or acquisition of some costly assets or plant, or taking on high risk ventures (Argenti, 1976; Richards, 1973). This sudden shock may rock firm management out of inertia. Smaller firms are found to respond better to and achieve successful turnaround from sudden decline rather than gradual ones (Chowdhury & Lang, 1993). On the other hand, Francis and Desai (2005:1206) argue that 'rapid declines may lead a firm to focus mistakenly on operational actions instead of on developing long-lasting sustainable resources'. This is understandable due to a knee-jerk reaction to the rapidity of decline.

Gradual decline refers to slow incremental decline towards receivership and liquidation. Chowdhury and Lang (1993:8) refer to this type of decline as 'a relatively smooth trend, involving a sustained low rate of deteriorating performance'. This decline is similar to the type two failures identified by

¹¹ Argenti was one of the first to categorise various types of decline, which he calls type one, two and three failures, as discussed above. Refer Argenti, J. 1976. *Corporate Collapse: The causes and symptoms* (1976 ed.): McGraw-Hill, Maidenhead, Berkshire, England.

Argenti (1976). Firms which experience this type of decline are those that are either aimless or inflexible in adapting to their external environments (Miller & Friesen, 1977). Over time the failure to undertake strategic reorientation or taking too few strategic reorientations to align to their environment, incrementally increases their insensitivity and misalignment with their environment (Tushman & Romanelli, 1985). Gradual decline is often the precursor to unsuccessful turnaround (Hambrick & D'Aveni, 1988). This is because the imperceptible gradual nature of decline does not create the urgency to take timely remedial actions until it develops into a crisis.

Lingering decline refers to firms which decline neither suddenly nor gradually. According to resource dependency perspective, this is due to inadequate financial and managerial resources. Firms experiencing this type of decline linger on the border of collapse but manage to delay liquidation or receivership by downsizing as a method of cutting costs to survive, hence delaying the inevitable for several years. This type of firm is similar to the type three failure identified by Argenti (1976).

The phenomenon of decline and its dire consequences on the firm and on society enkindles growing interest in research regarding the cause of organisational decline and remedies to arrest or correct the decline. This led to the birth of corporate turnaround strategy as an academic interest and research subject since the 1970s when the seminal publications of Schendel, Patton and Riggs (1976; 1976) and Argenti (1976) first appeared on the academic horizon. However, research and literature in corporate turnaround strategy has since been dogged by theoretical pluralism, contradiction and empirical inconclusiveness as discussed below.

2.3 Theoretical Issues and research gaps

Corporate performance turnaround and recovery has been a topic of great interest to practitioners, scholars and researchers of organizational studies, finance and corporate strategy. Despite more than thirty years of turnaround research—the majority in North America—the question of which strategies or

measures account for a successful turnaround in performance of declining or distressed firms remains 'largely idiosyncratic and open-ended' (Chowdhury, 2002:249). This sentiment is also echoed by Pandit (2000:31) that 'our understanding of the (*turnaround*) phenomenon is very incomplete despite over two decades of research effort'—italics added.

Two basic reasons account for the above status quo. First, is the lack of a generally accepted theoretical framework or a theory of turnaround to guide empirical research (Chowdhury, 2002; Meyer, 1988; Pandit, 2000; Robbins & Pearce, 1993). Second, is the lack of a generally accepted operational definition and measurement of performance decline (Pandit, 2000; Pretorius, 2009 Weitzel & Jonsson, 1989). That is: what constitutes bad performance, which requires a turnaround or its antithesis good performance, where one can say a firm has successfully turned around?

Most researchers and writers have adopted a temporal measurement of what constitutes performance decline and a successful turnaround. For example, in Schendel et al. research (1976) it was four consecutive years of decreasing profits (representing performance decline) and four consecutive years of profit improvements (representing successful turnaround). Sudarsanam and Lai (2001:188) define in their study a distressed firm as one that has 'a minimum of one year of negative Z-scores after two consecutive years of positive Z-scores' (Z-score refers to Altman's Z-score) and successful turnaround is measured by two positive Z-score years following the distressed year. The above are some examples to illustrate that there is no universally acceptable performance measure or threshold and the amount of time required for turnaround. This has led to poor research design (Pandit, 2000) and contradicting research results, further leading to many unanswered questions regarding which characteristics separate successful turnaround firms from those that spiralled into bankruptcies (Arogyaswamy et al., 1995).

It is this researcher's belief that it is difficult to obtain universal agreement on the question of performance measurement and turnaround time frame because of the multiplicity of influencing factors, for example, firm size

(Bibeault, 1982), severity of decline (Hofer, 1980), matured business (Hambrick & Schechter, 1983), to name a few. Despite these difficulties, Hambrick and Schechter (1983:235) are of the opinion that 'a systematic study of turnarounds should articulate criteria for decline and upturn, even though they may not suit all circumstances'.

2.4 Background of corporate turnaround strategic management research

The footprint of research on firm turnarounds from going-concern decline first appeared in the 1970s and 1980s as a result of the publication of the pioneering works of strategic management researchers like Schendel, Patton and Riggs (1976); Schendel and Patton (1976); Hofer and Schendel (1978); Hofer (1980) and Bibeault (1982).

Schendel, Patton and Riggs' (1976) main contribution was that they introduced the notion of *cause* and appropriate *response*. To address the core problem of performance decline, management needs to understand its *causes* and implement the appropriate measures (*responses*) depending on whether the decline is caused by *strategic* reasons (e.g. weak relative competitive position due to poor adaptation to its environment) or the result of poor *operations* (needing efficiency improvements) or bad implementation of a sound strategy. Accordingly, they recommend a list of remedial actions based on the two broad categories of 'strategic cures' as responses to performance decline caused by strategic misalignment or bad strategy and 'operating cures' for those caused by operational problems or inefficiencies. Similarly, authors like Hambrick and Schechter (1983) have referred to the former as entrepreneurial (e.g. new product, market, technology, new revenue stream and revenue-increasing actions) and the latter as efficiency (e.g. cost reduction and asset disposal/reduction). In short 'strategic' turnaround deals with 'doing different things' and 'operating' deals with 'doing things differently' (Hambrick & Schechter, 1983:232). The importance of identifying the causes of performance decline in order to implement

appropriate and effective strategies was also echoed by Arogyaswamy, Barker and Yasai-Ardekani (1995) and Ford (1985).

Inappropriate response actions lead to business failures. However, the notion of *cause* and *response* essentially deals with the 'what' to do question leaving the 'how' and 'when' (timing) questions unanswered.

Hofer (1980), on the other hand, introduced the propositions of *severity, magnitude and timing* (how rapid) of performance decline as contingencies relevant to implementing recovery measures. Similar to Schendel, Patton and Riggs (1976), he distinguished between the turnaround dichotomy of 'strategic' versus 'operating' turnaround actions. Based on his study of 12 poorly performing firms, he introduced a framework connecting the characteristics of a firm's performance (in relation to its break-even) and the appropriateness of turnaround strategies. He suggested that turnaround strategies or 'gestalts' comprise of *revenue increasing, cost reduction, asset reduction, product/market refocusing* or a combination of all of them. For firms performing close to performance break-even (i.e. less severe), successful turnaround involves cost-cutting actions, while firms operating far below break-even (i.e. more severe), revenue-increasing or asset reduction actions are more effective. He is of the opinion that 'cost-cutting actions produce results more quickly than revenue-generating or asset reduction strategies' (Hofer, 1980:26). In regards to severity and magnitude of decline, an assessment of the firm's financial health may indicate that the firm's going concern value is less than its liquidation value and any turnaround effort may be futile. Asset reduction measures are more drastic than cost reductions, and are appropriate in severe cases (bordering on bankruptcy).

In sum, the above propositions of Schendel, Patton, Riggs and Hofer, based on the study of 54 US companies in 40 different industries and 12 poorly performing firms respectively, are essentially firm-based. However, the firm's management decision-making process and the various stages of its life cycle were not considered as relevant variables. This was left to a group of researchers who introduced the concept of *organizational stagnation*, which a firm inevitably goes through in its life cycle.

Performance declines are manifestations of *organisational stagnation* (Grinyer & Spender, 1979; Hedberg, Nystrom, & Starbuck, 1976) or crisis when an organization fails to align or adapt its internal systems, processes and strategy with an ever-changing business environment. Management inertia (failure or stubbornness to respond to change) often leads to performance decline. Organisational stagnation is an inevitable stage in an organization's life cycle. Successful turnaround strategy requires a complete change in management thinking, processes and strategy to best achieve a better fit with the existing environment.

Next, *contextual factors*—for example, competitiveness of the firm's industry—were found to affect the success of turnaround strategies. Hambrick and Schechter (1983) and O'Neill (1986) were the first to investigate this. Hambrick and Schechter's (1983) turnaround study of 260 US mature¹² industrial-product business units over a four-year period found that efficiency-oriented measures, rather than entrepreneurial, are more successful and faster in achieving profit improvement and turnaround. Their findings also confirmed the presence of Hofer's four 'gestalts' and his contingency 'closeness from break even' propositions described above. O'Neill found that in strong competitive industry environments, growth strategies were not effective in turnaround recovery but rather in average competitive situations. Further, cost reduction and restructuring strategies were found to be most effective in weak competitive industry environments and for mature or declining product life cycle situations in achieving long-term turnaround recovery.

Robbins and Pearce's (1992) seminal research gave the 'efficiency school of thought' a great impetus. For more than two decades since Schendel, Patton and Riggs (1976) introduced the notion of *causes and appropriate response*, it was generally accepted that effective turnaround response depends on an understanding of the causes, that is, strategic or operational, of corporate performance decline. Robbins and Pearce's (1992) study of 32 distressed US

¹² Defined in Hambrick & Schechter's (1983) study as less than 10% annual industry real growth with defined sets of competitors, wide customer acceptance and understanding of the firm's product.

textile manufacturing firms challenged this view that irrespective of the causes of corporate decline, retrenchment (i.e. cutbacks of costs and assets) is the *first* and *necessary* step towards achieving a successful recovery. They also found the extent of retrenchment is related to the severity of decline. As severity of decline worsens, retrenchment should intensify from cost reduction to asset reduction strategies. Essentially it is a reduction and consolidation strategy. Earlier writers tend to assert that strategic change is a prerequisite to achieving recovery (Barker & Duhaime, 1997:14) while more recent large sample testing by researchers, especially those after 1992, tend to support retrenchment as a panacea for recovery. Barker and Mone (1994) challenged Robbins and Pearce's proposition and propositioned that strategic change is necessary and indeed retrenchment often diminished the firm's capacity, thus exacerbating further decline. A subsequent study by Barker and Duhaime (1997) supports the 'strategic change school of thought'. Studies by Smith and Graves (2005:317) found that companies that increase their asset base—contrary to retrenchment of assets—are more likely to achieve a successful recovery.

However, the retrenchment proposition is far from settled. Castrogiovanni and Bruton (2000) are of the opinion that the retrenchment proposition may be 'context-specific' (i.e. not universal and generalisable) and may only be applicable in an independent firm context. Their study of 46 distressed US firms in a post-acquisition context examined the relative effectiveness of firm acquisitions, capital infusion, integration of acquired firm's assets and business into the parent's, and retrenchment in achieving performance recovery. They found no significant retrenchment effect. Post-acquisition capital infusion by the parent firm into the acquired distressed firm resulted in worse performance. Integration of the acquired firm's assets and business into the parent's was significant on performance recovery of the distressed acquired firm. This tends to imply that general applicability of the retrenchment proposition as a 'cure all' for all stages or severity of decline as concluded by Robbins and Pearce' (1992) study is questionable. Castrogiovanni and Bruton (2000) also highlighted several weaknesses of the Robbins and Pearce's (1992) study, including a narrow and small sample of 32 firms from a specific industry of textile manufacturing, and turnaround

success was defined and measured as two consecutive years of profit improvement. In addition, if retrenchment is thought to yield quicker pay-offs then using a short two year success measurement period tends to bias strategic change proposition in favour of the retrenchment proposition (Castrogiovanni & Brutton, 2000:27).

Cognisant of criticism, Robbins and Pearce (1993) modified their earlier retrenchment proposition by introducing a model which incorporates the need for strategic change in the recovery phase following retrenchment. The choice of strategic or operational measures depends on whether the problems stem from operational inefficiency or bad strategic misalignment, which requires major entrepreneurial manoeuvring.

Studies by Rasheed (2005) of 68 US small firms consisting of small government contractors (average firm size by employee numbers was 35) in the US Small Business Administration database, found that choosing a growth or retrenchment strategy in declining small firms (e.g. entrepreneur owner manager) is contingent on their perception of past financial performance and availability of firm resources. Entrepreneurs are more likely to choose a growth strategy rather than a retrenchment one if their perception of past firm performance is high and that there are available resources to support their strategic moves. Surprisingly, he also found that the reverse is true, that is, these entrepreneurs will pursue a growth strategy even if there is a combination of low perception of past firm performance and low resource availability. He concludes that declining small firms remain aggressive and may still pursue growth strategies due to their risk taking nature, as they see growth as their only solution to severe performance decline. His findings lend support to D'Aveni's (1989) findings that low resource near-bankrupt public firms also chose growth strategies. Hence the dichotomy of choices when facing performance decline as to whether a firm will choose entrepreneurial growth strategy or retrenchment cannot be unequivocally answered.

A stage perspective

As the turnaround process is a *metamorphosis* phenomenon it inevitably involves the element of time. In this regard, researchers started to focus on the stages a turnaround firm goes through in achieving turnaround recovery. Hence, a *multistage* perspective was proposed in the quest to further understand the turnaround process.

The first proponent of this stage perspective was Bibeault (1982) whereby the turnaround process was posited to go through five stages. The first stage is the *change in management*, which Hofer (1980:26) also sees as 'a precondition for almost all successful turnarounds'. The second is the *evaluation stage*, which normally takes a few weeks, whereby the different options and the causes of decline are evaluated. The third stage is the *emergency stage* when retrenchment measures consisting of cost cutting and asset reduction are taken to stop the 'cash burn' in order to survive and return to positive cash flow. The fourth stage is the *stabilization stage*, emphasizing organizational rebuilding and stabilization. The fifth stage is the *return to normal growth stage*, which is more strategic and long-term in focus, as it deals with market share growth and development. The previous stages deal with the 'here and now' survival issues while the fifth stage deals with the 'next and where' long-term sustainability and growth issues.

More recent research also supports the abovementioned proposition, for example, Balgobin and Pandit (2001); Grinyer and McKiernan (1990). According to Robbins and Pearce (1993), Bibeault's main contribution to turnaround literature is that the retrenchment phase can be viewed as a separate isolated phenomenon from the recovery phase, with the extent and duration of the former phase dependent on the firm's financial health, that is, severity of decline. In this respect, Bibeault's observations that the degree and extent of the retrenchment phase is a function of the severity of a firm's decline agrees with Hofer's (1980).

'Large sample' (sample size greater than 30)¹³ research (32 US distress textile manufacturing firms) conducted by Robbins and Pearce (1992) also supports the multistage perspective of turnaround, in particular the importance and necessity of the retrenchment phase as initial and critical to successful turnarounds. More specifically, they propose a two stage process of: the retrenchment response and the recovery response. They are of the view that a firm's prolonged performance decline often depletes a firm's slack/surplus financial resources. Hence, retrenchment strategies should be the precursor strategies to stem the depletion in order to restore financial viability and sustainability. They did not rule out the need for recovery/growth or entrepreneurial strategies, but the emphasis is on retrenchment as the vital and necessary 'initial phase of a turnaround strategy' (Robbins & Pearce, 1992:287). This view, however, was challenged by researchers like Barker and Mone (1994) and Arogyaswamy, Barker and Yasai-Ardekani (1995) who argued that cost cutting and asset retrenchment are often a *consequence* rather than *cause* of turnaround in firm performance. They argued that downsizing due to cost cutting and/or asset disposal endangers the firm's capacity to recover and hence runs contrary to the objective of recoverability. Further, implementing retrenchment measures without regard for the cause of the decline may hasten the decline into failure.

Francis and Desai's (2005:1219) study of 97 industrial, commercial and computer equipment-manufacturing firms in the US found that 'although retrenchment is a positive organizational strategy for many firms in decline, it may not be absolutely necessary to achieve a turnaround particularly if the firm is extremely productive in utilising its resources'. However, Grinyer and McKiernan's (1990) study of 25 UK 'sharp-bent' firms from stagnating to decline and recovery reported that strategic changes were less frequent than operational recovery measures with 80% of the firms implementing steps to reduce production costs, 55% improved quality and service and 75%

¹³ Corporate turnaround research sample size is typically small and sample size of greater than 30 is considered as 'large'. See Pandit (2000:44 &46). Pandit, N. R. 2000. Some recommendations for improved research on corporate turnaround. *Management*, 3(2): 31-56.

improved their marketing. Hence, the importance of retrenchment being a critical content of turnaround is far from being settled.

Following from the multistage perspective of turnaround, Arogyaswamy, Barker and Yasai-Ardekani (1995) propose an integrative two stage model viz: decline-stemming strategies (stage one) and recovery strategies (stage two). This model differentiates itself from the earlier models in that it highlights the fact that the two stages are not distinct time sequential events with each overlapping and feeding back as input into each other. In addition, it expands on what managers need to do beyond just retrenchment, emphasizing the importance of remedial actions based on an understanding and assessment of the cause of the decline, consideration of the firm's competitive position in the industry and availability of slack resources.

The abovementioned model emphasizes and integrates the role 'critical contingencies play at each stage of the turnaround process with a focus toward integrating the literature' (Arogyaswamy et al., 1995:497). Such critical contingencies include stabilizing the firm's *internal and external* environment. This includes garnishing the support of *external* (e.g. financiers, banks, external non-executive directors and unions) and internal (e.g. employees and executive directors) stakeholders, the stabilization of *internal* decision processes and maintenance of staff morale and a positive/supportive internal climate (e.g. 'we are in it together and seeing it through, successfully'). The stage two recovery process builds on the decline-stemming and stabilization process of stage one. While stage one deals with the consequences of decline, stage two deals with the causes of the firm's decline and its competitive position to ensure the firm's fundamental business model is viable to ensure a sustainable recovery.

Teng's (2004) study of turnaround of Australian listed companies proposes four stages of decline which he labels as *stagnation* stage, *deterioration* stage, *alert* stage and *crisis* stage. He hypothesised that *entrepreneurial* strategies are more effective when a firm is in the *stagnation* stage, *efficiency* strategies are more effective in the *deterioration* stage, *cost* strategies are more effective in the *alert* stage and *cash* strategies are more effective in the

crisis stage. He found statistical support at the 0.05 level for the first three but not the cash strategies for the crisis stage.

Chowdhury (2002), cognisant of the lack of a general acceptable turnaround theory, proposes a theoretical model based on *process* theory. Process theory is a variant of the organization life-cycle theory, which emphasizes the evolutionary changes an organization goes through, for example, birth/emergence, growth, maturity, decline and death. In his opinion, turnaround involving change and process theory would provide a suitable foundation for the development of a turnaround theory.

Chowdhury (2002) observes that turnaround research to date emphasises the '*content*' (what to do, e.g. policies and actions taken) of turnaround rather than the '*process*' (how to do it) or *stages* that a firm undergoes through from performance decline to sustainable recovery or eventual demise. The '*content*' approach is static as it essentially examines via statistical methods the relationship between independent variables (e.g. cost cutting) on dependent variables (e.g. financial performance) as a means to explain the variation in performance (e.g. financial) due to the implementation of various turnaround strategies (Chowdhury, 2002:249).

Although not discounting the importance of the '*content*' emphasis approach, Chowdhury proposes a stage theory as an overall theoretical framework. A stage theory emphasises that 'turnaround is not a single event or state; it is a *process* composed of a sequence of events that, when combined described the occurrence of performance improvement over a particular span of time' (Chowdhury, 2002:251) Each stage is identifiable by the characteristics of a key/trigger event, which explains and builds on or provides the springboard to the next. Accordingly, he proposes the four stages of *decline*, *response initiation*, *transition* and *outcome* as the four characteristics of the turnaround process. These four stages have sometimes been extended to five with the following comparable generic captions: decline and crisis (*decline*), triggers for change (*response initiation*), *recovery strategy formulation*, retrenchment and stabilization (*transition*) and return to growth (*outcome*) (Balgobin & Pandit, 2001).

Taking Chowdhury's 4 stage model as an example of the stage theory perspective, the 'Turnaround Clock' in Figure 2 below summarises the above discussion. It integrates the various stages a distressed firm goes through and the three categories of turnaround strategies within the 'continuum of a time clock', emphasizing the count down towards recovery success or failure. The results, information and the success or failure of each stage feeds back into the other as strategies and corrective actions are fine-tuned and amended to increase the probability of a performance turnaround. Chowdhury (2002:256) cautions that each stage is not discrete and standalone, 'rather they are sequentially linked and mutually reinforcing'. The triangle in the middle shows the three generic categories of turnaround strategy—operational (aimed at efficiency improvements) ('O'), strategic (aimed at re-orientating or changing the business the firm is in) ('S') and financial ('F') (strategies of a financial nature—dividend cuts, share placement, equity-loan swap, to name a few examples), a distressed firm may implement in its effort to turnaround. Figure 2 is not to be taken to imply that 'S' causes decline, which is fixed by 'F' and 'O', but rather a distressed firm may implement a combination of the three types of strategy or any one of them to turnaround its performance decline. The three categories will be discussed in the following section 2.5.

Chowdhury (2002:253, 254) defines 'decline as the first stage of a turnaround process' and distinguishes two types of decline: 'K-extinction', which is the property of the environment, refers to decline caused by external or macro factors. 'R-extinction' decline is organisational decline, which is the property of the organisation, and refers to 'a reduction in resources within an organisation independent of changes in the environment'. R-extinction decline essentially is caused by management's errors or faults. According to him, both types of decline are likely to result in a deterioration of level of resources and performance decline. An understanding of their causes is crucial in the selection of appropriate turnaround strategies. During decline, a *stimulus* event may trigger top management to take remedial actions either voluntarily or involuntarily due to pressure from various parties, for example, shareholders, banks, government, union and interested stakeholders. Such pressure will influence top management's perception of the situation/problem,

selection of turnaround strategies and influence the speed or duration of each of the four stages.

Chowdhury (2002) in his exposition of his 4 stage turnaround model, distinguishes between strategic cures versus operating ones. In addition, the following diagram incorporates financial strategy as discussed in turnaround literature.

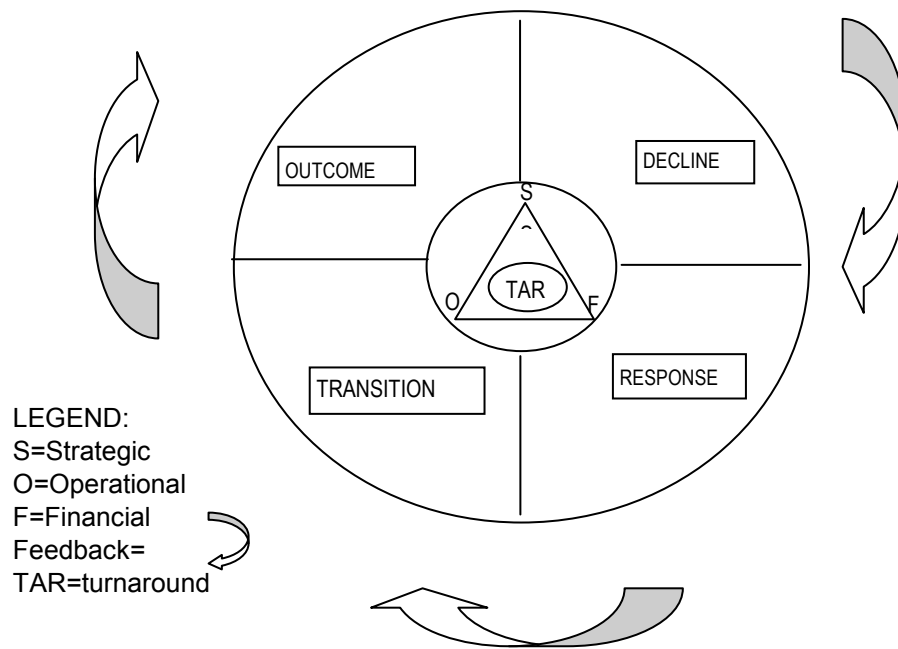
In the response (selection-of-strategy) stage, a distressed firm may be constrained by the *domain* it is in. Strategic cures like divestment, diversification and vertical integration may have limited applicability in single independent business or at business unit level of a multibusiness corporation (Chowdhury, 2002:254). Small business response and selection of strategies in turnaround differ somewhat from large businesses (Chowdhury & Lang, 1996; Rasheed, 2005). Small businesses, constrained by limited resources and access to outside capital, tend to lean more to using operating efficiency improvement strategies in their efforts to turnaround (Chowdhury & Lang, 1996).

The transition period sees the implementation of the chosen strategies of the response stage. Here resources (physical, financial and human resources) are committed according to policies and programs set up to achieve the desired turnaround. The extant literature highlights the importance of this stage emphasizing that it is not the programs or policies that make the difference as successful turnaround depends on 'the process through which turnaround strategies are implemented, not their content *per se*' (Chowdhury, 2002:256). The interaction of 'soft and hard' factors such as leadership qualities, firm culture, politics, management skills, management structure, industry factors, resource availability, employee incentive and reward policies and their management therefore are critical factors during the implementation stage. Chowdhury (2002) cautions that *elapsed time* (the length of the transition period for successful turnaround) is important as management must allow sufficient time for the implemented programs to bear fruit. The elapsed time period varies from one situation to another. Chowdhury (2002:255) states that 'a substantial amount of time has to pass before the

results of turnaround strategies show'. As an indication, the average time period between distress and recovery reported by some studies is between three (Hofer, 1980) to four (Bibeault, 1982) years, whilst the average time for improvements to show was found to be 7.7 years with a range of four to sixteen years (Schendel et al (1976) as cited by Chowdhury (2002:255)).

The outcome of the implementation is either success or failure. The determination of a successful or failed turnaround depends on management's predetermined performance indicators. Chowdhury (2002:256) states that 'the measure used to determine outcome—success or failure—are the same as those used to define decline at the first stage of the turnaround process'. Single measurement centred on this dichotomy between 'success and failure' may not be operationally helpful. Accordingly, Chowdhury (2002:256) opines that a more balanced view is to use 'a series of measures that capture different dimensions of performance' in order to 'give a better reflection of the role and interplay of different incidents that represent the speed and depth of recovery or failure'¹⁴. The series of measures chosen must meet stringent requirements and attainable and not be too loose or ambiguous. Among such requirements is the importance of choosing success performance thresholds that provide clear and unequivocal signals when success is achieved (Chowdhury, 2002; Krueger & Willard, 1991).

¹⁴ The multiple measurement indicator concept ties in with the three performance area indicators in Section 3.3.5 'Recovery: effectiveness of turnaround'.



Decline type: K-extinction or R-extinction.

Response type: Strategic, Operational, Financial

Transition: Implementation. Time period for the implemented strategies to work themselves out.

Outcome: Success or failure determined by performance indicators

*Figure 2. Turnaround clock*¹⁵

Note. Source: Adapted from Chowdhury's (2002) 4 stage model and amended, where applicable.

Whilst financial distress is seen by many as an undesirable state to be in, Wruck (1990) believes that there are beneficial effects. He is of the opinion that financial distress often forces managers to critically look at the firm's operations and strategies with a view to undertaking 'value-increasing

¹⁵ The turnaround clock figure summarises the stage theory into a single illustrative diagram. It is not meant to be a testing model.

organizational changes they would not have otherwise undertaken' (Wruck, 1990:434).

Pretorius matrix: A conceptual matrix model for turnaround situation

From the above literature review, it is clear that turnaround is a complex subject involving the interplay of external and internal variables acting on the subject firm. As the literature of turnarounds lacks a theoretical framework to tie all associated concepts together so as to provide guidance for research and practice (Pandit, 2000), Pretorius (2008) proposes a conceptual model, based on Porter's generic strategy matrix as a starting guide and screening tool for practitioners facing a turnaround situation.

Porter's strategic typology, as a recipe for firms wanting to earn above average returns, is based on the strategy principle of aiming for cost leadership, differentiation and focus (Akan, Allen, Helms, & Spralls, 2006). Pretorius (2008:19) believes that Porter's model is more appropriate for firms 'operating "normally" (profiting from demand for its product in a competitive environment' and is not suitable as a recipe for firms facing a turnaround situation. In Pretorius' model, four situations are distinguished against the backdrop environment of resource munificence. Pretorius believes that to achieve a successful turnaround managers need to know the cause of the decline and the 'environment' (specifically, environmental munificence) the firm is in. The environment, as discussed earlier in this chapter, has been well documented in the literature as 'not only one of the causes of a firm's decline, but also affect the eventual turnaround outcome.' (Francis & Desai, 2005:1205). Francis and Desai (2005:1205) refer to 'environmental munificence' as the 'environment's capacity to accumulate firms'.

Environmental munificence refers to the abundance or scarcity of critical resource to support and accommodate firms within an environment (Castrogiovanni, 1991). Resources in the environment 'influence the survival and growth of firms sharing that environment' and also restrict new entrants

into the environment (Castrogiovanni, 1991:543). The literature supports the proposition that the availability of resources is related to the range of strategy and organisational options that firms pursue (Castrogiovanni, 1991; Dess & Beard, 1984; Mahoney, 1995; Tushman & Anderson, 1986). When resources are plentiful, firms can concentrate on working normally to maximize profit and generate slack resources to act as buffer for periods of resource scarcity (Cyert & March, 1963). But when resources are scarce, competition intensifies and firm survival becomes a focal issue. Closely related to this construct, is the availability of slack resources that are needed to finance turnaround strategies. Slack resources have been defined by Smith and Greaves (2005) as the 'level of free assets' that can be used as collateral for raising more funds through financing. The level of free assets has been found to be a distinguishing significant predictor of corporate recovery (Campbell, 1996; Casey, McGee, & Stickney, 1986; Routledge & Gadenne, 2000). Other writers (e.g. White (1989); Barker and Mone (1998)) also stress their availability as an important factor in turnarounds.

Pretorius' (2008) conceptual model consists of a four-quadrant matrix with the upper half denoted as 'resource abundance' and the bottom half as 'resource scarcity'. Four types of firm are depicted in the matrix. The first type, in the upper left hand quadrant operating under a resource abundance environment, are firms who are not in distress and therefore do not require a turnaround. This first type of firms because of abundant resources and well positioned in the market can pursue organic and inorganic growth through new market development and acquisitions to further improve their returns. The second type of firms in the upper right hand quadrant operating in this same abundance environment are under-performing with low sales and falling margins with diminishing competitive advantage and depleting human capital as staff start to leave for better outside positions. Pretorius believes that this category of firms require to focus on a re-positioning itself by strategic re-orientation or strategic restructuring, for example, pursue product/services differentiation or diversification to new markets or industry as there are available resources to do so. In other words, it requires 'big picture' manoeuvring. For the third type of firms who are underperforming,

depicted in the left-hand side lower quadrant operating in a scarce resource environment, should pursue an efficiency improvement strategy, for example, lowering of inventory levels (hence reducing carrying cost), cost cutting, improve margins, improve debtors collection and supply chain logistics, to name just a few examples. Efficiency strategy is generally aimed at improving internal operating procedures making them more effective and more cost effective. When such firms improve or turn around to profitability which leads to improvement in available resources they may eventually progress into the first type of firms depicted in the left hand top quadrant of the matrix. The fourth and last type of firms consists of those who are in crisis and operating in a scarce resource environment. They are depicted in the lower right hand quadrant of the matrix. Efficiency strategy is generally not effective as the severity of their decline requires strategic decisions and fast actions to 'stop the bleeding' of cash. Last resort strategies are warranted which may include liquidation, defensive merger, debt forgiveness and capital restructuring, to name a few examples.

In sum, the four quadrant conceptual matrix captures a complex multi-faceted turnaround problem into a concise matrix, synthesising the two important determinant theories of turn around, principally the resource munificence theory and the causality of distress theory (causes of distress). On a practical level, Pretorius comments that the matrix was well received by a practitioner focus group and he found it useful as a screening tool when diagnosing a troubled/distressed firm. The model also 'suggests that the regression of a venture (*firm*) in decline is not necessarily a linear one through underperformance, decline, distress and then crisis (*if left uncorrected*)' (italics added) (Pretorius, 2008:25).

2.5 Turnaround strategies

The decline of a firm from economic viability and sustainability, irrespective of the state of the economy, is often a symptom of poor management,

management difficulties and/or its business strategy (Francis & Desai, 2005; Schendel et al., 1976; Sharma & Mahajan, 1980; Sudarsanam & Lai, 2001). Although a munificent environment does assist in recovery (Hambrick & Schechter, 1983); Bibeault (1982:35,30) found that internal causes account for 80% of organizational decline, and 6% was due to environmental factors like competitive/industry conditions. The extant research to date revealed that firms respond to firm threatening crisis in a variety of ways. This is because 'external and internal inadequacies combined to depress performance' (Grinyer & McKiernan, 1990:138). Turnaround strategies in effecting performance recovery can be conveniently grouped under the following generic categories. In reality decline stemming and turnaround strategies and measures adopted by firms often overlapped depending on the severity and cause of decline (Arogyaswamy et al., 1995; Ford & Baucus, 1987). It is highly improbable that managers will effect efficiency measures and wait for them to work before addressing strategic issues and problems.

2.5.1 Operational restructuring strategies

The focus here is normally to effect immediate relief from firm survival threatening pressures resulting from performance decline and poor cash flows. Normally they are the first steps or measures in the turnaround approach emphasizing operational efficiency (Cameron, Freeman, & Mishra, 1991,1993; Finkin, 1985; Ford & Baucus, 1987) with the objective to stabilise operation and stop the bleeding of cash (Hofer, 1980; Sudarsanam & Lai, 2001). Operational restructuring strategies or measures include but are not limited to the following.

Retrenchment¹⁶

This is the general term for downsizing, cost cutting and/or asset reduction activities aimed at returning the firm to a sustainable operational state by mitigating the conditions that led to the downward performance spiral (Pearce

¹⁶ The term 'retrenchment' in turnaround literature is wider than just retrenchment of staff, and includes reduction in costs and assets as explained in the following paragraphs.

& Robbins, 1994; Robbins & Pearce, 1992). Generally, such activities manifested themselves in retrenchment of staff and/or divestiture of unprofitable or low margin business units and non-performing assets (Denis & Kruse, 2000; Grinyer & McKiernan, 1990; Robbins & Pearce, 1992). Retrenchment as an efficiency increasing down-sizing tool is also increasingly used by successful firms in their growth period to further increase profitability (McKinley, Zhao, & Rust, 2000). From the single objective of reducing costs, the retrenchment of staff and downsizing in general is often used as a management strategy (Cameron et al., 1993; Clair & Dufresne, 2004), to increase organisational effectiveness, efficiency and performance (Freeman & Cameron, 1993; Macky, 2004; Zyglidopoulos, 2004), improve competitive advantage, including global advantage, by reducing labour cost (Kets de Vries & Balazs, 1997) and expectation of productivity increase (Gandolfi, 2007).

According to Gandolfi (2007), Cameron et al (1991, 1993) distinguish three kinds of corporate downsizing as: *workforce reduction*, an *organisation redesign* and *systemic strategy*. Workforce reduction or lay-off, as the name suggests, relates to the reduction of the number of employees in the organisation. It takes the forms of golden handshake and or parachutes, natural attritions, early retirements, redundancies, and a freeze on hiring. This strategy is often pursued and implemented as a short-term reactive response to declining profits and as a cost cutting measure.

Organisation redesign focuses on the elimination of work and work flow rather than employee number reduction. It takes the form of elimination of functional departments or groups, eliminating work function and practices, work flexibility, multi-skilling, a flatter organisational structure, discontinuation of product or services, merging and consolidating tasks, departments or units and reduction of overall work hours. The overall objective is to be more efficient and effective. Organisation design takes longer to plan and implement versus the short-term reactive lay-off strategy, as discussed in the preceding paragraph.

Systemic strategy differs from the former two in that it is more holistic, macro, with a long-term focus, comprehensive and wide-ranging in its emphasis (Cameron et al., 1993). It is wide-ranging in that it involves reviewing and implementing downsizing measures to the greater parts of the organisation, including suppliers and customer relations, inventories, design processes and production methods (Cameron, 1994; Gandolfi, 2007). This strategy is pervasive as it aims to change the organisational culture, attitudes and values of the firm's employees (Gandolfi, 2007; Macky, 2004). Hence, in terms of time frame implementation this takes longer in planning and implementation than organisation redesign. The distinguishing feature of lay-off is that it is *reactive* to a declining performance or short-term crisis, whilst systemic strategy in the context of downsizing is *proactive* in that it aims to achieve long-term organisational goals and objectives (Macky, 2004). Macky (2004:64) notes that prior to the 1980s downsizing has frequently been associated with cost reduction as a reaction to declining sales and profitability, but since then downsizing is seen as a 'human resource management "strategy of choice" ' (Cameron et al., 1993).

In recent years, profitable Australian banks and large companies, for example, Telstra, (White, 2010) have engaged extensively in retrenchment of staff (Financial Sector Union of Australia, 1996; Gandolfi, 2007). Gandolfi (2007:148 & 150) reported that Australian bank managers generally resorted to employee retrenchment strategies rather than 'organisation redesign and systemic strategies' and that 'the downsizing of Australian banks is not a phenomenon of the past' and predicts that 'downsizing will remain a principal strategic tool for the major Australian banking institutions'. This has resulted in the decline in the Finance Sector Union (FSU) membership—most bank and financial institution employees are members of the FSU—since the early 1990s. As cited by Gandolfi (2007), the Australian Bureau of Statistics (2004)

reported that between 1998 and 2003 there was a more than 10% decline in the workforce of the Australian finance industry.¹⁷

In the context of distress firms, lay-offs will most likely be reactive to a declining performance situation. In the short-term, downsizing was found to improve firm financial performance (growth in sales and share price) Wayham & Werner, (2000). However, paradoxically, empirical evidence does not convincingly support downsizing as a contributory factor of superior organisational performance (e.g. profitability, share price) in the longer term (Cascio, Young, & Morris, 1997; De Mause, Bermann, & Vanderheiden, 1997), it failed to achieve expected cost reductions and efficiencies (Cameron et al., 1991), has negative psychological impact on both retrenched employees 'victims' and those who 'survived' (Kets de Vries & Balazs, 1997) and is detrimental to organisational learning capacity, for example, when individuals are deleted from informal organisational networks built up over the years (Reynolds-Fisher & White, 2000). Other than the psychological negativities (e.g. mistrust of management, job security, lost of loyalty, etc) one of the reasons why downsizing does not achieve expected organisational benefits is because of hidden costs, which can offset any potential savings and productivity increase (Cascio et al., 1997; Macky, 2004; Ryan & Macky, 1998). Such hidden costs may include a 'too lean' workforce to take on the recovery phase, which will inevitably affect the firm's ability to recruit and it will be forced to pay a higher price for human capital in a tight labour market as the economy improves.

Whilst the long-term impact is not convincingly beneficial, D'Aveni (1989:599) found downsizing may help lingering firms—defined as slow declining firms, the decline of which is either rapid or gradual—buy more time and linger on before eventual bankruptcy or recovery. He argues that downsizing and efficiency improvement strategies can buy more time for the firm as it waits for the environment to improve and eventually reverse the decline. Further, he argues that environmental conditions are a determinant of the

¹⁷ It should be noted that it is not argued here that the decline in FSU membership is a result of turnaround strategy. Technology change and business model change are often influencing factors.

effectiveness of downsizing. As the environment deteriorates (declining demand) downsizing and efficiency improvement strategies are *insufficient* to reverse the decline 'because they do not change a firm's direction or move it to a more favourable environment'. The Cascio et al. (1997) study of 5,479 instances of changes in US firms' employment level between 1980 and 1994 found that firms that purely undertook employment retrenchment did not show higher returns (return on assets and share price and dividend appreciation) than the average firm in their industry.

For a declining firm, Castrogiovani and Bruton (2000) cite three possible benefits of retrenchment as: (1) efficiency restoration, (2) slack generation and (3) momentum creation.

(1) Efficiency restoration

Organisational stagnation or inertia is observed to be an inevitable stage of an organisation's life cycle (Grinyer & Spender, 1979; Hedberg et al., 1976; Weitzel & Jonsson, 1989). Organisational stagnation often results in excess capacity, which in a business context needs maintenance and inevitably translates to additional costs. Like an organism which stagnates and is slow to respond to a changing environment, an organisation builds up 'layers of fat' (e.g. bureaucracy and red tape) and becomes inefficient and non-competitive relative to its competitors. Stagnation, if not attended to, eventually leads to organizational decline (Weitzel & Jonsson, 1989). Retrenchment aims to shed the 'layers of fat' and restore a firm's efficiency. Common retrenchment actions are *asset/cost surgery* resulting in cost or asset reductions and *selective product/ market pruning* resulting in discontinuation of unprofitable product or exiting unprofitable markets or segments (Hambrick & Schechter, 1983).

(2) Slack generation

The concept of 'organisational slack' in the literature 'conveys the notion of a cushion of excess resources available in an organisation that will either solve many organisational problems or facilitate the pursuit of goals outside the

realm of those dictated by optimisation principles¹⁸(Bourgeois, 1981:29). Bourgeois (1981:30), paraphrasing the work of James March, defines organisational slack as:

Organisational slack is that cushion of actual or potential resources which allows an organisation to adapt successfully to internal pressures for adjustment or to external pressures for changes in policy, as well as to initiate changes in strategy with respect to the external environment.

There are various definitions of slack in the literature since its original introduction as a concept by Chester Barnard (1938) and subsequent attachment of the term 'slack' by Cyert and March (1963). The commonality among the definitions for 'slack' are: firm resources which are 'surplus', 'spare', 'uncommitted' (Bourgeois, 1981; Child, 1972; Cyert & March, 1963; Dimmick & Murray, 1978) and that they act as 'shock absorber', 'cushion', 'buffer' to draw upon in bad or economic crisis times. 'Slack is the resource that enables an organisation to adjust to gross shifts in the external environment with minimum trauma' (Bourgeois, 1981:31; Cyert & March, 1963). Applying this definition to decline and turnaround, the buffering characteristics of slack 'enables a firm to respond appropriately to decline' (Francis & Desai, 2005:1207) by providing the resources to finance remedial turnaround efforts.

According to Castrogiovanni and Bruton (2000:26), Cyert and March (1963:36) refer to 'slack' as 'payments to members of the (organisational) coalition in excess to what is needed to maintain the organisation'. Examples of such excess payments are: 'excess dividends to shareholders, prices lower than necessary to keep buyers, and wages greater than needed to keep labour' (Bourgeois, 1981:30). The excess payments or discount given represent excess costs that could have been saved.

¹⁸ The optimisation principle in economic theory assumes zero slack (Cyert, R. M. & March, J. G. 1963. *A behavioural theory of the firm*. Englewood Cliffs, NJ: Prentice-Hall.) Bourgeois commented that in practice this is unrealistic as firms satisfice than optimise by maintaining some slack (resources) to act as shock absorbers to smooth out workflow and prevent disruption.

In more recent times, reference is made to 'absorbed slack' and 'unabsorbed slack'. Singh (1986:567) defines absorbed slack as 'excess costs in organisations' and unabsorbed slack as 'uncommitted, liquid resources in organisations'. Liquid resources refer mainly to financial resources such as cash, inventory, or *access to credit* (Francis & Desai, 2005). The ability of a firm to access credit also depends on the amount of 'free assets' (unpledged assets) that can be used as collaterals for bank loans. Smith and Greaves (2005) found recovered failed (in liquidation or receivership) companies have higher levels of free assets.

The concept of slack is tied to the concept of efficiency. Bourgeois (1981) hypothesises that the relationship between firm success and slack is positive up to a point, then negative; displaying a curvilinear pattern (\cap). Successful firms need to maintain slack at a sufficient level to smooth out work flow, innovate and to act as buffer for meeting environmental threats or performance down turns. But too much slack may lead to inefficiencies. Flowing from this, firms in decline would be on the right hand side of the curve consuming more resources relative to their needs and operational level requirement and hence have lesser slack.

To restore efficiency, distressed firms need to eliminate or reduce the unnecessary excess 'layers of fat' in the system so as to realise or convert the excess capacity and or resources (slack), to say cash or near cash, to finance turnaround efforts. One of the ways to reduce this excess to an acceptable level is through retrenchment. Poorly performing firms may not have enough slack resources or access to capital to enable them to finance strategic turnaround efforts (Castrogiovanni & Bruton, 2000). To generate the resources needed, retrenchment of assets and costs are needed to reverse performance decline (Robbins & Pearce, 1992) and release resources for strategic turnaround efforts (Castrogiovanni & Bruton, 2000).

(3) Momentum creation

Stakeholders' (e.g. bankers, shareholders, employees, creditors) support is an important determinant in influencing the success or failure of turnaround strategies and efforts (Arogyaswamy et al., 1995). They are impatient and nervous if improvements and turnarounds are not forthcoming within a relatively short period. The creditability of management with internal and external stakeholders depends on its ability to put 'runs on the board' as soon as possible. Stakeholders' (e.g. bankers) continued support is important as the availability of additional or (slack) resources (e.g. funds) are vitally needed by a firm in performance decline. Quick improvements can build confidence, lift employee morale and generate management's credibility in the eyes of stakeholders that things are getting better. It is generally believed that retrenchment measures have a shorter time lag in generating profitability than strategic moves (Hofer, 1980). News of improvement and success, however small, often serves to motivate stakeholders to provide continuing support, thus keeping the momentum of expectation that things are turning around, 'alive and kicking' (Khandwalla, 1983-84).

The above three notions are of particular importance to small firms, which often do not have large slack resources to cushion the effects of performance declines. Chowdhury and Lang's (1996) study of 153 small (average number of employees 14) US manufacturing (chemicals, machinery, electrical and electronic) firms, between 1984 and 1987, found that there was a preference for turnaround efficiency operational actions as opposed to entrepreneurial ones. This is understandable as small firms' limited slack resources and restricted access to additional capital creates the urgency to stem the decline as fast as possible. In addition, they found employee productivity and the stretching out of accounts payable credit days are significant predictors of small firm turnarounds. Plant and equipment investment (absolute change in gross book value of plant and equipment) 'had a significant negative relationship with turnaround' (Chowdhury & Lang, 1996:174). This is in line with a small firm environment where production relies more heavily on labour than capital, and employees are nearer to the 'coal face of decline' (because of firm size) thus able to better feel the severity of decline, with a more self-

induced passion and motivation to preserve their jobs by turning things around.

Asset sales can be operational or strategic. The former deals with disposal of assets at the functional unit level with an operational efficiency focus, for example, closure of stores or branches, disposal of surplus/non-performing plant and machinery, sale and lease back of building, reduction/factoring of trade debtors and sale of inventory at discounted price. The latter, often at business or corporate level is undertaken with a longer term focus, for example, discontinuation of unprofitable product lines or brands and sale of corporate level business segments or subsidiaries (Grinyer & McKiernan, 1990). John and Ofek (1995) found asset sales/divestitures often increased the firm's focus resulting in improved performance in the following year from remaining assets as the firm got rid of non-synergistic assets to concentrate on its core business. In addition, a firm's share value often increased as the market responded to the announcement of divestitures. Denise and Kruse (2000:394) found 'on average restructurings are met with a positive stock price reaction'. In addition, firms that had asset restructuring, following performance decline, had experienced 'significantly greater operating improvements' than firms that did not (Denis & Kruse, 2000:394).

Asset and/or investment restructuring strategies may include strategic alliance, co-opetition¹⁹, joint ventures, management buyouts, licensing agreements, mergers and divestments.

In both cases of operational or strategic asset sales and restructuring, the objective is increase cash in-flows into the firm. In practice, the distinction between operational and strategic asset reduction and/or restructuring can sometimes be blurred and not easily differentiable.

¹⁹ The term 'CO-OPETITION', a combination of the word 'competition' and co-operation', was first coined in the 1980s by Ray Noorda of Novell, to refer to the concept of simultaneous competition and co-operation. 'Co-opetition' means competitors co-operating with each other for mutual benefits. Brandenburger, A. M. & Nalebuff, B. J. 1996. *Co-opetition* (1st ed.). New York: Doubleday.

2.5.2 Strategic restructuring strategies

*Perspective: RBV (resource-based view)*²⁰

To explain variation in firm performance, the Resource Based View of the firm (RBV) posits that the sustainability of a firm's competitive advantage is based on utilization and exploration of its 'bundle of resources' (tangible and intangible assets) which are valuable, inimitable, scarce and non-substitutable (Conner, 1991; Penrose, 1959; Peteraf, 1993; Wernerfelt, 1984). The RBV has its roots in Ricardian rent, an economic principle that suggests that superior production factors earn superior (above normal) economic rents (profits) for the owner (Ricardo, 1817)²¹. RBV emphasises the heterogeneity of firms in that firm-specific factors influence firm strategies, affect performance outcomes and sustain competitiveness (Grant, 1991; Mahoney & Pandian, 1992; Peteraf, 1993). According to Rumelt (1984:569) strategy formulation is 'the constant search for ways in which the firm's unique resources can be redeployed in changing circumstances'.

Following classical economic theory, categories of resources identified by Penrose (1959) are: land and equipment; labour and capital. These resources have been further extended and 'modernised' by several authors to cover financial resources (debt, equity, cash) and capital (Penrose, 1997; Wernerfelt, 1984), physical resources (plant and equipment, inventories and land and building), skilled human capital (Miller & Shamsie, 1996) and their knowledge²², organisational resources (systems, organisational relationships),

²⁰ In relation to the RBV, the term 'perspective' is used rather than 'theory'. See Priem and Butler for a discussion of why the RBV has not reached the requirements of a 'theory' yet. Priem, R. L. & Butler, J. E. 2001. Is the resource-based view a useful perspective for strategic management research? *Academy of Management Review*, 26(1): 22-40.

²¹ An example of such a rent is the above normal rent earned by a piece of land with a unique location or with locational advantages.

²² The knowledge based view (KBV) of the firm posits that knowledge is owned, exercisable by and resides with employees (Grant, R. M. 1996. Toward a knowledge-based theory of the firm. *Strategic Management Journal* 17(Winter Special Issue) : 109-122.).

technological capabilities (superior production systems, high yielding and low cost) and intangibles (technology, reputation, culture, brands, goodwill, brand names, copyright, patents,) (Arend, 2008; Barney, 1996; Grant, 2002; Hofer & Schendel, 1978; Rasheed, 2005). Summarising the above items into resources and capabilities we have: resources are 'stocks of available factors that are owned or controlled by the firm' and capabilities are 'information-based, tangible or intangible processes that are firm-specific and are developed over time through complex interactions among the firm's resources' (Amit & Schoemaker, 1993:35). Hence, the firm is viewed as 'essentially a pool of resources' (Penrose, 1997:36) or 'resource portfolio' (Morrow, Sirmon, Hitt, & Holcomb, 2007).

Several authors (e.g. Barney & Arikan, 2001; Grant, 2002; Priem & Butler, 2001; Sirmon & Hitt, 2003; Sirmon, Hitt, & Ireland, 2007) comment that possession of firm-specific RBV resources alone is necessary but not sufficient to sustain competitive advantage and superior performance, but rather the effective utilisation and management of such resources is also important. The combination of firm assets and differential in the skills and abilities of top management has been suggested by Castanias and Helfat (2001) as contributory factors why some firms generate economic rents. In particular, Grant (2002:137) remarked that the possession of resources per se does not confer competitive advantage but rather 'formulating and implementing a strategy that exploits the unique features of each firm's collection of resources and capabilities' which, working in combination, create 'organisational capability' (Grant, 2002:139) superior to that of its competitors'. Thus, the aggregation and combination of resources and managerial capabilities in identifying and evaluating resources create competitive advantage over competitors (Grant, 1991, 2002; Prahalad &

The KBV literature posits that competitive advantage depends on how well a firm integrates specialist knowledge into value adding processes, product and services (Spender, J. C. 1996. Making knowledge the basis of a dynamic theory of the firm. *Strategic Management Journal* 17(Winter) : 45-62.; Kogut, B. & Zander, U. 1996. What firms do? Coordination, identity and learning. *Organisation science*, 7(5): 502-518; Spender, J. C. & Grant, R. M. 1996. Knowledge and the firm: Overview. *Strategic Management Journal* 17(Winter) : 5-9).

Hamel, 1990; Teece, Pisano, & Shuen, 1997). Over time these resources may be depleted, exhausted or out of alignment with their environment resulting in a firm's competitive advantage or going concern status being threatened, for example, by competitors (Amit & Schoemaker, 1993; Thornhill & Amit, 2003). There is a tendency for firms to over 'exploit' and under 'explore' their competencies created from the bundle of resources (Pandit, 2000). As exploitation of firm competencies results in revenue and exploration of new resources entails costs there is a tendency for firms to over 'exploit' and under 'explore' their resources/competencies. A firm will be in performance decline if the balance between resource exploitation (depletion) and exploration (renewal) is in disequilibrium. Continuing disequilibrium and substantial loss of resources will lead to organisational decline (Lohrke, Bedeian, & Palmer, 2004). Francis and Desai (2005:1204) view 'decline as a result of erosion of productive resources'. Hence, business strategic re-adaptation and re-alignment may be needed (Arogyaswamy, Barker, & Yasai-Ardekani, 1995; Ford & Baucus, 1987; Grinyer & McKiernan, 1990) to stem the decline. "Excellent" firms were internally well fitted and externally well adapted' (Chakravarthy, 1986:438) to their environment.

The RBV is 'macro' or 'black box' (Priem & Butler, 2001:32,33) in its exposition and does not deal with the 'micro'/detailed reasons (the when, where and how it may be useful) for the loss of a firm's competitiveness and hence its performance. It is an attempt to explain the antecedents and determinants of superior performance return and sustainable competitive advantage via the possession of resources which are scarce, inimitable, valuable and non-substitutable (Grant, 1996). If superior performance is dependent on the possession, better utilisation and alignment of such resources with the firm's competitive environment, Thornhill and Amit (2003:498) suggest that conversely, 'failure is more likely when there is misalignment between what a firm can do and what the competitive environment requires'. However, 'what a firm can do' that is its strategy, including turnaround strategy, is 'constrained by, and dependent on, the current level of resources' it has (Collis, 1991:51; Levinthal, 1991; Pretorius, 2008; Pretorius & Holtzhausen, 2008; Tallman, 1991).

The RBV perspective identifies the four characteristics (valuable, inimitable, scarce and non-substitutable) of strategic resources and capabilities or factors that are beneficial to a firm. Such a strategic asset view point deals mainly with possession of factors that are beneficial to a firm but does not deal with possession of factors that are detrimental to the firm. Recently, several authors (Arend, 2004, 2008; West & Decastro, 2001) posit that the distinction between resource strengths and resource weaknesses in achieving sustained competitive advantage is important. It is important for managers to know the differences and characteristics between the two constructs when enacting performance turnaround. By considering 'a firm's factors as all of a firm's resources, capabilities and competencies in total (e.g. its tangible, intangible assets, knowledge, structure, reputation, etc)' (Arend, 2008), Arend calls factors that affect a firm's sustained competitive performance (SCA for sustained competitive advantage and SCD for sustained competitive disadvantage) as Strategic Factors ('SF'), and distinguishes two sets of sub factors within SF that are relevant in turnaround context. An SF is either a strategic asset ('SA') or a strategic liability ('SL'). SAs are firm factors that satisfy all the four characteristics (i.e. Valuable, inimitable, scarce and non-substitutable) of RBV resources (Arend, 2008:339). If one of the characteristics is missing it is not an SA. SLs have the three characteristics of being 'costly, rare (i.e. scarce and non-transformable), and appropriated (i.e. non-transferable) by the organisation' (Arend, 2008:339). SAs are beneficial to the firm as they provide its SCA and create firm values (e.g. earn economic rents), whilst SLs are detrimental to the firm as they provide its SCD and destroy values (e.g. realisation of economic costs). Using a questionnaire survey of a final sample of 310 select members of US turnaround specialist practitioners (Turnaround Management Association) between July 2005 and October 2005, Arend (2008:346,347) found the top three SAs were strong brand, good customer service and specialised knowledge, and the top three SLs were incompetent management, bad strategy and financial problems. In addition, he found 'the average percent of firm value destroyed by the main SL was 47%' (Arend, 2008:347).

The above findings indicate that not all resources of a firm are beneficial towards the pursuit of earning economic rents, value creation and sustaining competitive advantage. The over exploitation of a firm's resource, without renewal and replenishment may have eroded the resource's earning capacity and the firm's competitive position over time (Rumelt, 1984). Hence, a firm's resource portfolio ('the sum of all firm controlled resources i.e. tangible and intangible assets' Simon et al (2007:278)) needs to be reviewed to maintain competitive advantage. Such a review entails the enhancement, replenishment or retention of resources that have SAs qualities and culling or minimising those with SLs qualities. From this resource-based perspective, performance decline and loss of competitive advantage is the result of possessing an inefficient and/or ineffective portfolio of resources. In the same vein a declining/distressed firm's portfolio of resources will be in disequilibrium with its competitive environment as discussed above. Therefore, to achieve a successful performance turnaround and regain competitive advantage the firm's portfolio of resources needs to be reviewed and restructured.

As alluded to in the above discussion, the criticism against the RBV is that it does not deal with the specifics (e.g. processes, managerial involvement and input (Barney & Arikan, 2001; Mahoney, 1995; Priem & Butler, 2001; Sirmon & Hitt, 2003)) inside the 'black box' and outside influence (e.g. the environment). It identifies the characteristics of the broad category of firm-specific resources that are the determinants of competitive advantage and superior returns (Sirmon et al., 2007). In fact Barney and Arikan (2001:174) comment that the RBV assumes that once a firm has possession and control of valuable, rare, costly to imitate and nonsubstitutable resources, 'the actions it should take to exploit these resources will be self evident'. From a process view point, Castanias and Helfat (2001) have suggested the importance of managers' role and abilities on working and managing the firm resources to generate managerial rent. Sirmon and Hitt (2003:339) state that 'resources must be managed effectively' in order to create wealth. Apart from managerial input, it is therefore logical to assume that as firms do not operate in a vacuum, but often in a competitive environment, environmental contingencies and dynamism are also important determinants of firm

performance and its value creation for its owners. The literature suggests that environmental factors (e.g. environmental contingencies, dynamism, local and global competition) do have an impact on firm performance and value creation (Brush & Artz, 1999; Francis & Mariola, 2005; Lippman & Rumelt, 2003; Miller & Shamsie, 1996; Morrow, Johnson, & Busenitz, 2004; Sirmon et al., 2007). Makino, Isobe and Chan (2004:1037) found country effects (i.e. national contextual factors) and industry effects do influence firm behaviour and economic performance of foreign affiliates of multinational corporations.

If environmental factors have an impact on firm performance, any performance turnaround effort has to consider internal and external influencing factors. In this regard, the effectiveness of a particular recovery strategy depends on an understanding and analysis of the causes of a firm's decline and its relative competitive position, that is, whether it is *firm-based/specific* or *industry-induced*. An overhaul/fundamental strategic re-adaptation or re-alignment would be ineffective for firms (especially weak competitive positioned firms) facing a cyclical/temporary industry-based contraction, where firms compete for limited resources (Arogyaswamy et al., 1995). Successful firms in a competitive environment are those that are efficient in the utilization of limited resources. Hence, an *incremental* strategic change emphasising achieving efficiency in the process and utilization of resources where the firm has an existing competitive advantage (e.g. brand names and customer loyalty) would be more effective in achieving performance turnaround in a cyclical industry based contraction (Arogyaswamy et al., 1995). Similarly, firms facing industry demand decline should consider factors like customer traits, product traits, competitor traits and exit barriers and should adopt counter strategies like early exit, containing present investments, reducing or increasing investments—for example, buying out competitors (Harrigan, 1980b). Increasing investment would depend on the availability of slack resources.

Conversely, for firm-based (i.e. factors specific or peculiar to the firm) decline, strategic re-adaptation is needed to replenish/create existing (Gentry, Newbold, & Whitford, 1995) resources and capabilities so as to better achieve re-alignment with their external environment (Arogyaswamy et

al., 1995; Grinyer & McKiernan, 1990; Hofer, 1980; Hofer & Schendel, 1978; Schendel, Patton, & Riggs, 1976). Per Grinyer and McKiernan (1990) strategic re-adaptation includes product differentiation, steps to gain cost leadership, diversification into new markets and acquisitions to consolidate market positions. Snow and Hambrick (1980:529) distinguish between strategic *adjustment* and strategic *change*, with the latter involving major modification of 'technology, structure and process to fit the new alignment'. It also includes mergers, joint ventures and strategic alliance. In summary, strategic change often involves 'big picture' manoeuvring and positioning. Firms facing external challenges or pressure often *adjust* rather than *change* their strategies (Snow & Hambrick, 1980).

Overhaul strategic re-adaptations are often expensive as they entail fundamental change in business models and processes, and may compound the risk of further decline as valuable slack resources are consumed in the process of warding off the ill effect of industry-based contraction. The availability and magnitude of slack resources as a 'buffering' cushion was found to be an influential determinant of turnaround (Francis & Desai, 2005; Francis & Mariola, 2005; Hambrick & D'Aveni, 1988). In a large sample testing of 97 US firms Francis and Desai (2005) found that the effects of firm-level factors, such as factors under the control of managers, were more influential than industry effects in affecting turnaround. Such a view incidentally does not resonate with the structural analysis S-C-P 'Structure–Conduct–Performance' paradigm (Porter, 1979; Scherer, 1980). The S-C-P paradigm posits that the structural characteristics (e.g. firm size) of the industry environment (e.g. munificence, growth, maturity) influence the conduct of the firm—such as strategies, investments, financing, retrenchment—which in turn determines firm performance.

Top management team (TMT) change and board of directors (BOD)

The important role that TMT plays in turning around a failing firm from financial sickness to health has been well recognized in theory and practice

(Lohrke et al., 2004). However, the importance, effectiveness and role of TMT change as a strategic effort in turnaround situations has not been clearly established. Non-routine changes in TMT are often symptomatic of declining firms. Managers in poorly performing firms experienced more disciplinary pressures to 'shape up or ship out' (Denis & Kruse, 2000). The three most common sources of pressure are threat of corporate takeovers, board dismissals and shareholder activism (Denis & Kruse, 2000). Gilson's (1989) study of 381 US exchange-listed firms found 52% of sample financially distressed firms experienced TMT change compared to a 19% corresponding TMT turnover rate in non-financially distressed firms. Of the management changes 21% were attributed to pressures from banking institutions (Gilson, 1989). Often the arrival of a new chief executive officer (CEO) is perceived to signal change, raised aspiration of change and expectations of better times ahead (Grinyer & McKiernan, 1990). Of the 26 'sharp-bender' firms studied by Grinyer and McKiernan (1990), 55% had changes in their CEO. Singh, Tucker and House's (1986b), study of non-profit Canadian voluntary social service organisations found that CEO change lowered organisation death rates. Thain and Goldthorpe's (1989a) study of twenty seven successful turnaround listed Canadian firms found the two most important changes in the firms were new management and improved controls. They found in 14 out of 19 cases of change in new management, change in CEO was the only management change even though cause of performance decline was attributable to environmental factors. The main reasons given for the change in top management were: 'top management was held responsible for declines; a different type of leadership was required; the change was symbolic, signalling to employees, suppliers, customers and investors that the firm was taking decisive action and the change was a punishment for management mistakes' (Thain & Goldthorpe, 1989a:7,8).

Despite some empirical evidence that TMT change does bring strategic reorientation to declining firms, the question of whether there is a relationship between the *frequency* of TMT change and the *chances* of successful turnarounds in firm performance also remains largely unanswered (Barker, Patterson Jr, & Mueller, 2001). Similarly, research on TMT change and its

effect on the share price of declining firms and market reaction to TMT change announcement has produced contrasting results (Sudarsanam & Lai, 2001).

On a theoretical level, there are mixed views as to whether a firm's TMT really matters in relation to firm performance. Earlier strategy theorists (Andrews, 1971) and ecology theorists (Hannan & Freeman, 1977) believe that the environment plays a greater role on the fate and outcome of firms than the actions of TMT, as the environment provides the firm's resources, opportunities and contingencies that the firm has to deal with. Pfeffer and Salancik (1978) consider TMT's role as mainly symbolic and Hannan and Freeman (1977) as passive in relation to firm competitive performance.

However, later studies by other researchers suggest that the characteristics and demographics of TMT do affect firm performance. Hambrick and D'Aveni's (1985) match-paired study of the characteristics of 60 large US companies' TMT for the period 1970 to 1982 found that functional orientation, technical and academic qualifications, length of executive tenure and the number of inside versus outside directors were differentiating determinants between bankrupt and successful companies. They found that TMT of bankrupt firms was characterised by the presence of a larger number of executives with functional orientation in production, process engineering and accounting than those with a sales/output orientation in marketing, product R&D and sales, shorter executive tenure, fewer outside directors and more MBAs and BBAs than those with technical qualifications. Declining firms often find it difficult to attract prestigious managers with educational achievements and outstanding status to enhance their human capital (Becker, 1975; D'Aveni, 1989). These outstanding and well regarded managers often confer legitimacy in the eyes of external stakeholders (D'Aveni, 1989).

Most TMT change research to date focus on the *demographics* of the TMT members but not on the *circumstances* (Barker et al., 2001) or '*critical situational contingencies*' (Lohrke et al., 2004:69) which may affect the effectiveness of TMT initiated turnaround strategies. Arogyaswamy, Barker

and Yasai-Ardekani (1995) argue that in an external generated cyclical industry downturn, which is perceived by stakeholders as not the fault of TMT, replacing the CEO and TMT may have dysfunctional consequences. The effectiveness of replacing the CEO as a turnaround measure 'will be contingent on the extent that top management lacks credibility in the eyes of stakeholders' (Arogyaswamy et al., 1995:505).

Besides the importance of external stakeholders' perceptions, internal stakeholders' perceptions are also important determinants on the appropriateness and success of turnaround efforts. TMT response to performance decline is critical. This is because the choice of a particular strategy depends on top management's perception of the causes of the decline (Mone et al., 1998).

Based on causal attribution theory, Barker and Patterson's (1996) study of 29 US firms attempting turnarounds between 1975 and 1989 found shorter-tenured TMTs (i.e. high TMT replacement) displayed a significant tendency to attribute causes of firm decline to internal, permanent, stable, controllable sources. Long-tenured (existing pre-decline) TMTs displayed a tendency to attribute the decline to external industry sources due to preservation of self-esteem and egos and were slow to react, hoping to ride out the crisis. As cited by Mellahi and Wilkinson (2004:29) long tenured TMT's 'rigidities' in response to organisational crisis include 'rigidity and commitment to standard practices (Katz, 1982; Miller, 1991), a reduction in information processing over time (Keiser & Sproull, 1982; Miller & Friesen, 1984; Staw et al., 1981), reliance on increasingly narrow and restricted sources of information (Hambrick & Fukutomi, 1991), management cohesion (Michel & Hambrick, 1992), and entrenchment (Wiersema & Bantel, 1992)'. According to Mellahi and Wilkinson (2004:29) such rigidities may cause organisational failure and exacerbate the problem.

Changing TMT may be effective in turning around firm-specific (as opposed to industry-induced) declines, which are often the results of misalignment with industry trends or a mismatch between core competencies and firm strategy (Arogyaswamy et al., 1995). A subsequent study by Barker and Barr

(2002) of 29 US firms for the same period revealed that managers who attributed the causes of decline to internal rather than external factors were more likely to effect entrepreneurial/strategic reorientation rather than operational measures. In addition, board of directors' turnover was found to be positively related to the extent of strategic reorientation. Such findings are pertinent to the question of when it is advantageous to turnover a failing firm's TMT.

O'Neill (1986) is of the opinion that TMT change is not a prerequisite to successful turnarounds, and TMTs survival and success depend on a number of factors like cause of the decline, controllable versus uncontrollable factors, (e.g. business cycle 'uncontrollable' or internal causes 'controllable'), board composition (e.g. executive dominated board more sympathetic than external directors) and industrial idiosyncrasies and norms. Mueller and Barker's (1997) study of the difference in the characteristics of TMT and board of directors between non-turnaround and turnaround firms supported this view. Their matched-pair study of 66 non-turnaround and turnaround US manufacturing firms over a six-year cycle (three years of decline followed by three years of recovery), between the sample period 1977 and 1993, revealed that CEO duality, board composition, board size, TMT size and TMT change were differentiating characteristics. CEO duality aided turnaround due mainly to the decision-making speed of the CEO being both the chairman and CEO.²³ This effectiveness was further enhanced if the CEO displayed strong and unambiguous leadership and decision-making style. However, a study by Chaganti, Mahajan and Sharma (1985) of 21 pairs of failed and non-failed US retailing firms for the period between 1970 and 1976 contradicted some of Mueller and Barker's (1997) findings. They found CEO duality and insider-outsider orientation of boards were not predictors of turnaround. So research results are equivocal on the question of TMT change being a prerequisite to successful turnarounds.

²³ There are currently no restrictions in the Australian Corporations Act 2001 regarding CEO duality, although such a practice would not accord with good corporate governance principles of the ASX:ASX Corporate Governance Council. 2010. *Corporate governance principles and recommendations with 2010 amendments* (2nd ed.): Australian Stock Exchange.

Board of directors (BODs)

Recently, BODs, as the senior component of TMT, have attracted considerable interest and attention in academia and practice. The recent global financial crisis further heightened this interest, regarding the corporate governance role and stewardship role of BODs especially in situations where firms suffer lacklustre or poor financial performance. Presently, three overarching theories have been used by researchers as backdrop theory in relation to TMT–BOD research. The three theories are: agency theory, managerial hegemony theory and the resource dependency theory.

The agency theory (Fama, 1980; Fama & Jensen, 1983; Jensen & Meckling, 1976) essentially deals with the conflict of interest between principals and agents. Specifically, the principals are owners of the firm (e.g. shareholders) and the agents are employee managers. This theory deals with the conflict of interest between the personal goals of the employee manager and owners of the firm. The personal self interest of the agent (manager), who is hired to make decisions for the benefit of the principal (owners), may not always be in alignment with the interests of the owners, and he/she may make decisions on strategies which serve his/her personal interest rather than those of the owners. The agency role of directors refers to the BOD's 'governance function in which directors serve shareholders by ratifying the decisions of managers and monitoring the implementation of those decisions' (Hillman, Cannella, & Paetzold, 2000:235). Essentially it is a stewardship/control/fiduciary function (Boyd, 1990; Hillman et al., 2000; Johnson, Daily, & Ellstrand, 1996; Pearce & Zahra, 1992; Zahra & Pearce, 1989). In this regard the BOD's fiduciary duty is to protect shareholders' wealth by acting as a check and balance and monitoring mechanism on CEO and management actions and decisions by vetoing poor decisions and also assist in creating shareholders' wealth. In failing organizations, Mellahi (2005:263) believes that the BOD is 'the last line of defence against management misbehaviour and/or poor management decisions'. He is of the opinion that corporate collapse may not be caused by a single bad decision but rather from a series of bad decisions made by management over a period of time. Accordingly, the BOD as a collective source of knowledge and wisdom should spot dangerous signs and

threats against the firm and advise management on actions to take or turnaround strategies before the situation deteriorates incrementally out of control from performance decline to crisis. A series of strategic errors made by a management filled with hubris and narcissism was found to be the reason for the incremental decline and eventual collapse of Eron in the US (Chatterjee, 2003). 'The role of the board of directors is to assess the risk of each strategy to stop management from gambling away the future of the organisation' especially in declining organizations where management is prone to take extra risk 'in response to threat of failure' (Mellahi, 2005:264). The recent collapse of Australia's biggest corporate failure that of the HIH insurance group brought home the disastrous effect if BODs failed in the effective discharge of their stewardship/fiduciary duty (Mellahi, 2005).

Fama and Jensen's (1983) seminal article distinguishes the role of strategic decision making and its implementation as executive management's role and the decision control of monitoring and legitimising of strategic decisions as that of the BOD's. Flowing from this role, in the interest of shareholders, BOD is expected to get rid of members of ineffective TMT, for example, a non-performing CEO.

A contrary view is expressed by the managerial hegemony theory, which posits that BOD existence as a legal requirement is just to satisfy corporate law, that is 'a *de jure*, but not the *de facto* governing body of the organisation' (Stiles, 2001:628). Under this viewpoint, it is management who runs and controls the firm. BOD is ineffective in influencing the strategic decisions of a firm. Rather it is internal management who makes the strategic decisions without board direct participation as they (BOD) only legitimise or endorse the strategic decisions made by corporate management (Judge & Zeithaml, 1992; Mizuchi, 1983). BOD members are selected or recommended by executive management who ensure they (management) retain control and dominance of the decision making process (Mace, 1971; Pfeffer, 1972; Westphal & Zajac, 1997). Further, the advantage of having day-to-day hands-on knowledge of the internal workings of the firm gives the manager an advantage over the board. A further argument is that a profitable firm is often able to finance investments and growth through retained earnings thus

reducing its reliance on external equity capital, and therefore is less reliant on shareholders (Mizruchi, 1983). In sum, this viewpoint posits that due to the domination of management, BOD is ineffective and passive in addressing the inherent potential conflict of interest between the self-serving corporate managers and the shareholders (Kosnik, 1987; Vance, 1983). Results of a 2005 study of the link between board composition and corporate diversification in Australian firms by Chen et al., (2009) support the managerial hegemony theory and the resource dependency theory. They found that 'in 2005, the independence of boards of directors in Australia did not have a noticeable impact on corporate strategic decision making process' (Chen et al., 2009:218). In relation to the resource dependency theory, they found 'that corporations with interlocking directors with extra-industry ties would be more likely to diversify their operations' (Chen et al., 2009:218).

The resource dependency perspective posits that the role of directors is to provide an avenue to obtain essential external resources (e.g. funds) and as a linkage to a firm's external environment (Boyd, 1990; Gales & Kesner, 1994; Pearce & Zahra, 1992; Pfeffer, 1972; Pfeffer & Salancik, 1978; Zahra & Pearce, 1989). According to this view, the external environment is fluid and uncertain and BOD helps a firm to manage and stabilise its external dependencies. Firm survival depends on its ability to successfully cope with uncertainties, control and procure external resources, and its effective exploitation of these essential resources via choice of business strategies (Pfeffer & Salancik, 1978). The Hillman et al., (2000) study of US airline firms undergoing deregulation provides support that board composition (e.g. insiders, business experts, support specialists and community influentials) changes in tandem with environmental change (e.g. from a regulated to a deregulated environment) to reflect the changing resource dependence needs facing the firm. They found 'during regulation board replacements were more likely from the insider (*current and former directors*) and support specialists (*lawyers, bankers, insurance company representatives*) category, while during deregulation board replacements were more likely to come from business experts (*current senior officers, directors of other large for-profit firms*), and community influential categories (*political leaders, university*

faculty, members of clergy, leaders of social or community organisations)'—italics added for clarity—(Hillman et al., 2000:252).

Using the resource dependence perspective (Pfeffer & Salancik, 1978), researchers have been attempting to establish whether there is a link between firm performance, BOD size and BOD insider-outsider orientation (Alexander, Fennell, & Halpen, 1993; Gales & Kesner, 1994; Goodstein, Gautam, & Boeker, 1994; Pfeffer, 1972, 1973; Provan, 1980). The resource dependence perspective posits that the BOD is one of the conduits or interfaces that a firm uses to acquire external resources and to reduce and control environmental uncertainties (Gales & Kesner, 1994; Pfeffer & Salancik, 1978). A logical extension is that *bigger* BOD size enhances the firm's ability to access external resources. Outside directors not only can provide necessary skills, access and linkages to capital, information and resources but also confer reputation, creditability and legitimacy (Daily & Dalton, 1994a ; Daily & Schwenk, 1996; Hambrick & D'Aveni, 1992) to a firm. Thain and Goldthrope (1989b) found Canadian firms enacting turnaround made board changes to bring in outside directors with proven business expertise. Some research support exist for the BOD-resource acquisition proposition (Boeker & Goodstein, 1991; Zald, 1969).

Accordingly, resource dependency would suggest that BODs of distressed firms would increasingly be an important vehicle to achieve turnaround and long-term viability. Dalton, Daily, Johnson and Ellstrand (1999) found BOD size and financial performance *are positively* related for both small and large firms and the relationship is more significant for small firms. Pfeffer's (1972) study of 80 large US firms found that BOD size *is significantly and positively* related to firm sales (proxy for size) and firm leverage (debt/equity ratio). In addition, he found highly leveraged firms had *larger outside director orientation* and that deviation from the preferred outsider-insider orientation affected firm performance. Mueller and Barker (1997) also found board composition with *higher proportion* of *outside* directors was also a significant contributory factor to achieving turnaround. Consistent with the resource dependency perspective (Pfeffer & Salancik, 1978), it enhanced the firm's

access to outside skills and capital resources, which were critical to curtail the further decline.

Mueller and Barker (1997) found a mid-size board with five to seven directors appeared more effective in a turnaround context. Mueller and Barker (1997) found no support for the Agency theory, which posits that outside directors would help to contain the opportunistic and self-serving interest of TMT. This was because in a turnaround and survival mode context there was a congruence of goals (i.e. for the firm to survive) between managers and shareholders.

Chaganti, Mahajan and Sharma (1985) found board size and corporate failures were related as *non-failed firms had bigger boards*. However, Chaganti et al. (1985) expressed uncertainty as to whether smaller BOD size caused decline or smaller size was a consequence of decline as board members were likely to abandon the firm as it approached bankruptcy. Positive relationship between board size and organisational performance was found in a study of 46 non-profit human service agencies by Provan (1980).

Conversely, large BODs may suffer from slowness and inertia in decision-making, large group syndrome, and inefficient internal control and governance (Walsh & Steward, 1990). Zahra and Stanton's (1988) study of 100 Fortune 500 firms between 1980 and 1983 found no association between board size and outsider directors ratio with firm financial performance.

The above highlights the fact that BOD and TMT provide fertile ground for further research. The relevant theory most used by turnaround researchers appears to be the resource dependency perspective as discussed above. A review of BOD literature revealed that, in summary, BOD research to date mainly deals with the role of BOD, its demographics and composition (e.g. age of directors, composition—inside versus independent/outside directors) and their relative effectiveness in relation to firm corporate governance, firm financial performance and corporate/business strategy (Baysinger & Butler, 1985; Baysinger & Hoskisson, 1990; Chen et al., 2009; Daily & Dalton, 1994a

1994b; Kiel & Nocholson, 2003; Mizruchi, 1983; Pearce & Zahra, 1992; Stiles, 2001; Zahra & Pearce, 1989).

Given the above conflicting research results, this study will assess the relative significance of CEO change and BOD size in achieving firm performance turnaround in the Australian context.

This research will examine the relative effectiveness of strategic restructuring strategies in achieving successful performance turnarounds.

2.5.3 Financial restructuring strategies

Poor cash flow and deficiency of liquid (near cash) assets to meet 'debts as and when they become due and payable', as defined by the *Corporations Act* (ss 9, 95A, 347A), are often symptomatic of financial distress (Dolan, 1983; Murty & Misra, 2004; Poston, Harmon, & Gramlich, 1994). Under accrual accounting, profit may not necessarily equate to cash due to the time lag between earning (accruing) the income and its cash or cash equivalent realization, although generally firms with poor profitability often have poor trading cash or cash equivalent reserves. Cash generation policies and procedures (e.g. prudent working capital management, that is, increasing debtors collection, and optimal inventory levels) are often necessary to alleviate financial distress (Yawson, 2004).

The extant strategy-based literature generally omits or does not consider financial restructuring as an important strategy in corporate turnarounds when compared to finance-based research and literature (Sudarsanam & Lai, 2001). Similarly, Hofer (1980:23) is of the opinion that 'in the longer term, however, finances will usually take care of themselves if the business is healthy in terms of its markets, technology, and production facilities'. However, the importance of financial strategies is that they often 'tend to provide a short-term solution to performance problems' (Yawson, 2004:6). Grinyer and McKiernan's (1990:138) study of 25 United Kingdom 'sharp-bender' (from stagnation or decline to sustained performance) companies

found that 80% introduced stronger financial controls. The importance of strong financial controls in turnarounds is also echoed by Balgobin and Pandit (2001). Ofek (1993) found a positive relation between pre-distress high leverage and debt restructuring when times were bad. Financial restructuring and strengthening financial controls are therefore important elements in the repertoire of strategies in corporate turnarounds.

With reference to capital structure theory and financial economics, financial risk relates to the mismatch between business risk and the level of debt versus equity in a firm's capital structure (Modigliani & Miller, 1958). Generally, firms with high business risk should pursue lower financial leverage (lower debt/equity gearing ratio) as debt interest is a *charge* against profit as opposed to dividend which is an *appropriation* of profits. The former are fixed commitments, which have to be met irrespective of profitability whilst the latter need not be paid if there are no retained earnings. Financial restructuring strategies, defined as the recrafting/realignment of a firm's capital structure to alleviate cash burn, can be classified as equity-based and/or debt-based (Sudarsanam & Lai, 2001). Firms in financial distress often experience 'cash burn' (Murty & Misra, 2004), and failure to meet debt interest payments. The logical response to alleviate cash flow pressure is to increase cash inflow and reduce fixed cash outflow commitments.

Classical finance theory, as posited by Modigliani and Miller (1958, 1963), suggests a neutral relationship between profitability and debt level (i.e. financial leverage). They assume perfect capital markets with costless and symmetric information. In this 'perfect' environment they show that investment decision and financing decisions are independent of the capital structure decision. Consequently, a firm's profitability is not affected by changes in its financial decisions and policies. In a real world, this is not possible as debt finance carries with it borrowing covenant and risk of insolvency if interest and related fixed charges are not met. Debt charges and borrowing expenses are charges against profit irrespective of whether profits are made.

However, Barton and Gordon (1988:630) found that corporate strategy and managerial behavioural perspective affect the capital structure (debt/equity) decision, and when these factors are taken into account they found significant negative relationship between firm profit and debt levels. Managerial behavioural perspective relates to the desire for flexibility and freedom from excessive restrictions and debt covenant that comes with borrowing. Profitability provides the avenue to avoid this as its eventual realisation into cash provides the internal generated funds to finance the business. Although equity finance may dilute ownership control, Weston and Brigham (1981) suggest that large firms may use equity financing, as issue or placement of additional equity often has little influence on the control of large corporations. In this researcher's opinion such a suggestion will only be valid if the firm's shares (distribution) are widely (dispersedly) held, and such dispersed shareholders are not organised into a voting block, for example through the mechanism of organised shareholders associations and institutional ownership (e.g. superannuation funds) demanding board representation. Barton and Gordon (1988:631) found weak or no statistical significance to support the hypothesis that firm size is inversely related to debt.

Equity based restructuring strategies include issuing new capital and reducing or suspending dividend payout. A firm in financial distress may find it difficult to raise additional capital, hence would most likely vary or suspend its dividend policy and payout because of cash constraint, debt commitments and strategic considerations and restrictions—for example, to appease labour unions and creditors (DeAngelo & DeAngelo, 1990). Decrease in dividend payout was found to be a significant variable in identifying and classifying financially failed firms from non-failed ones (Gentry et al., 1985). Also companies that have not reduced their dividends are often seen as better performing firms and top managers working in those firms are also seen as better managers. Kaplan and Reishus (1990) found that if dividend cuts are used as a measure of firm performance there is an approximately 50% chance that their top executives (chairman, chief executive officer or president) are less likely to be sought after for directorships by outside firms than top executives working in firms that did not cut their dividends. Hence,

dividend cuts and policy may have more far-reaching 'ripple' effects than just dividend reduction per se.

Debt based restructuring strategies normally aim to reduce the pressure of meeting periodic/recurring fixed debt commitments like interest and/or principal repayments. Distressed firms, with their ability to raise additional loans curtailed, normally would embark on debt based restructuring (Ofek, 1993), which may include seeking a moratorium from creditors, refinancing with lower interest and repayment, extension of loan term and debt-equity swap. Highly geared distressed firms are more likely to undertake financial restructuring during performance decline (Jensen, 1989b; Thain & Goldthrope, 1989a). Thain and Goldthrope (1989a) found debt restructuring alone was not sufficient to successfully turnaround a distress firm although it did buy more time for other recovery actions.

This research will attempt to determine the effectiveness of financial restructuring strategies in effecting successful performance turnarounds.

2.6 Timeliness, effectiveness and situational contingencies

The timely implementation of any turnaround measure or strategy often influences its effectiveness. Often time is of the essence as procrastination regarding appropriate actions may exacerbate and accelerate the spiral into decline. Prompt, decisive and immediate action is often needed to stop the 'cash burn'. The severity of the decline often determines the urgency of appropriate remedial actions. A study of small (less than 500 employees) US firms by Chowdhury and Lang (1993:12 & 14) concluded that 'performance turnaround is related to the rate of decline' and found that 'firms experiencing crisis indeed appear to have more successful turnarounds than those experiencing more gradual decline'. This is because crisis decline often spurs management into the immediate action of mobilisation of resources, as well as remedial action, whilst slow gradual decline often leads to failure to take prompt remedial action.

Internal situational contingencies may impact the success of turnaround efforts. These include: effective management of external stakeholders' relationship with the firm, internal environment and organizational culture (e.g. staff morale), the firm's internal decision making process, management inertia and stigmatization (Arogyaswamy et al., 1995; Ford & Baucus, 1987). 'Paradoxically, competitive success itself may trigger organizational decline by encouraging complacency' (Lorange & Nelson, 1987:42). Successful organizational response to performance decline requires managers to make timely adjustments to their 'mental models', being attentive to environmental changes and respond with appropriate corporate strategy (Barr, Stimpert, & Huff, 1992).

External and firm specific structural characteristics (e.g. industry and firm characteristics) may be related to and affect corporate performance turnarounds. Using the structure/conduct/performance framework, Pant's (1991) study of turnaround and non-turnaround US firms found that turnaround firms are generally smaller in size (measured by log of sales) than larger firms and that industry characteristics (heavy investment in research and development, level of industry advertising) and low entry barriers are influential factors in improving member firms' operating results.

This study will consider the effect of timeliness, intensity of efforts and severity of decline on the success of turnaround efforts enacted by internal firm management. Situational contingency variables of firm size, industry and effect of the macro-economy will also be incorporated into the test model.

2.7 Summary and conclusions

The literature review traces the development and progression of extant literature in trying to find a singular definition for 'organisational decline'. It found that there is no singular definition, but there is general consensus regarding the manifestation or symptoms of organisational decline (Mellahi & Wilkinson, 2004). Decline presupposes negativity; that there was a better pre-existing state of affairs from which the organisation has declined from.

Most of the definitions or perspectives of organisational decline are 'environment centred' in that organisations run the risk of being in decline if they are not successful in adapting to the changing environment in which they operate, for example, Cameron et al. (1988), Greenhalgh (1983). Levy (1986) sees organisational decline as the result of *failure* to take heed of internal and external warning signs of the need to change, whilst Greenhalgh (1983) takes the view of *inappropriate* response by the organisation to the environment.

Despite the plurality of organisational decline definitions and viewpoints, this research takes an ex post perspective that a firm is in decline if it deteriorated from a better pre-existing state of affairs as measured by certain financial criteria set out in the following chapter.

Next, response to organisational decline was discussed in the context of the two over-arching viewpoints of the *deterministic* perspective and the *voluntaristic* perspective of the organisation. The deterministic perspective, taken by the disciplines of classical industrial organisation and organisation and population ecology, posits that the environment determines the fate of an organisation and management are passive actors whose decisions, deliberations and strategies enacted are ineffective in influencing organisational outcomes (Astley & Van de Ven, 1983; Hannan & Freeman, 1977). The voluntaristic perspective takes the opposite view that the decisions and actions of management are important determinants of organisational success or failure (Hambrick et al., 1996; Hambrick & Mason, 1984; Lohrke & Bedeian, 1998; Lohrke et al., 2004; Szilagyi & Schweiger, 1984).

This follows a discussion of the fact that despite the development and availability of 'tools of management'—for example, linear programming, SWOT analysis, balance score card, five-forces framework analysis, and Altman's Z-score bankruptcy prediction model, to name a few—as diagnostic and preventative management tools and techniques, organisation failures still occur.

Following on from this, the various types of organisational decline, those of sudden decline, gradual decline and lingering decline, as classified by D'Aveni (1989)—cf. Argenti's, (1976)— were discussed. The purpose of this discussion is to show that corporate failures may not happen suddenly but could be a slow, imperceptible, creeping phenomenon and if an organisation does not take heed of warning signs and fails to align or adjust to the changing environment it will worsen and spiral into oblivion.

The literature review then focus on the area of corporate or firm performance decline and turnaround. The conclusion here is that despite more than thirty years of research since Schendel, Patton and Riggs' (1976) seminal article, there appears no consensus as to what the effective corporate strategies are for turning distressed firms around. The present status quo is because there is no grand theory or theoretical framework of turnaround to guide empirical research—Meyer (1988); Robbins and Pearce (1993); Pandit (2000); Chowdhury (2002). Further, there is no generally acceptable definition of what constitutes decline, or more specifically performance decline and its related measurement. This researcher believes that as the causes of decline are multifaceted and multi-disciplinary, there appears to be small likelihood of achieving general consensus regarding acceptance of a grand theory or theoretical framework and acceptance of a standard performance measurement among the research community to guide research. It is this researcher's belief that the above two reasons largely account for the contradicting research results to date. Hence, further testing is needed in order to identify which turnaround strategies are statistically significant to successful turnaround from performance decline and achieve recovery.

The literature review also discusses the two opposing schools of thought relating to performance turnaround, those of 'strategic' versus 'efficiency'. On the whole, earlier writers tend to posit that strategic change is a prerequisite to achieving recovery (Barker & Duhaime, 1997). However, Robbins and Pearce (1992) are adamant that retrenchment (assets and cost) is needed, at least during the initial stage of arresting the decline, irrespective of the cause of the decline. This stands contrary to Schendel and his colleagues' (1976)

proposition that successful turnaround depends on adopting strategies relevant to the cause of the decline.

Based on a review of extant literature, the various turnaround strategies are generically categorised into the three broad categories of: operational (efficiency) restructuring, financial restructuring and strategic restructuring. Strategies under each of these categories were detailed and discussed.

The literature review suggests that effectiveness of strategies also depends on contextual factors like timing and intensity (Sudarsanam & Lai, 2001) of turnaround efforts and severity of decline (Hofer, 1980). External and internal factors are also relevant situational contingency factors. External factors include the state of the general economy and the industry the firm is in. Internal factors include: management of external stakeholders' relationship with the firm, internal environment and organizational culture (e.g. staff morale), the firm's internal decision making process, management inertia and stigmatization (Arogyaswamy et al., 1995; Ford & Baucus, 1987) and the role of TMT (Lohrke et al., 2004) and BOD. The literature review reveals that test results on the effect of situational contingency factors as determinants of turnaround efforts have been contradictory.

Within the context of performance decline and the turnaround process, the stage perspective or theory of turnaround (SPT) is discussed in the literature review. The SPT is summarised and presented in a diagrammatic form of a turnaround clock, which synthesises the urgency of time, the various stages a firm goes through from decline to turnaround and the various categories of turnaround strategies.

The applicability of the resource-based view (RBV) in the context of performance decline, strategic restructuring and alignment with the environment is also discussed.

From the results of the literature review, the conclusion reached is that corporate performance turnaround research is a 'charted but unsettled sea' of contradictory test results requiring further testing and confirmation. This study will adopt the *voluntaristic* view of management in relation to organisational

decline and turnaround due to its appropriateness to this thesis as managers are considered the principal actors enacting turnaround strategies. It will utilise the RBV and the SPT as background perspectives in this thesis. It is from this stance that this thesis proceeds.

CHAPTER 3 RESEARCH DESIGN

3.1 Introduction and chapter outline

The objective of this chapter is to develop hypotheses for testing and construct a conceptual model incorporating factors relevant to enacting a corporate financial performance turnaround. This chapter is to be read as a 'seamless' chapter with chapter 2²⁴.

Section 3.2 develops and discusses the test hypotheses based on prior research and extant corporate turnaround literature review of chapter 2. Section 3.3 proposes a conceptual model as a theoretical framework for this research. Based on the results of the literature review of Chapter 2, contributory and determinant factors relevant to corporate firm financial performance turnaround are selected and incorporated into the conceptual model, which supports the basis for the construction of hypotheses. The last section 3.4 concludes.

3.2 Hypothesis development

As mentioned in the literature review of Chapter 2, Schendel, Patton and Riggs (1976) were one of the first few to study corporate performance turnaround as an academic discipline. Their main proposition is that successful turnaround depends on adopting *appropriate* turnaround strategies relevant to the *cause* of the decline. They distinguish between two main causes of performance decline: decline caused by operational inefficiencies and strategic decline caused by strategic causes. Operational inefficiencies are more of a 'micro' short-term perspective nature and strategic causes are more of a 'macro' entrepreneurial long-term perspective nature. They recommend that to address the performance decline,

²⁴ Because of the size of chapter 2 both in length and subject content, for easy reading the hypotheses have been put into chapter 3.

management needs to understand its causes and implement appropriate measures (responses) relevant to the causal factors, so that operational decline (e.g. resulting from poor operations or bad implementation of a sound strategy) needs efficiency improvement action and strategic decline (e.g. weak relative competitive position due to poor adaptation to the firm's environment) needs strategic remedies. Accordingly, they recommend a list of remedial actions based on the two broad categories of 'strategic cures'—as responses to performance decline caused by strategic misalignment or bad strategy—and 'operating cures' for those caused by operational problems or inefficiencies. Hambrick and Schechter (1983) distinguish the dichotomy of strategic versus efficiency actions as: 'strategic' turnaround deals with 'doing different things' and 'operating' turnaround deals with 'doing things differently' (Hambrick & Schechter, 1983:232). The importance of identifying the causes of performance decline in order to implement appropriate and effective strategies was also echoed by Arogyaswamy, Barker and Yasai-Ardekani (1995) and Ford (1985). Inappropriate response or mismatch is thought to lead to unsuccessful turnaround or business failure. In practice the distinction between the two generic categories of strategies is often blurred, as discussed in Chapter 2.

On a practical level, within the generic dichotomy of strategic versus operational strategies, the extant turnaround literature distinguishes and categorises turnaround actions into three broad categories: those of operational, strategic and financial (Grinyer & McKiernan, 1990; Sudarsanam & Lai, 2001; Yawson, 2004). Teng (2004) distinguishes a fourth category, that of cash strategies for firms facing crisis stage decline. This research considers that, other than an injection of cash via loans, cash strategies can be grouped under the broad category of financial strategies, for example, additional cash raised through share or equity related placements. To gauge the success or failure of turnaround strategies a measurement construct and medium has to be found.

The construct of profitability is often used by researchers as a measure of firm business and financial performance (Chakravarthy, 1986). Although there are many variations and formulas for profit measurement (Hossari &

Rahman, 2005; Woo & Willard, 1983), this researcher, for reasons discussed in section 3.3.2, considers 'return on total assets' ('ROTA') as the most preferred for this research. According to Walsh (2008) ROTA shows how much profit a company is making on the assets used in its business. It 'gives a measure of the operating efficiency of the total business' (Walsh, 2008:50).

In the context of corporate turnaround, Harrigan (1980a:22) remarked that 'a number of strategies were used during decline; there was no single road to success'.

Flowing on from the above—borrowing the notion of cause and appropriate response from Schendel, Patton and Riggs and taking note of Harrigan's remark as per above—the following hypothesis is proposed.

Multiple regression analysis model (MRA)

H1: ROTA is positively related to the adoption of a combination of operational, financial and strategic turnaround strategies.

The reason why the researcher has decided to test 'a combination of operational, financial and strategic turnaround strategies' as the first hypothesis is because of Harrigan's (1980a) comments that 'a number of strategies were used during decline; there was no single road to success'. From the results of the tests obtained for H1, the researcher can subsequently use stepwise and hierarchical regression analysis methods to assess the relative influential power of the various predictor variables (strategies) on the dependent variable, ROTA.

The above hypothesis is mathematically represented by the following equation. The linear function, below, is based on empirical literature that performance turnaround is linearly related to the independent variables (Denis & Kruse, 2000; Kang & Shivdasani, 1997; Yawson, 2004). The assumption of linearity will be tested and ascertained in Chapter 5.

Using ROTA (return on total assets) as the dependent variable we have:

$$\text{ROTA}_{it} = a + \beta_x \Delta O^x_{it} + \beta_y \Delta F^y_{it} + \beta_z \Delta S^z_{it} + C_{it} + \mu_{it} \text{ where:}$$

ROTA_{it} , the Return on Total Assets, is the expected performance indicator for firm i in time t ,

β 's are beta co-efficients derived by using multiple regression analysis,

O^x_{it} is the x th operating strategy (efficiency improvements) adopted by firm i in time t ,

F^y_{it} is the y th financial strategy adopted by firm i in time t ,

S^z_{it} is the z th strategy adopted by firm i in time t ,

C_{it} is the control variable for firm i in time t

μ_{it} is the residual

a is the constant, the vertical axis intercept

Industry effect

Studies in industrial organisation economics and strategy management suggest that competition affects firm behaviour and firm financial performance (Grant, 2002; Porter, 1979, 1980; Rumelt, 1991). However, classical industrial organisation economics (e.g. Bain, (1951)) believes in the homogeneity of firms belonging to the same industry, and that the unit for study and analysis is the industry as it affects firm profitability, due to the collective behaviour of firms restricting rivals, putting up barriers to entry and 'tacit collision' (McGahan & Porter, 2002:834). In summary, the industrial organisation economics view is that 'industry structure is fixed independent of

firm performance' (McGahan & Porter, 2002). According to economic theory, organisational failure is largely due to adverse effect generated by the macroeconomic environment (Schumpeter, 1950).

On the other hand, the study of business strategy posits that the unit of study and analysis is the firm, which through good management and adoption of appropriate strategy accounts for the variance in firm profitability and not industry specific. Grant (2002:68) notes that a firm's profitability is determined by: 'the value of *its* product or service to customers; the intensity of competition and the relative bargaining power at different levels in the production chain (*italics added*)'. Michael Porter's (1979) 'five forces of competition framework' analysis recognises the importance of analysing the competitive environment within which a firm operates in as it competes for profitability and territorial dominance. Porter's (1981) main stance is that a firm's performance is mainly affected by the competitive industry environment it operates in and such structure influences its conduct, which in turn determines its performance (Hoskisson et al., 1999:425).

In the 1980's, Schmalensee (1985) was one of the first to explore the determinants of firm profitability by using the variance decomposition methodology, breaking up the variance in firm profitability across business sectors into the various 'components associated with year, industry, the corporate-parent and business-specific effects' (McGahan & Porter, 2002:834). Schmalensee (1985) found firm effects to be nonexistent or insignificant but industry effects on a firm's rate of return to be significant. In addition he concluded that industry effect is more important than managerial influences. However, the results of subsequent studies of industry effect versus firm effect on firm profitability vary. For example, Rumelt's (1991) study demonstrated that industry effect is negligible on inter-firm return on assets, but rather business-specific effects are more pronounced. Also McGahan and Porter (1997) found industry effect accounts for only 19% of the variance in business unit profitability and that the effect is more pronounced in service industry than in manufacturing industry. In a subsequent study of US firms, between 1981 and 1994 and covering a wide

cross section of industry, McGahan and Porter (2002) found significant effect in the order of business segment effects being the most important, trailed by corporate parent effects and then industry effects. However, they made the point that industry, corporate-parent and business-specific influences on firm profitability are all important and they 'are related in complex ways to one another in cross section and over time' (McGahan & Porter, 2002:850). Other studies found firm/business-specific effect to be more influential, for example, Mauri and Michaels (1998); Hansen and Wernerfelt (1989); Cubbin and Geroski (1987); Jacobson (1988); Vasconcellos and Hambrick (1989); Hough (2006) and Misangyi et al (2006). In Mauri and Michaels' (1998) study a two-tiered effect was found. They found firm effect to be more influential on firm performance but industrial level drivers are more influential on core strategies proxied by variation in R&D (research and development) and advertising expenditures. This tends to lend support to the two opposing schools of thought, that of RBV (heterogeneity) and industrial organisation (homogeneity), in that resource endowments create competitive advantage but firms in the same industry will in the long run imitate core strategies of successful firms. Brush, Bromiley and Hendrickx (1999) found that corporation and industry do affect business units profitability, but corporation effect is more pronounced.

In other cases, results of industry effect versus firm effect vary according to firm size and the relative industry position the firm is in. Headd and Kirchhoff's (2009:548) study of small US firms, that is, those with less than 500 employees, 'could not find evidence that an industry's overall growth or decline has an effect on the volatility of small firms'. Chang and Singh (2000:749) found the relative sizes of variance vary according to firm size with large firms' (total sales USD between 121 billion and 893 million) performance influenced more by business unit effects (47.6%), followed by industry effect (19.3%) and corporate effect (9.5%). They found for medium-sized firms (total sales USD between 892 million to 171 million), the size of the corporate effects increased to 27.3 percent, while business effects decreased to 8.8 percent and industry effects improved to 40.4 percent. For small firms (total sales USD between 170 million to 2 million), industry effects

dominate with 54.2 percent of the variance of market share, while business effect stayed at 8.9 percent and corporate effects decreased to 15.8 percent. According to them, their results indicate that the pool of resources, which confer competitive advantage, resides at firm level 'which in turn leads to higher market shares and higher levels of profitability' (Chang & Singh, 2000:750). Following from this, larger firms are organised into more self sufficient business units with 'relative few benefits from resource sharing with other units' (Chang & Singh, 2000:750). Dean, Brown and Bamford (1998) also found industry effect influences large and small firms differently. Harrigan's (1980) study of sixty US firms, facing decreasing demand environment, found that success depended on the relative competitive strength of the firm and the structure of the industry the firm was in. Tiered effect within subpopulations was also found to be relevant. For example, Hawawini, Subramanian and Verdin (2003:11) found that 'on average, industry factors have little impact on performance', but rather asset factors do, especially on top and bottom performers in the industry. However, when the top and bottom two performers were removed from each industry they conclude that industry structure only matters to the average firms, who are not top or bottom performer, that is those with 'average managerial capabilities and performance'. On the other hand, McGahan and Porter (2003:79) found 'Industry and corporate-parent effects influence high performance to a far greater degree than low performance. Low performance is dominated by business-specific effects'.

The varying and equivocal research results of industry versus corporate and business unit effect on firm performance may be because of the choice of statistical method, and its characteristics, used by the researcher (Bowman & Helfat, 2001; Brush, Bromiley, & Hendrickx, 1999; Bush & Bromiley, 1997; McGahan & Porter, 2002; Ruefli & Wiggins, 2003, 2005). A review of 11²⁵

²⁵ The 11 studies were Schmalensee, R. 1985. Do markets differ much? *The American Economic Review*, 75(3): 341-351.;Kessides, I. N. 1987. Do firms differ much? Some additional evidence, *Working paper, University of Maryland*.;Wernerfelt, B. & Montgomery, C. A. 1988. Tobin's q and the importance of focus in firm performance. *American Economic Review* 78(1): 246-250.;Rumelt, R. P. 1991. How much does industry matter? *Strategic Management Journal*, 12(3): 167-185.;Kessides, I. N. 1990. Internal versus external market conditions and firm profitability: an exploratory model. *The Economic Journal* 100: 773-792.;Roquebert, J. A., Phillips, R. L., & Westfall, P. A. 1996.

extant studies of the relative significance of industry, corporate and business level influence on firm performance by Bowman and Helfat (2001) revealed that the dominant methodology used by the researchers in the 11 studies was the variance decomposition methodology. They found that associated with this methodology, the statistical techniques used by the studies were the sequential analysis of variance (ANOVA) and the variance component analysis (Bowman & Helfat, 2001:3). In addition, the 11 studies used average returns in their estimation process in decomposing the variance between various effects. This 'implies that individual corporations need not have an identical impact on each of their businesses in order for studies to find a corporate effect' (Bowman & Helfat, 2001:6). Ruefli and Wiggins (2003:864) contend that one of the basic reasons for the conflicting results obtained thus far is that 'while sample selection and refinements of statistical techniques are important operational issues, efforts to improve the validity of, or to resolve conflicts between, findings by refining methods are for naught if the results of those methods are constrained in their interpretation by the deeper contextual assumptions inherent in the methodology'. According to Ruefli and Wiggins (2003:864), fundamental to the variance component analysis technique is the contextual assumption of *ceteris paribus*, that is with all other factors remaining the same, of the research context. Whilst this may be valid for research in economics, the field of strategic management is often premised on the assumption of 'management efficacy' (Ruefli & Wiggins, 2003:864) in regard to organizational performance. As such, a *mutatis mutandis* model, that is management making the necessary changes, either reactively or proactively, to achieve the desired outcome rather than holding everything constant or unchanged, is more appropriate. According to them managerial actions can influence the performance ranking of firms as they improve on their performance against their rival firms, for example by

Markets vs. management: what drives profitability? . ***Strategic Management Journal***, 17(8): 653-664.; McGahan, A. M. & Porter, M. E. 1997. How much does industry matter, really? ***Strategic Management Journal***, 18(Summer special issue): 15-30.; McGahan, A. M. & Porter, M. 1998. What do we know about variance in accounting profitability?, ***Working paper, Harvard Business School***.; McGahan, A. M. 1997. The influence of competitive position on corporate performance, ***Working paper, Harvard Business School***.; Chang, S. & Singh, H. 2000. Corporate and industry effects on business unit competitive position. ***Strategic Management Journal***, 21(7): 739-752.; Bercerra, M. 1997. How much do MNC corporate headquarters matter?, ***Working paper, Michigan State University***.

imitating the actions of high-performing firms. Over time their actions will produce a positive relationship between firm effect and industry effect. The opposite negative relationship between firm effect and industry effect can also eventuate as managers try to detach their associations or actions from an under or poor performing industry. Such managerial actions over time narrow the difference in firm performance among firms. In this regard, 'managers have strategic influence on the factors influencing performance' (Ruefli & Wiggins, 2003:877). Any methodology used in studying the relative effect of firm specific, corporate specific and industry specific factors' effect on firm performance should take this system effect on the variable measured into account. In this context the adoption of the variance decomposition methodology in strategic management research, which assumes *ceteris paribus* may not be valid. Using non-parametric statistical techniques, which allow for a *mutatis mutandis* context, rather than using the restrictive (in terms of structural form and exogenous variable independence assumptions) parametric methods used in antecedent research, Ruefli and Wiggins(2003:876) did not find industry factor to be significant in affecting business segment performance but rather corporate effects did, thus run contrary to the SCP (structure-conduct-performance) paradigm.

Subsequently, McGahan and Porter (2005) criticise Ruefli and Wiggins' (2003) assertion of the appropriateness of the *mutatis mutandis* contextual assumption of the non parametric statistical technique over the *ceteris paribus* assumption of the parametric variance-component analysis ('VCA') method used predominantly in the determinants of firm profitability body of research. McGahan and Porter (2005:874) are of the opinion that the main purpose of research in this area is 'simply to describe the variance in performance without any claim about the underlying causal relationships between the effects', and that nowhere in the relevant research literature thus far attempts to invoke any underlying contextual *ceteris paribus* assumption. In short, the main purpose of the VCA technique is to report and describe on the variances and not making claims about causality (McGahan & Porter, 2002). Further, they state that 'the VCA method was adopted only because of computational constraints that were broken by mid 1990s' (McGahan &

Porter, 2005:874), and that most current research, in this area, since the mid 1990s relied on other methods of analysis. Examples of other methods used in more recent studies based on the multilevel analysis methodology, are Hough (2006), Hough and White (2003) and Misangyi et al, (2006) who utilised the Hierarchical Linear Modelling technique. Further, the influence on performance variances is not the exclusivity of managerial actions and many other factors 'can give rise to industry, corporate, or business-specific effects' (McGahan & Porter, 2005:874).

Ruefli and Wiggins (2005) subsequently wrote a response to McGahan and Porter's (2005) criticism of their 2003 article (Ruefli & Wiggins, 2003). Essentially, in their 2005 response, Ruefli and Wiggins went into more details the disadvantages of the VCA or ANOVA (analysis of variance) technique, which in addition to the *ceteris paribus* assumption, assumes the requirement of statistical distributional normality. According to them, often researchers, using parametric statistical technique to which VCA belongs, do not explicitly qualify their results that they are valid only under the assumption of normal distribution. Further, the violation of the normality assumption may be the reason why 'puzzling' results are obtained when using the VCA technique (Ruefli & Wiggins, 2005:881,882). Despite their differences of opinion, both Ruefli and Wiggins (2005:885) and McGahan and Porter (2003:850) all agree that in the area of industry, corporate and business segment effect on performance research, it's time to explore new approaches and methodology to further expand our current understanding of this important topic.

The inherent weakness of the VCA or the ANOVA technique is the assumption of independence of effects, that is the effects do not have relationships with each other, which stands contrary to existing theory and studies (Bowman & Helfat, 2001; Misangyi et al., 2006). From a strategy theory perspective, businesses conduct can be influenced by its competitive environment and the industry they are in, and the relationship is a two way one and not independent of each other (Porter, 1980, 1981). From a research results view point, McGahan and Porter (2002:850) are of the opinion that 'Industry and corporate-parent influences on firm profitability are

related in complex ways to one another in cross section and over time' and 'industry, corporate-parent and business-specific influences are all important' in determining their relative influence on firm performance. If the independence condition is breached, the estimation derived by both methods will be bias (Brush et al., 1999b)(Brush et al., 1999b). Further, ANOVA assumes sequential ordering of effects (McGahan & Porter, 1997), and reliability of the results generated by the VCA is questionable (Brush & Bromiley, 1997). Misangyi, et al, (2006:573) analysed the results of previous studies which used the VCA technique versus those that used the ANOVA technique and concluded that the latter 'appears to produce more stable results than does the VCA'.

If firm performance is influenced by managerial strategy and practice, then the VCA and ANOVA techniques are found to be lacking in discovering such causality effects. This is because the main purpose of both methods is descriptive in nature (reports the size of the effect/variance) and only captures categorical effects of industry, corporate and business units as a whole (Misangyi et al., 2006). They do not examine the causality factors or 'management efficacy' (Ruefli & Wiggins, 2003) that brought about the effect. As organisations, including businesses, are 'hierarchically ordered systems' (Hough, 2006:46) whereby employees in 'departments are nested within divisions, and divisions make up corporations' (Hough, 2006:46) which are nested in industry (Hough, 2006; Misangyi et al., 2006), the cross-nested levels of variance are related and needed to be penetrated to investigate the underlying influential factors. The deficiency of the ANOVA²⁶ or VCA motivates researcher to look for alternative research techniques in order to uncover the influence of other underlying strategic influencing factors. The more recent studies, for example, Hough (2006) and Misangyi et al (2006) as mentioned above, are in this category. Hough (2006) investigated the influence on business segment return on assets of a sample of diversified and undiversified US firms on a three-level nested basis with year (level 1)

²⁶ Although the nested ANOVA analysis allows for co-variance between estimates (e.g. co-variance between industry and corporate-parent effects), it does not enable clear partition of variance in nested hierarchical data structures of business segments nested within corporations and segments nested within industries. Hough, J. R. 2006. Business segment performance redux: A multilevel approach. *Strategic Management Journal*, 27(1): 45-61.

nested within business segments (level 2) which in turn are nested within cross-classification of corporations and industries (level 3). Hough (2006:59) found, 'corporate effects explain almost four times more variance in business segment performance than industry effects (20.2% vs. 5.3%)'. Misangyi et al (2006) investigated the influence of industry capital intensity, industry concentration, industry munificence, industry dynamism, corporate capital intensity, corporate resource availability and business segment size on firm performance. Misangyi et al (2006: 587) found 'the relative importance of business unit effects far outweighs those of corporate or industry effects and that the latter effects are of similar relative magnitude' on performance.

The varying research results highlight the debate (Hoskisson et al., 1999) as to whether strategy (conduct) affects firm performance (C-P) or industry structure (the structure-conduct-performance (S-C-P) Bain/Mason paradigm) (Bain, 1956, 1968; Mason, 1939).

Setting aside the debate on the relative merits of the different research methodology, results of studies to date tend to favour the proposition of business level effects over industry influence on firm performance. However, because of the determinants of firm performance being a multi-faceted causal factor effect, and taking note of McGahan and Porter's (2002:850) comments that 'industry, corporate-parent and business-specific influences are all important' in determining their relative influence on firm performance, the following is hypothesised.

H2: Industry effect is significant in influencing profitability and the likelihood of successful turnaround.

Macroeconomy effect

Businesses do not operate in a vacuum and their financial performances are often subject to the 'ebbs and flows' of the business cycle, which in turn is influenced by the state of the general economy. Such environmental changes

and influencing events are often outside the control of management (Schendel et al., 1976). In a down economy or economic recession one would expect general demand to fall off, which would adversely affect companies' sales and profitability as evidenced by the recent global financial crisis of 2007 to 2010 (US sub-prime and oil crisis). Logically, one would expect that the slowdown in general economic activity would increase the propensity of firms to fail (Jacobs , 2009). Recognising this, Altman (1971) included the change in gross national product (Δ GNP), a proxy variable for change in general economic activity, as a predictor variable in his equation to forecast change in companies' failure rate.

According to the environmental munificence perspective, a benign environment (e.g. a booming economy) is characterised by higher demand for products and services (which influences profitability), lower competition and easier access to and availability of resources. In such a benign environment, one would expect distressed firms' access to funds and resources, and achievement of profitability targets to be easier than in a down or recessionary economy, thus increasing the likelihood of a successful performance turnaround. According to Mellahi and Wilkinson (2004:23) industrial organisation scholars suggest an inverse relationship between firm failure rates and resource availability. Hence, the following hypothesis is proposed.

H3: The effect of the economy is significant in influencing profitability and the likelihood of successful turnaround.

Firm size

The important role that firm size plays as a determinant of firm profitability has been mentioned in the literature as early as in the 1960's and 1970's ((Baumol (1967), Hall and Weiss (1967),Gale (1972),Shepherd (1972)).

Resource dependency perspective (Pfeffer & Salancik, 1978), as distinct from RBV, inherently suggests that bigger firms have more resources. Larger

firms with more resources than smaller ones are less reliant on external resources (Baum & Oliver, 1996). Categories of resources identified by classical economic theory (Smith, 1776) are land, labour and capital. Such categories of resources have been extended by modern writers to include financial resources (debt, equity, cash), physical resources (plant and equipment, inventories, land and buildings), human capital, organisational resources (systems, organisational relationships), technological capabilities (superior production systems, high yielding and low cost) and intangibles (technology, reputation, culture, brands, goodwill, intellectual properties) (Grant, 2002; Hofer & Schendel, 1978; Rasheed, 2005).

Larger firms are also expected to have more assets to use as collateral security to raise additional funds to weather a downturn in operating performance, and generally are able and better equipped to more readily access capital markets (White, 1989) and have greater market power (Bain, 1956). Sudarsanam and Lai (2001:189) note that larger firms are more able to negotiate and restructure debt more effectively than smaller ones.

Mellahi and Wilkinson (2004) remarked that the deterministic view of the firm in relation to organisational failure posited by the proponents of classical industrial organisation studies and organisation ecology—for example, (Sutton, 1997); (Hannan & Freeman, 1984)—is that size does matter as small firms have higher failure rates than larger ones. Small firms are less able to attract and retain better qualified and skilled staff, and have higher administrative costs (Aldrich & Auster, 1986).

There is a tendency for firms to over exploit their resources (Pandit, 2000), which will lead to organisational stress and if not corrected (e.g. through replenishment from external sources via equity or debt funding) can lead to organisational distress and eventually decline and demise.

Larger firms are no exception in over exploitation of resources, but because of their size have more assets to pledge as security for debt funding

arrangements. If the amount and availability of free assets²⁷ is an important determinant in distinguishing between recovered and non-recovered firms—and if larger firms have more resources, hence more free assets—then firm size would prima facie be an important variable in influencing the probability of firm performance recovery. Despite this logical deduction, research results regarding firm size being a determinant of performance turnaround have not been unequivocal. Sudarsanam and Lai (2001:196), Barker and Mone (1998), Casey et al. (1986) and (Pant, 1991) did not find firm size to be a significant factor in turnaround whilst Campbell (1996:25) found recovered firms are generally larger in size. Smith and Graves (2005) found larger firms are more likely to enact successful recovery. But Pant (1991) found turnaround firms are generally smaller in size than non-turnaround firms.

Small firms' response and turnaround efforts are also observed to be different from larger firms' in enacting performance turnaround (Rasheed, 2005). Rasheed's (2005) testing of 68 small owner/manager US firms found that perception of past financial performance and availability of resources affect owner/managers' response to adopt strategic (growth) turnaround actions as opposed to retrenchment. He found that irrespective of the owner/managers' perception of high or low past financial performance or resource availability, the entrepreneurial spirit of the owner/manager often spurred him/her on to adopt growth strategies over retrenchment. Chowdhury and Lang (1996) found that there is a preference by smaller firms to enact operational efficiency measures to achieve performance turnaround rather than strategic entrepreneurial changes due to lack of slack resources and restricted access to additional funding, which creates the urgency to achieve cost reduction as quickly as possible to stem the cash burn. This is in line with Sudarsanam and Lai's (2001:189) comments that 'certain strategies such as acquisition and divestment are more appropriate for larger than smaller firms'. This implies that larger firms have the flexibility and more

²⁷ The term 'Free assets' used in the literature refers to unpledged/uncollateralised /encumbered assets which have not been pledged to secure debt funding arrangement. The term is not taken to mean assets with nil cost given in exchange for their acquisition (i.e. not to be taken as 'freebie' in colloquial ordinary parlance). The role of free assets with respect to firm performance turnaround will be discussed later on in this chapter.

internal slack resources to use both efficiency and strategic measures to achieve turnaround. However, testing of the effect of firm size on the likelihood of achieving turnaround has not been conclusive. For example, Sundarsanam and Lai (2001:196), Barker and Mone (1998) and Casey et al. (1986) did not find firm size to be a significant factor in turnaround whilst Campbell (1996:25) found recovered firms are generally larger in size. Smith and Graves (2005) found larger firms are more likely to enact successful recovery. In view of the inconclusive test results but leaning towards logical deduction, the following hypothesis is proposed.

H4: The likelihood of a successful turnaround is positively related to firm size.

Operating efficiency improvement strategies

Operating efficiency improvements are: short-term revenue generation, cost cutting and asset reduction strategies (Chowdhury & Lang, 1996; Hofer, 1980). These efforts are principally designed with the objectives to give fast relief on cash flow and to achieve operating profitability within a short space of time. Chowdhury and Lang's (1996) study of turnaround in small firms concluded that operational efficiency efforts are more pertinent to small firms than large firms who can more afford big picture strategic manoeuvring (e.g. diversification, new markets, divestment, acquisitions). Their study, in general, supports the research and findings of Robbins and Pearce (1992), (1994); Hambrick and Schecter (1983); Bibeault (1982) and Slater (1984) regarding the effectiveness and importance of efficiency improvement efforts in successful turnarounds. It should be noted that whilst Hambrick and Schecter's conclusion has more relevance to businesses in mature industries, where room for strategic domain/market manoeuvring is restricted or limited, Robbins and Pearce's overarching conclusion is that, irrespective of the cause of the performance decline, retrenchment and cut backs are the necessary initial stage laying the foundation for recovery. Therefore, the following hypothesis is proposed.

H5: Operational restructuring strategies—that is, efficiency improvement efforts—are more effective in achieving financial performance turnaround than strategic and financial restructuring strategies.

Intensity and timely execution

According to Sudarsanam and Lai (2001) swift, *intense* and *timely* execution of turnaround strategies is needed to successfully turn a financially distressed firm around. Superficial cost cutting may not be sufficient to stop the bleeding of cash. Cost cutting has to be deep and swift to be effective, and 'very significant change in operating efficiency and overall strategy appears necessary to break out of the inertia of earnings decline' (Schendel et al., 1976:10). Proper implementation of strategies rather than the content of strategies is considered important in turnaround situations (Barker & Mone, 1994; Freeman & Cameron, 1993; Hoffman, 1989).

Timeliness (i.e. early intervention) is important. Sudarsanam and Lai (2001) found timeliness and intensity of efforts have to go hand in hand to be effective. Accordingly the following hypothesis is proposed.

H6: Intensity of efforts and timely execution of turnaround strategies are positively related to the likelihood of successful turnaround.

Employee retrenchment (lay-off)

Between the choice of minimising cost and increasing sales, cost is a more 'definite' variable to manipulate as it deals with the current status quo rather than an expectation of the future as in the case of trying to increase sales. In a down economy, increasing sales may be difficult because of falling or depressed demand. In simple terms, profit is defined as revenue (sales) minus costs and with constraint to increasing sales in the short-term,

minimisation of cost presents an attractive (and arguably) easier option to increase short-term operating profit.

The cost of human capital or resource is often one of the largest items on an organisation's profit and loss account. It is therefore very attractive to CEOs for firms enacting turnaround strategy to slash salary and wage related cost to increase operating profit. Robbins and Pearce (1994) are unequivocal that irrespective of the cause of performance decline, cutbacks or retrenchment of costs and assets remain the foundation of business turnaround, especially in the initial stage of recovery, which they have termed the 'retrenchment stage'. More specifically this stage entails fast pay back strategies like liquidation and divestment of unprofitable activities or business segments, ways to improve operational efficiency, product elimination and head count cuts (Robbins & Pearce, 1992:291). They believe that such retrenchment activities will facilitate stemming the decline and stabilise the firm before it embarks on the second stage—which they term the 'recovery stage'—and which entails strategies with a long-term focus like 'market penetration, reconcentration/segmentation, new markets, acquisitions and new products' (Robbins & Pearce, 1992:291).

Another important aspect of Robbins and Pearce's findings is that the severity of performance decline dictates the degree or extent of retrenchment. Within this, they found 'cost retrenchment was significantly associated with success across all levels of situation severity; and the 'relationship between asset retrenchment and performance was significant only among firms in severe turnaround situations' (Robbins & Pearce, 1992:304).²⁸

Retrenchment may be context specific, that is, in different turnaround context, in the case of small firms (Chowdhury & Lang, 1996) and firms in

²⁸ In their study, severity of decline (whether low or high) is defined in accordance with the sample firm's calculated Altman's Z* score, reflecting the risk of insolvency, greater than (low risk) or falling below (high risk) the sample median Z. * Altman, E. I. 1983. **Corporate financial distress: A complete guide to predicting, avoiding and dealing with bankruptcy**: Wiley-Interscience, New York.

matured industries (Hambrick & Schechter, 1983). Castrogiovanni and Bruton (2000) found retrenchment did not have a significant effect on performance in a post-acquisition context. Hidden cost and resistance to severe cost reductions (e.g. extent of unionised workforce) may hinder the effectiveness of such actions (Slater, 1984). This is especially so in Australia due to work union representation and involvement and the new Fair Work Australia legislation. Francis and Desai (2005:1219) found that their results did not support Robbins and Pearce's (1994) main assertion that retrenchment is essential for every firm in need of a turnaround. Bruton, Ahlstrom and Wan (2003:522) remark that 'one of the most controversial aspects of turnaround research in the West is the topic of retrenchment (e.g. Hambrick and Schechter, 1983)'.

Given the controversy regarding retrenchment as a necessary turnaround tool for successful recovery, further testing is needed. Barker and Mone (1994:403) remark that retrenchment is a wide term and that 'we lack the knowledge base to predict accurately which particular retrenchment strategies and practice promote recovery'. It should be noted that Robbins and Pearce's 'retrenchment' term, as discussed above, is a much wider term than just retrenchment of employees, which is just one of the cost cutting items. As employee retrenchment is topical within the context of distressed firms and turnaround, it is selected here for testing. Often, in most firms, especially in service firms, it is one of the large expense items affecting firm profitability. Hence, the following hypothesis is proposed.

H7: The extent of employee lay-off is significant in affecting the likelihood of successful turnaround.

Severity of performance decline

Severity of decline has been found to not only affect the type of turnaround remedial actions needed for successful turnaround but also the likelihood of achieving success. Hofer (1980) was one of the first to put forward the

preposition that *severity* of decline dictates the type of appropriate remedial action or 'gestalts'. If the decline is severe—defined as operating performance results way below break-even profitability—then revenue-increasing or asset reduction strategies are more effective, whilst cost cutting efforts are more effective if the decline is less severe, that is, operating performance result close to break-even profitability level. Robbins and Peace (1992) contends that the extent of retrenchment depends on the severity of the decline. Francis and Desai (2005:1218) found that the severity of decline in terms of its magnitude rather than the suddenness of the decline contribute more to the likelihood of a non-recovery.

Using UK data, Smith and Graves (2005) found that the severity of distress was statistically significant in influencing the success of performance turnaround in that firms in severe distress were less likely to recover. Hence, the following hypothesis is proposed.

H8: Firms in severe performance decline are less likely to turnaround.

Free assets

The RBV of the firm posits that firms derive competitive advantage over their competitors because such firms possess certain resources which are valuable, scarce, inimitable and non-substitutable (Penrose, 1959; Wernerfelt, 1984). However, possession of such resources per se doesn't confer that advantage but rather, the utilisation and exploitation of them via 'formulating and implementing a strategy that exploits the unique features of each firm's collection of resources and capabilities' that produces higher profitability than their competitors' (Grant, 2002:137). It is the *better use* of

these scarce, valuable and inimitable resources that enables a firm to achieve rents²⁹ (Penrose, 1959:54).

The literature suggests that there is an optimal growth rate for the firm, which is a balance between exploitation of existing resources and development of new ones (Penrose, 1959; Rubin, 1973; Wernerfelt, 1984). There is a tendency for firms to over exploit (e.g. through over diversification) the resources they possess. The over exploitation may result from entrepreneurial (i.e. risk taking) activities which the firm has embarked on to earn entrepreneurial Schumpeterian rent (Cooper, Gimeno-Gascon, & Woo, 1991; Mahoney & Pandian, 1992; Rumelt, 1987; Schumpeter, 1934). Such over exploitation of resources by a firm often leads to financial distress, whereby its cash resources are depleted to finance operating and expansion activities, leading to the difficulty of not being able to pay debts and commitments as and when they fall due. In accordance with the resource dependency, a distress firm will look for free (unencumbered) assets to act as collateral for additional funding (e.g. bank loans). Therefore, subject to meeting financiers' loan serviceability requirements, it is logical to assume that the quantum and accessibility to funding would be directly dependent on the amount of free assets that a firm possesses. Additional funding helps alleviate cash flow problems and, when put to good use, helps financial performance turnaround.

'Free assets' refer to unencumbered or unpledged assets which are not provided as collateral to banks or financial institutions to secure firm funding arrangements. From an accounting perspective the amount of free assets is generally defined as excess of assets over liabilities. The amount of free assets is important when a firm in financial distress seeks to alleviate its cash flow problems by looking for alternative sources of funding. A financially distressed firm, with its ability to access the equity market greatly restricted by its predicament and public perception—as indicated by its poor performing

²⁹ 'Rent' is a concept in Economics literature. Rent is defined as return in excess of a resource owner's opportunity costs and 'rent seeking' is often equated with 'profit seeking' by most economists. Tollison, R. D. 1982. Rent seeking: A survey. *Kyklos*, 35: 575-602.

share price—will pursue debt raising strategies if it has sufficient free assets to pledge as collaterals for loans.

Research evidence indicates that the amount of free assets is statistically significant in distinguishing between successful turnaround firms and those that fall by the wayside of liquidation (Campbell, 1996; Casey, McGee, & Stickney, 1986; Routledge & Gadenne, 2000), thus providing support for White's (White, 1984, 1989) model proposition of free assets being an important determinant between distressed firms that successfully recovered and those that failed. Smith and Graves (2005) found recovered firms generally have more free assets. Accordingly the following hypothesis is proposed.

H9: The likelihood of a successful performance turnaround is directly related to the amount of free (unencumbered) assets that a firm has.

To operationalise the above equation and testing of hypotheses, the following conceptual model serves to provide the theoretical construct and framework for this research.

3.3 Research Design

3.3.1 Development of a conceptual model.

There is no general consensus regarding what constitutes financial distress. In a general sense, 'distress' is defined by the Australian Pocket Oxford Dictionary' (1996:315) as '1. anguish or suffering caused by pain, sorrow, worry, etc; 2. lack of money or comforts; poverty'. The application of the phrase 'in distress' in a corporate financial context would generally mean a lack of money or in danger of not being able to meet a firm's financial commitments, and in the long run would endanger its economic sustainability as a going concern.

Decline is the precursor to distress and eventual failure. Most researchers and writers would agree that the symptoms of decline include decreasing or depletion of internal firm resources over time (Altman, 1968; Cameron et al., 1988; D'Aveni, 1989). According to D'Aveni (1989) declining firms display declining resources in the two critical areas of finance and human resources. Symptoms of depletion of finance resources include worsening liquidity, decreasing profitability and borrowing capacity (drop in credit rating) due to increasing leverage (Altman, 1968). Symptoms of decreasing human resources refers to the decreasing number of prestigious managers replenishing the firm's human capital stock (D'Aveni, 1989).

Gilson (1989:243) defines financial distress as 'an inability to meet the fixed payment obligations on debt. Within a given year, a firm is financially distressed if it is in default on its debt, bankrupt, or privately restructuring its debt to avoid bankruptcy'. The Corporations Act (ss 9, 95A, 347A) adopts an extreme view of the term by defining financial distress (insolvency) as the inability to pay one's debts as and when they fall due.

Despite the singularly narrow view adopted by the above-mentioned legislation, in reality there are various degrees of financial distress experienced by a firm. Altman distinguishes between the various degrees or types of financial distress—those of failure, insolvency and bankruptcy (Altman, 1971). 'Failure' according to Altman is when a firm fails to achieve an adequate return on its capital. 'Insolvency' is closely akin to the definition adopted by the *Corporations Act* as described above. The ultimate of financial distress is when a firm files for bankruptcy in the American context, whilst in Australia the directors of a financially distressed firm can seek to have the firm go into voluntary administration as described in Chapter 2.

Financial distress is symptomatic of performance decline. In reality a firm can be in performance decline for a number of years and if unattended to, can slip into insolvency. A review of extant literature regarding firm performance and decline revealed that there is no generally accepted operational

definition and measurement of what constitutes performance decline (Pandit, 2000; Pretorius, 2009; Weitzel & Jonsson, 1989).

Most researchers and writers have adopted a temporal measurement of what constitutes performance decline and a successful turnaround. Schendel et al. (1976) use four consecutive years of decreasing profits to represent performance decline and four consecutive years of profit improvements to represent a successful turnaround. Yawson (2004) uses one year of a firm's positive industry adjusted operating performance (i.e. EBITDA/TA, earnings before interest, tax and depreciation divided by total assets) followed by a substantial decline in operating performance the following year to represent performance decline (performance shock) and a recovery period of significant operating performance improvements for three years following the distressed year as turnaround recovery. Sudarsanam and Lai (2001:188) in their study define a distressed firm as one that has 'a minimum of one year of negative Z-scores after two consecutive years of positive Z-scores' (Z-score refers to Altman's Z-score) and successful turnaround is measured by two positive Z-score years following the distressed year. The above are some examples to illustrate that there is no universally acceptable performance measure or threshold for performance decline and the amount of time required for turnaround.

It is this researcher's belief that it is difficult to obtain universal agreement on the question of performance measurement and turnaround time frame because of the multiplicity of influencing factors—for example, firm size (Bibeault, 1982), severity of decline (Hofer, 1980), matured business (Hambrick & Schechter, 1983) to name a few. Despite these difficulties, Hambrick and Schechter (1983:235) are of the opinion that 'a systematic study of turnarounds should articulate criteria for decline and upturn, even though they may not suit all circumstances'.

3.3.2 Business Performance: Return on total assets

The subject of 'Business Performance' is of particular interest to management academic scholars and practitioners. Indeed, the common recurring theme in the study of business strategy is 'performance'. However, there appears to be no general agreement on what constitutes 'business performance', as evidenced by the proliferation of literature on this subject matter. The concept, definition and measurement of 'business performance' has been the subject of academic debate (Venkatraman & Ramanujam, 1986).

Profitability is often used as a benchmark to gauge financial performance and strategic performance (Chakravarthy, 1986:440). The measurement adopted for a firm's profitability varies from researcher to researcher. For example, Woo and Willard (1983) identified 14 quantitative measures of performance used by researchers and noted that measurements of performance in terms of profitability rank high in their factor analysis of the 14 performance measurement variables.

Researchers often used financial ratios to operationalise the measurement of profitability in their test models. Hossari and Rahman's (2005:325) analysis of financial ratios used by 53 corporate collapse studies using multivariate approach for the period from 1966 to 2002, found that of the 48 financial ratios used, 'only five out of 48 financial ratios have been found useful in more than one quarter of the relevant literature'. The five ratios are: NI/TA (net income divided by total assets), CA/CL (current assets divided by current liabilities), TL/TA (total liabilities divided by total assets), WC/TA (working capital divided by total assets) and EBIT/TA (earnings before interest and tax divided by total assets). Of the five financial ratios, two relate to the measurement of profitability, that is, NI/TA and EBIT/TA.

This study adopts EBIT/TA (renamed Return on Total Assets, ROTA) as the dependent variable in the test model because of its usefulness, computational ease and its general availability from most of the available

financial databases. Return on assets essentially shows how much profit a company is making on the assets used in its business. It 'gives a measure of the operating efficiency of the total business' (Walsh, 2008:50). Campbell (1996), Routledge and Gadenne (2000), and Casey et al., (1986) found that the 'profitability' variable is statistically significant in discriminating between bankrupt firms that recovered and non-recovered ones. These three studies use return on assets as a measure of profitability. Pinches, Eubank, Mingo and Caruthers' (1975) analysis of 48 financial ratios with respect to their predictive power found earnings before interest and tax divided by total assets to be a significant predictor of return on investments, a profitability performance construct.

3.3.3 Turnaround strategies: Operational, financial and strategic

The question of whether efficiency improvement measures (termed operational strategies) are more effective in turning around a distressed firm's financial performance or 'big picture' changes (termed strategic or entrepreneurial efforts) has been the subject of much academic debate. Hambrick and Schechter (1983:232) refer to the dichotomy of turnaround strategic efforts as 'doing different things' and operational efforts as 'doing things differently'.

Robbins and Pearce (1994) are of the strong opinion that efficiency-oriented strategies like retrenchment, down-sizing and cut-backs are important in laying the foundation of performance turnaround irrespective of the cause of the decline. This is contrary to earlier literature and research showing that successful remedial turnaround efforts depend on adopting appropriate actions in accordance with an understanding of the cause of the performance decline (Schendel et al., 1976). The Robbins and Pearce's (1994) retrenchment proposition is contrary to the views expressed by Barker and Mone (1994), that strategic change is necessary and indeed retrenchment and cut-backs diminish the firm's capacity and exacerbate further decline. Studies by Chowdhury and Lang (1996), and Robbins and Pearce(1992)

support the 'efficiency' school of thought. Large sample testing by Hambrick and Schechter (1983) of 260 US mature industrial product business units also supports efficiency-oriented moves as more successful and faster in achieving profit improvement and turnaround. Efficiency improvements, cut backs and investments in technology are found to improve profitability, which leads to increase in spare resources, which assists a firm to turnaround (Arogyaswamy & Yasai-Ardekani, 1997).

Financial strategies have often been given less prominence in extant strategy-based literature as being instrumental in corporate turnarounds when compared to financed-based literature (Sudarsanam & Lai, 2001). Hofer (1980) believes that in the longer term, a firm's finances will take care of themselves if other sections of the firm, (e.g. markets, technology, and production facilities) are in order and performing. A financially depressed firm often experiences cash flow problems in that it has difficulty in meeting debt (e.g. loan interest payments) and operating commitments (e.g. creditor payments) as and when they fall due. In Australia, in practice, one of the first signs of a financially depressed firm is if it is unable or having difficulty meeting tax payment obligations—for example, PAYG (pay as you go) and GST (goods and services tax)—within legislated deadlines. Often funds set aside for tax obligations are spent in meeting operating commitments. Grinyer and McKiernan's (1990:138) study of 25 'sharp-benders' companies found that 80% of them introduced stronger financial controls. Ofek (1993) found a positive link between pre-distress high leverage level and debt restructuring when times are bad. Chowdhury and Lang's (1993:14) study of US small business firms found that recovered ones have higher debt to equity ratios. They conclude that the reason for their recoverability is due to their ability to increase their liquidity through external sources of financing. Financial restructuring strategies, defined as the recrafting or realignment of a firm's capital structure to alleviate cash burn, are either equity-based or debt based (Sudarsanam & Lai, 2001).

Equity based strategies comprise of issuing new capital (e.g. quasi-equity product—shares, options, convertible notes, rights issue) and reducing or

suspending dividend payout. Most firms in financial distress find it difficult to raise new capital, and will most likely suspend or cut dividend payments. Gentry et al. (1985) found decrease in dividend payout to be a significant variable in identifying and classifying financially failed firms from non-failed ones.

Debt-based financial restructuring strategies aim to alleviate or reduce the pressure of meeting periodic/recurring fixed debt commitments like loan interest or principal repayments. Distressed firms with their ability to raise additional equity capital or raise additional loans curtailed or greatly diminished normally would embark on debt based restructuring (Ofek, 1993). According to Jensen (1989a), highly geared distress firms are more likely to restructure during performance decline.

3.3.4 Distress and Recovery

This research adopts the following criteria for distress and recovery.

Distress criteria

A firm is financially distressed or suffers performance decline if it satisfies the following conditions:

1. if it descends into having a negative net income (EBIT) at the end of any financial year (the distress year) preceded by three consecutive years of positive net income, that is, pictorially the '+++-' rule,
and
2. with a quick ratio, $(CA-IN)/CL$ (current assets-inventory)/current liabilities) less than one at the end of the distress year.

The first criterion of negative net income (loss of earning power) is often symptomatic of early incubation period of financial distress (Fitzpatrick, 1934). The use of the unscaled EBIT (Earnings Before Interest and Tax) variable over other earnings variable (e.g. earnings per share) is because

EBIT is not 'polluted' by other special items like income tax expense and minority interest. 'It is a cleaner measure than earnings of the productivity of operating assets (e.g. *EBIT/total asset*)' italics added (Barber & Lyon, 1996:364).

The second criterion often signifies the firm may have a cash flow problem, which is a symptom of financial distress or sickness (Murty & Misra, 2004). The use of the quick ratio in preference over the cash flow variable is because 'CA' includes other current items like short-term investment deposits and near cash or convertible to cash items, for example trade debtors can be factored to finance companies to provide the much need cash flow. Casey and Bartczak (1985:395) found 'that operating cash flow data do not provide incremental predictive power over accrual-based ratios' in predicting financial distress. Gentry, Newbold and Whitford (1985) found that using only cash flow ratios from operations did not adequately classify financially non-failed from failed firms.

The variables of EBIT (and its variant) and CA/CL (and its variant) ratio are popularly used by researchers of corporate collapse and turnaround (Hossari & Rahman, 2005).

Severity of decline

The cognitive school of thought maintains that the characteristics of decline trigger management to take remedial action (Kiesler & Sproull, 1982). The characteristic of decline normally refers to the severity of decline, which is defined as threat to going-concern viability. Under this theory, firms in severe decline or crisis are more willing to take drastic action to turnaround than those experiencing lesser degree or slow, creeping, imperceptible decline (Chowdhury & Lang, 1993). Slow decline is often a common precursor of failure to turnaround (Hambrick & D'Aveni, 1988). Firms in severe decline (brink of bankruptcy) are considered to have less options due to the severe depletion of firm resources (Robbins & Pearce, 1992). Firms that face mild

decline have more choices of turnaround strategies, which may range from increased marketing efforts to entering into a new niche market or domain (Lohrke & Bedeian, 1998). Robbins and Pearce (1992) found that it is harder for firms in severe decline to turnaround.

In this research, performance decline is severe if the pre-decline year's EBIT differs from the distress year's EBIT by a negative 10% or more. This 'theoretically grounded performance floor' is consistent with Barker and Mone's recommendation (1994:403). Severity of decline may affect the urgency, pace, timing and type of remedial action (Hofer, 1980; Sudarsanam & Lai, 2001). Firms in severe decline are more likely to change strategy (Schendel et al., 1976).

3.3.5 Recovery: effectiveness of turnaround

In this research model, decline and recovery have been uniquely and conservatively defined to include the three performance factor areas as adopted by Bird and McHugh (1977) and generally accepted as an indication of a firm's financial health (Van Horne, 1977). The choice of the following variables is based on Pinches, Eubank, Mingo and Caruthers' (1975) analysis of 48 financial ratios as predictors of financial performance constructs. Amongst the 48 ratios examined, Pinches, et al. (1975) found earnings before interest and tax divided by total assets (EBIT/TA) to be a significant predictor of return on investment, a profitability construct; debt divided by total assets (LTD/TA) to be a significant predictor of financial leverage and current assets divided by current liabilities (CA/CL) to be a significant predictor of short-term liquidity.

The three performance factor areas are:

- (i) Operating efficiency: profitability improvement (ROTA)
- (ii) Financial leverage: improvement in slack financial resources (LTD/TA)
- (iii) Liquidity: working capital improvement (CA/CL)

Effectiveness of turnaround strategies is measured by satisfying the following criteria at the end of the two-year period following the distress year:

- Return on Total Assets (ROTA) > than the yield (risk free rate) of a three-year Australian Government bond at time t ,
and
- improvement in the depletion of slack financial resources (SFR) to sustain normal operation measured by $CA/CL \geq 1$ with a decrease in LTD/TA where LTD =long-term debt and TA =total assets³⁰

Using an *objective benchmark rate of return* (Australian Government bond rate) is consistent with the six-month US treasury notes recommended and used by Barker and Duhaime (1997:22). Other researchers also support the use of a generally accepted risk-free bench mark rate as a measure of a firm's long-term viability (Bruton, Ahlstrom, & Wan, 2003; Lohrke, Bedeian, & Palmer, 2004; Pandit, 2000; Porter, 1980).

Improvements in SFR ('slack financial resources') are as per Lohrke, Bedeian and Palmer's recommendations (2004:82). Barker and Duhaime (1997) found that declining firms, in trying to survive, accumulate more debts before turning around (due to depletion of SFR). Singh (1986:567) refers to slack resources as either absorbed 'excess costs in organisations' or unabsorbed 'uncommitted, liquid resources in organisations'. Internal financial resources are considered important as they not only provide funds for investments but also 'slack cash to cover short-run cash crisis' (D'Aventi, 1989:578). SFR and its availability act as a buffer, that 'can give a firm time to respond appropriately to decline and provide it with the capabilities and

³⁰ The slack financial resources, 'SFR', construct adopted here, in the main, follows that found in finance and management literature. A discussion of 'Improvement in SFR' is found in the following paragraph. It is not intended by the researcher to add the two measures of current ratio and long term debt /total assets to get a composite score for each of the firm in the sample, but rather improvement in slack resources for a sampled firm is taken to be the sampled firm meeting the two test criteria of $CA/CL \geq 1$ *and* a decrease in LTD/TA .

resources to achieve a successful turnaround' (Francis & Desai, 2005:1206). It provides the financial resources—for example, working capital, cash, inventory, or *access to credit*—for the firm to draw on or realise so that it can meet its obligations as and when they fall due and act as a necessary cushion for the implementation of recovery strategy (Barker & Duhaime, 1997; Francis & Desai, 2005; Francis & Mariola, 2005). Depletion of slack financial resources constrains flexibility and the ability to effect strategic change or remedial action (Barker & Mone, 1998). Following on from the above, it is logical to assume that declining firms with SFR staging a turnaround have a better chance of achieving success than one that has limited or no SFR.

It should be noted that from the above discussion SFR not only refers to the firm's existing excess physical resources but also the firm's unused borrowing capacity to gain access to credit and loans. The latter often depends on the amount of existing debt (financial leverage) and uncollateralised/unencumbered ('free') assets a firm has. It is argued that here that firms with higher financial leverage and few free assets will have a lower capacity to access credit and loans than firms who are lowly leveraged and have more free assets. So in this sense, the concept of SFR, financial leverage and free assets are inextricably linked in the literature.

Following from the above discussion, slack financial resources have been measured in extant turnaround and finance literature as:

- firm's debt to asset percentage (Stickney, 1990);
- $1 - [(\text{long-term} + \text{debt in current liabilities} / \text{total assets}) \times 100]$ (Francis & Mariola, 2005); and
- $\text{Cash} + \text{short-term securities} + 0.5(\text{inventory}) + 0.7(\text{accounts receivable}) - \text{short-term loans}$ (Cleary, 1999:680);

The *extent* of recovery is measured by the percentage differential of ROTA greater than the three-year Australian Government bond rate at the end of

the two years/second financial year end reporting period post-distress. The *two-year period* of either recovery or failure is consistent with that adopted by Hambrick and Schecter (1983) and Chowdhury and Lang (1996). Accordingly to Bibeault (1982) the recovery time frame depends on firm size and ranges from one to three years.

Intensity of recovery actions and strategies

Borrowing from Sudarsanam and Lai (2001), this is measured by the amount of cash or expenditure incurred on the activity as a percentage of pre-distress year total assets.

3.3.6 External contextual contingencies and influencing factors

External environmental and firm-specific factors influence the success or failure, that is, effectiveness, of turnaround strategies (Arogyaswamy et al., 1995; Barr et al., 1992; Hambrick & D'Aveni, 1988; Robbins & Pearce, 1992; Sudarsanam & Lai, 2001). External environment relates to the state of the general economy as one would logically expect that if the economy is on a downward trend then company failures would rise. Firm-specific relates mainly to firm size. Altman (1971), in trying to predict change in company failure rates, believes that the change in corporate failure rates is a function of change in GDP (economy effect), change in stock market index (stock market sentiment effect) and change in money supply (general credit squeeze). For example, equity raising may not be a viable option if the economy is depressed, in decline or in a 'bear' stock market (i.e. depressed stock market). Similarly, if the industry is in a down cycle, realisation of asset sales may be sub-optimal as potential buyers will be scarce.

Pant (1991) applied the structure/conduct/performance framework as a backdrop in his research to identify whether structural firm and industry characteristics are discriminating factors that characterise turnaround versus non-turnaround firms. He found that smaller firms recover more quickly than

larger firms and that some industry characteristics are more conducive to and facilitate performance turnaround and recovery of member firms. Such industry characteristics are those with low entry barriers, high R&D investments and lower advertising/sales ratio (as proxy for entry barriers) , which often characterise a competitive environment in which newer or smaller firms are able to compete with established rivals. He found that turnaround firms suffer more difficulties than non-turnarounds. The main reason given is that crisis often spurs firms on to initiate immediate turnaround initiatives faster than those suffering less severe non-crisis performance decline. In summary, industry characteristics can influence performance recovery and turnaround.

Flowing on from the above comments, the following control variables are included in the model to cater for the external and internal contingency factors.

Control environmental variables

Industry effect:

This is proxied by the change in industry median Return on Total Assets (ROTA) between the distress year and end of two years/second financial year end reporting period post-distress that the firm belongs to, as per the ASX industry sector GICS classification.

Economy effect:

This is proxied by the rate of change in Gross Domestic Product (GDP) in the post-decline years, and is calculated as $\Delta\text{GDP} = (\text{GDP}_{\text{dy2}} - \text{GDP}_{\text{dy}}) / \text{GDP}_{\text{dy}}$. Per Bibeault (1982:85) improved economic conditions account for 16% of turnarounds. Altman (1971) used change in GDP as one of the predictor variables influencing the change in company failure rates.

Firm size:

The proxy control variable for firm size is the firm's market capitalisation of its equity in the pre-decline year. This technique was used by Sudarsanam and Lai (2001:189). Firm size may dictate the effectiveness of turnaround strategies—for example, larger firms are often in a better bargaining position to source for cheaper cost of funds and anecdotally have more slack resources than smaller firms. Hence, 'firm size is a proxy for both the flexibility and internal slack available to the declining firms' (Sudarsanam & Lai, 2001:189).

The use of market value for firm size overcomes any common variance or collinearity with ROTA book value. Collinearity refers to the 'expression of the relationship between two (collinearity) or more (multicollinearity) independent variables' (Hair, Black, Babin, & Anderson, 2010:156). Multicollinearity among ratios distorts the relationship between the dependent and independent variables, resulting in test results being misleading and sample-sensitive (Chen & Shimerda, 1981:59).

Further, Chen and Shimerda (1981) advised that because of the danger of collinearity when using financial ratios, which are often generated from the same book value from the firm's financial statement, it is important to minimise the number of ratios to represent each factor or construct for statistical analysis. Similar warnings are sounded by Horrigan (1965).

The logarithm of total assets or total assets is commonly used by researchers to measure firm size (e.g. Yawson, (2004); Routledge & Gadenne, (2000); Tan & See, (2004); Haveman, (1993); Chen et al., 2009); Kelly & Amburgey, (1991)). As this research uses return on asset, proxied by earnings before interest and tax divided by total assets as the dependent variable, it is considered more prudent to use a market-determined measure (i.e. firm's market capitalisation) rather than an accounting-determined measure (e.g.

total assets) to measure firm size in order to minimise the risk of collinearity or multicollinearity in the statistical test model.

Flowing on from the above discussion, a conceptual model diagram, as shown in Figure 3, is used to form the basis for the development of a test equation to confirm the hypotheses.

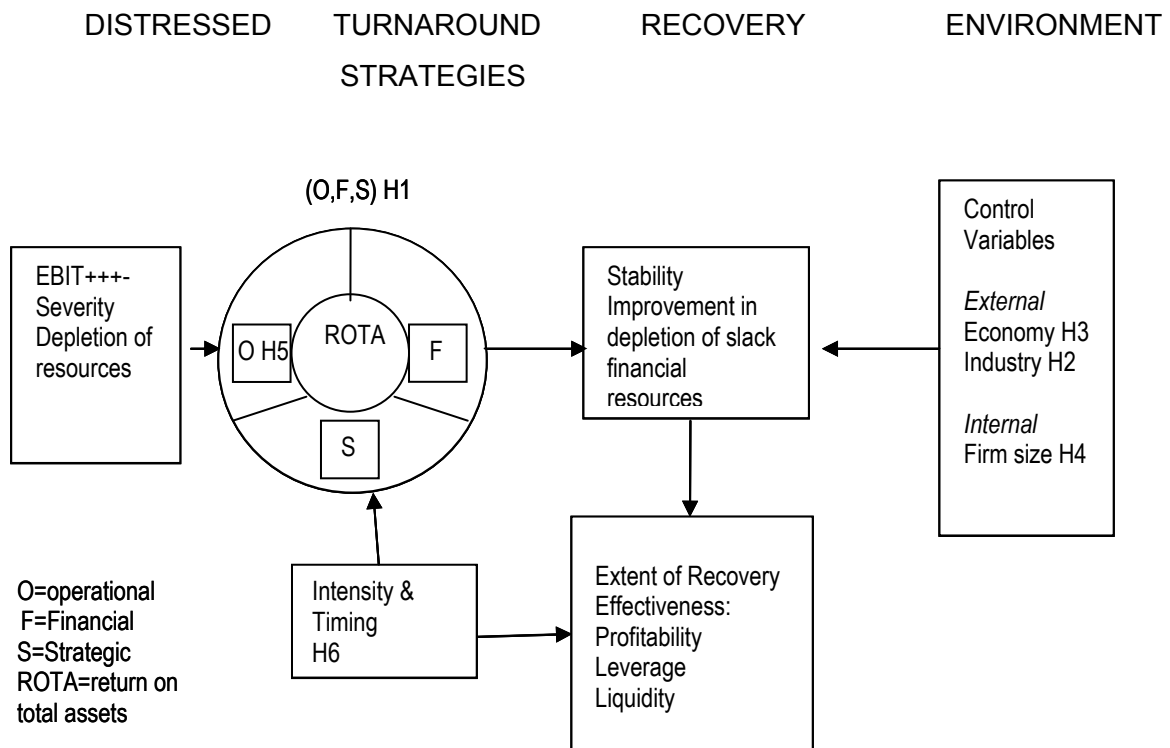


Figure 3. Conceptual model diagram
Note. Source: adapted from Smith and Graves (2005) and amended for this research, where applicable.

3.4 Conclusion

This chapter sets out to develop a conceptual model to act as a framework for testing the various hypotheses listed above. All constructs and hypotheses are theoretically justified and explained. The next chapter deals with the methodology used to test the hypotheses.

CHAPTER 4 METHODOLOGY

4.1 Introduction and chapter outline

The objective of this chapter is to operationalise the conceptual model of Chapter 3 by describing and explaining the methodology used in this research. For clarity, operational definitions of terms used in this research are defined and explained. Theoretical rationale underpinning the independent variables is set out in easily readable matrix format. This chapter also describes data collection, sampling procedures and data preparation before testing.

Section 4.2 of this chapter discusses the justification for the ontological paradigm chosen by this research. Section 4.3 defines and explains the operational definitions used in this research. Section 4.4 deals with the measurement of constructs. Section 4.5 sets out in matrix format the theoretical rationale underpinning the independent test variables. Section 4.6 explains the decision rule used by this researcher in distinguishing between operational strategies and strategic actions. Section 4.7 sets out the statistical methodology used and the various test models. Section 4.8 discusses the nature and attributes of the research data. Section 4.9 describes the data collection, sampling method, sample selection and sample attributes. Section 4.10 provides justification for small sample size. Section 4.11 demonstrates and validates the effectiveness of the financial performance selection rule of '+++-' by using non-parametric Wilcoxon-signed rank T test on the financial characteristics of the sample firms, three consecutive years prior to distress compared to their financial characteristics in the distress year. As Multiple Regression Analysis assumes normality, section 4.12 normalises the firm size variable as a data preparation procedure before testing. Section 4.13 discusses the treatment of missing data values and outliers. Section 4.14 discusses rigour in the context of this research. The final section 4.15 concludes.

4.2 Theoretical perspective

Justification for the ontological paradigm chosen.

A researcher views the world/reality through certain perspectives or ontological lenses, via assuming an objective/positivist or subjective/constructivist stance. The positivist research paradigm assumes that reality can be objectively determined as it exists (i.e. being) apart from the researcher, is singular and can be comprehended, observed and measured (Creswell, 1994:5; 2003). The constructivist research paradigm takes the view that reality is constructed by people in their effort to understand and interpret the events and experiences of this life world (Creswell, 1998; Denzin & Lincoln, 2005). Therefore multiple realities exist among the researcher, the subject individual under the study and the reader interpreting the results of the study (Creswell, 1998).

The philosophy of reality is one of 'becoming' in the case of a constructivist paradigm rather than 'being' as in the case of the positivist paradigm. The ontological ('what is knowledge') assumption taken by the researcher determines the epistemology ('how we know it') adopted, which is either empirical (for the positivist ontology) or interpretative (for the constructivist ontology) (Creswell, 1994; 2003:6; Denzin & Lincoln, 2000). Following from the above assumption, research methodology takes different paths, that of a quantitative methodology, for the positivist ontology—and that of a qualitative one, for the constructivist ontology (Creswell, 1994). Research methodology can also take a mixed paradigm of both.

Methodology relates to the process of how one is to perform the research whereby facts are gathered, collated, categorised, reviewed, interpreted and analysed (Remenyi, Williams, Money, & Swartz, 1998). In short, Creswell (1998:75) refers to methodology as 'the process of research'. In a qualitative methodology the researcher normally uses inductive logic to capture the 'multiple realities' of the informants regarding a phenomenon and develops categories and constructs as they emerge 'rather than specifying them in

advance of the research' (Creswell, 1998:77). A quantitative methodology uses deductive logic to form, in advance, hypotheses from relevant extant literature, existing empirical findings or from a known premise and has the hypotheses tested (e.g. for statistical significance). The main purpose of a quantitative study is to enable a predetermined hypothesis to predict, explain, and understand a certain phenomenon (Creswell, 1994).

A qualitative methodology is not considered appropriate for this research as a firm's financial distress is often a phenomenon couched and treated with extreme confidentiality and sensitivity by the subject firm's management or the failed entrepreneur owner. A qualitative study would be fraught with the difficulties of locating the 'errant' manager, who most likely would have left the firm for greener pastures. The results of a qualitative methodology would be seriously biased, as the present management would most certainly blame the previous one for all the 'woes' that the firm had suffered. Social psychology cognition attribution theory suggests that people have cognitive biases with a tendency to credit their own success to internal factors (e.g. own skill and capabilities) whilst attributing failures to external factors—for example, outside their control, unfair, too difficult, et cetera (Fiske & Taylor, 1991). Research studies support such human traits and failings—for example, Wagner and Gooding (1997); Huff and Schwenk (1990). Hence, people's recollection of events and construction of meanings attaching to events and multiple realities may skew the truth of what actually happened. The methodology of collecting data via interviews and/or questionnaire will be logistically made difficult resulting in distortions, half truths and 'retrospective reporting biases' (Shepherd, 2005:126).

It is envisaged that the phenomena of financial distress, performance decline and recovery are real processes and can be objectively observed and measured. Following Mone et. al (1998), this research adopts the definition and measurement of organisational decline expounded by Cameron, Kim and Whetten (1987a:224): a depletion and decline of an organisation's resources, that is, 'Organisational decline is a condition in which a substantial, absolute decrease in an organisation's resource base occurs

over a specified period of time' and that it 'refers to reduction of resources within the organisation itself. The environment may or may not have changed'. Flowing on from this definition, 'The most common procedure to measure decline is to subtract levels of resources at time one from levels at time two' (Cameron et al., 1987a:223). Accordingly, the variables in Table 2 in this chapter are measured on a 'change' basis between time dy (distress year) and $dy2$ (post-distress). Hence, a positivist research paradigm has been adopted here. Data for this research is sourced from the public domain.

For clarity and easy reference, the following operational definitions are reiterated here.

4.3 Operational definitions

a) *Financial distress*: is the risk of insolvency or the threat of 'going concern' viability when a firm has difficulty in its ability to 'pay its debts as and when they become due and payable', as defined in the *Corporations Act* (ss 9, 95A, 347A). A prolonged period of financial distress without remedial efforts to turn it around often leads to business failure when a firm 'involuntarily becomes unable to attract new debt or equity funding to reverse decline; consequently, it cannot continue to operate under the current ownership and management' (Pretorius, 2009:10). In the Australian context, directors of financially distressed firms can file for voluntary administration under the *Corporations Act* whereby the firm and its business will be placed under the administration of a receiver manager/administrator.

b) *Organisational decline* and *Performance decline*: a firm is said to experience *organisational decline* if it experiences deterioration in its ability to utilise its resources sufficiently to achieve viability and sustainability (Cameron, Kim, & Whetten, 1987; Lohrke, Bedeian, & Palmer, 2004). Cameron, Kim & Whetten (1987:224) define organisational decline as a 'condition in which a substantial, absolute decrease in an organisation's resources base occurs over a specified period of time'.

On the other hand, *performance decline* is a consequence or manifestation of organisational decline. Pretorius (2009:10) defines a firm in performance decline 'when its performance worsens (decreasing resource slack) over consecutive periods and it experiences distress in continuing operations. Decline is a natural precursor in the process to failure'. Performance decline may be as mild as a performance shock or severe, threatening the viability of the firm (Pretorius, 2004, 2009). Severity is often measured in quantifiable terms. For example, Hofer (1980) views severity of decline as distance from a firm's breakeven profitability level. Situations requiring turnaround can include firms earning less than their cost of capital (Hambrick, 1985) or organisations not meeting performance expectation of their stakeholders, analysts, vendors and employees. (Kow, 2004). 'Performance decline' and its severity in this thesis refers to financial performance decline. 'Performance decline' is operationalised as satisfying the conditions in section 3.3.4.

b) *Performance turnaround*: a firm is said to have had a 'turnaround' or adequately recovered from a performance decline or firm-threatening survival/crisis when it reverses that decline and achieves improved financial performance and profitability. (Gopal 1991; Robbins and Pearce 1993; Barker and Duhaime 1997; Lohrke, Bedeian et al. 2004). 'Performance turnaround' is operationalised in section 3.3.5.

d) *Top management team (TMT) and chief executive officer (CEO)*: Barker and Barr (2002:966) define TMT as the 'executive leadership that initiates and directs strategic reorientation and includes two basic groups of leaders, the TMT and the board of directors (BOD)'. The top *operational* representative of the TMT is the chief executive officer (CEO) or managing director (MD). The CEO or MD is the person who has significant authority over operational management and is often responsible for the profitability and strategic direction of the firm. Results of empirical research on strategic change and top management team lends support to the above-mentioned definitional functional role (Westphal & Fredrickson, 2001).

In regards to CEO, Barker and Barr believes that 'the CEO would have causal attributions that were most representative of the TMTs beliefs' (Barker & Barr, 2002:969). However, there is no standardisation as to the proxy variable to represent top management, as the variable used in research studies varies from research to research. Top management has also been variously defined in studies as CEO, president and chairman of the board (Gilson, 1989; Kaplan & Reishus, 1990), vice presidents and above

(Hambrick & D'Aveni, 1992; Mueller & Barker, 1997), CEO and board of directors (Barker & Barr, 2002), and directors (Daily & Dalton, 1995; Thain & Goldthrope, 1989b). Gioia and Chittipeddi (1991:434) define the CEO as '(typically) portrayed as someone who has primary responsibility for setting strategic directions and plans for the organisation, as well as responsibility for guiding actions that will realise those plans'. Given this role definition, this research defines a 'CEO' as someone who bears the title of CEO, managing director or chairman. Accordingly, any incidence of change in any of the above-mentioned will be considered as a change of CEO. The variable 'CEO' in this research has been used as a proxy to represent the construct, TMT.

e) Return on Total Assets (ROTA): This is defined as:
$$\text{ROTA} = \text{Earnings before interest and tax} / \text{Total assets}$$
ROTA is a key measure of a company's profitability, equal to a fiscal year's pre-tax earnings divided by its total assets.

Although the independent variables are generically annotated, this research will penetrate below the 'level of generics' by examining the impact and effectiveness of each specific recovery action: the x, y, z undertaken by sample firms.

4.4 Measurement of constructs

Operational, financial and strategic restructuring efforts

Consistent with the approach adopted by turnaround researchers (Bibeault, 1982; Hambrick & Schechter, 1983; Hofer, 1980; Sharma & Mahajan, 1980), managerial turnaround efforts are observable through the indicators of the independent performance variables in Table 1. These are categorized into three broad categories of: operational restructuring, financial restructuring and strategic restructuring.

Following Chowdhury and Lang (1996), operational efforts will be represented by retrenchment and plant level reduction variables and strategic moves by revenue-generation variables and divestitures. The financial performance indicators will be statistically regressed.

In Table 1, the first column marked 'Strategy' the descriptive item in italics beneath it serves to describe the area of interest. In the second column marked 'Area' the *specific* independent variable is selected for testing. For example, 'Down-sizing/cost cutting' is the categorical descriptor area of interest and 'Employee retrenchment' is the *selected* independent variable. That is, employee retrenchment is only *one of the many* 'down-sizing/cost cutting' efforts a firm can undertake in attempting turnaround. Column three headed 'Variables' sets out the formula for calculating the independent variable chosen for testing. The 'average' is the mean of the reported closing value of the variable in dy_1 and the closing value of the same variable in dy_2 .

Table 1 *Independent variables*

Strategy	Area	Variables
A) OPERATIONAL RESTRUCTURING <i>Down-sizing/cost cutting</i>	Employee Retrenchment (ER)	$(\text{Average employee number}_{dy2} \text{ less Employee number}_{dy}) / \text{Employee number}_{dy}$ where $dy2$ = two years or second financial year end reporting period post dy and dy =distress year.
	Employee Benefits Provision Change (EBPC) Lay-off = Lay-off =	$(\text{EBP}_{dy2} \text{ less EBP}_{dy}) / \text{EBP}_{dy}$ ER EBPC if employee numbers are missing
<i>Asset reduction (sale)</i> (business unit/plant level)	Asset sales	$(\text{Average cash received asset sales}_{dy2} / \text{Average gross book value of assets}_{dy2}) - (\text{Cash received asset sales}_{dy} / \text{Gross book value of assets}_{dy})$
	Inventory level change relative to sales	$(\text{Average inventory}_{dy2} / \text{Average sales}_{dy2}) - (\text{Inventory}_{dy} / \text{sales}_{dy})$
(B) FINANCIAL RESTRUCTURING	Dividend payout	$(\text{Average dividend paid or provided}_{dy2} / \text{Average net after tax income}_{dy2}) - (\text{Total dividend paid or provided}_{dy} / \text{Net after tax income}_{dy})$
	Financial Leverage	$(\text{Average total debt}_{dy2} / \text{Average total share capital and reserves}_{dy2}) - (\text{Total debt}_{dy} / \text{Total share capital and reserves}_{dy})$
	Debt cover	$(\text{Average EBIT}_{dy2} / \text{Average borrowing cost}_{dy2}) - (\text{EBIT}_{dy} / \text{Borrowing cost}_{dy})$
	Combined Leverage	Financial leverage + Debt cover
	Share(equity) placement	$(\text{Average placement proceeds}_{dy2} / \text{Average contributed capital}_{dy2}) - (\text{Placement proceeds}_{dy} / \text{Contributed capital}_{dy})$

Source: developed for this research

Table 1 *Independent variables (cont'd)*

Strategy	Area	Variables
(C) STRATEGIC RESTRUCTURING <i>TMT change</i>	<i>CEO change</i>	<i>Dummy equals 1 if new CEO in dy, dy_1 or dy_2, 0 otherwise</i>
	<i>BOD size</i>	<i>(Average BOD size post-distress years) – (Average BOD size pre-distress years)</i>
<i>Revenue-generation and Acquisitions</i>	<i>New business</i>	<i>Dummy variable equals 1 if new business acquired, and/or new geographical or industry segment entered into in dy, dy_1 or dy_2, otherwise 0</i>
	<i>New segment</i>	
	<i>Sales change</i>	<i>(Average net sales_{dy_2} – Net sales_{dy}) / Total operating revenue_{dy_2}</i>
<i>Asset reduction (corporate level)</i>	<i>Divestitures</i>	<i>Dummy variable equals 1 in dy, dy_1 or dy_2 if divestment, otherwise 0</i>

4.5 Theoretical rationale under-pinning the independent variable

The following Table 2 explains the theoretical rationale underpinning the above independent (predictor) variables.

Table 2 *Operational variables rationale matrix*

OPERATIONAL VARIABLES RATIONALE MATRIX			
Strategy	Area	Independent variables	Rationale
A) OPERATIONAL RESTRUCTURING <i>Down-sizing/cost cutting</i>	Employee Retrenchment	LAY-OFF	$(\text{Average employee number}_{dy2} \text{ less Employee number}_{dy}) / \text{Employee number}_{dy}$ If employee numbers are available. where dy_2 = two years or second financial year end reporting period post dy and dy =distress year
		LAY-OFF	EBPC If employee numbers are missing
		Employee Benefits Provision Change (EBPC)	$(EBP_{dy2} \text{ less } EBP_{dy}) / EBP_{dy}$ Firms make provision for employee benefits (e.g. annual leave and long service leave) in their accounts. This provision is calculated based on the number of employees and their pay rates. Cost of staff lay-off (retrenchment) is normally paid out of this provision. Large movement (e.g. decrease) in the provision account normally would imply staff lay-off. Efficiency improving cost cutting measures are recommended as quicker in yielding results than entrepreneurial oriented measures (Hambrick & Schecter 1983; Robbins & Pearce 1992; Pearce and Robbins 1994). Chowdury and Lang (1996) found small size firms rely more heavily on employee efficiency rather than newness of plant & equipment as an important determinant in performance turnaround due to lack of slack resources. Large matured firms also found efficiency measures yield faster results in short-term turnarounds (Hambrick & Schecter 1983). The lay-off variable measures the magnitude of employee retrenchment in post-distress years as a proportion of distress year's total employee number.

Source: developed for this research

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
A) OPERATIONAL RESTRUCTURING <i>Asset reduction</i> (business unit/plant level)	Asset sales	Asset sales (ASTSAL)	<p>(Average cash received asset sales_{dy2} / Average gross book value of assets_{dy2}) – (Cash received asset sales_{dy} / Gross book value of assets_{dy})</p> <p>Asset sales by a declining firm often increase the firm's focus on remaining productive assets resulting in improved performance as the firm disposes of its surplus/unproductive/non-synergistic assets (John & Ofek, 1995). For firms operating far below performance break-even (severe case), Hofer (1980) recommends asset reduction measures. The much-needed cash from realisation of asset sales often provides additional working capital (slack resources) resulting in cash flow relief and reduction of financial leverage (Chowdhury & Lang, 1996:175; Yawson, 2004).</p> <p>Expressing proceeds from asset sales as a proportion to gross book value (cost) of assets gives an indication of the extent of asset sales carried out by declining firms. Increase in asset sales in recovery years should result in a positive differential.</p>

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
A) OPERATIONAL RESTRUCTURING <i>Asset reduction</i> (business unit/plant level)	Inventory level change	Inventory level change relative to sales (INTYCHG)	$\frac{\text{Average inventory}_{dy2}}{\text{Average sales}_{dy2}} - \frac{\text{Inventory}_{dy}}{\text{Sales}_{dy}}$ <p>Slow moving inventories tie up working capital (slack resources). Therefore reducing inventory level releases much-needed cash, decreases inventory carrying cost and interest expense (Chowdhury & Lang 1996). This variable is an 'efficiency in the usage of working capital' proxy, as by expressing the numerator inventory in relation to denominator sales it is an indicator of the extent inventory is turning over relative to sales. A lower ratio should indicate more efficient inventory and working capital management and conversely, higher inventory sale conversion rate.</p> <p>The recovery years dy2 versus distress year dy effect gives an indication of inventory reduction effected by recovery firms.</p>

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
B) FINANCIAL RESTRUCTURING	Dividend payout	Dividend (DIV)	<p>(Average dividend paid or provided $_{dy2}$ / Average net after tax income$_{dy2}$) – (Total dividend paid or provided $_{dy}$ / Net after tax income$_{dy}$)</p> <p>Oflek (1993:29) found highly-leveraged firms when experiencing <i>short-term</i> distress (<i>one year profitable followed by distress year</i>) were more likely to respond quickly in an operational sense to implement actions like restructuring assets, laying off employees and 'financially, through dividend cuts, debt restructuring and bankruptcy'. Reducing or suspending dividend payout is part of equity based restructuring strategies carried out by financially distressed firms (Sudarsanam & Lai, 2001:187). DeAngelo and DeAngelo's (1990) study of 80 financially distressed New York Stock Exchange listed firms during 1980 to 1985 revealed that despite the absence of binding debt covenants, managers are often reluctant to omit dividend payments, but rather to reduce them, especially if the firm has a long dividend paying history. They found declining firms cut dividends aggressively and rapidly when responding to financial distress and 'some dividend reductions may be strategically motivated, for example, designed to enhance a firm's bargaining position with organised labour' (DeAngelo & DeAngelo, 1990:1430)</p>

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
B) FINANCIAL RESTRUCTURING (cont'd)	Dividend payout	Dividend (DIV)	<p>Gentry, Newbold and Whitford's (1985:160 & 156) matched-pair study of 33 failed and non-failed US firms for the 12-year period 1970 to 1981 found 'the dividend funds flow component was a significant variable in the failed/non-failed classification' and that 'the smaller the relative dividend component, the higher the probability of failure'. Although dividend reduction or omission may be a consequence of decline, the variable dividend/net after tax income has been included to discover any other motivations or strategic reasons that may account for the difference in the dividend policy of successful and unsuccessful turnaround firms and its relative effectiveness/impact on the probability of turnaround.</p> <p>Dividend paid or provided / net after tax income measures the proportion of available profit that is distributed (conversely the proportion of profits retained). So change in the resultant variable value indicates an increase (+) or decrease (-) in dividend payout.</p>

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
B) FINANCIAL RESTRUCTURING	Financial Leverage	Leverage	<p>$(\text{Average total debt}_{dy2} / \text{Average total share capital \& reserves}_{dy2}) - (\text{Total debt}_{dy} / \text{Total share capital \& reserves}_{dy})$</p> <p>This ratio, variously referred to as 'financial leverage', 'financial gearing' or 'debt-to-equity', measures the proportion of debt in a firm's capital structure (Gilson, 1989:244). Per Pfeffer (1972:224) it is a proxy measure of a firm's 'need for access to external capital markets'. Hossari and Rahman's (2005:324) formal ranking of 48 financial ratios used in modelling financial collapse in 53 studies, between 1966 and 2002 inclusive, revealed that the financial leverage ratio of total liabilities/total equity was popularly found useful in 23% of the studies. Barker and Duhaime (1997) found in their study that declining firms had high debt levels before turning around as they accumulate more debt (due to scarce financial resource depletion) in trying to survive. Depletion of scarce financial resource places constraints on the ability to embark on strategic moves, which are generally 'big ticket items'. Yawson (2004:22) found firms that are able to lower their financial leverage via asset sales proceeds and had 'conversion of debt to equity instruments experience performance improvements' due to lowering of interest cost. Oflek (1993:28 & 29) found in a study of 358 US firms experiencing short-term distress (defined as 'one year of normal performance followed by one year of extreme poor performance'), 'highly-leveraged firms react faster to a decline in performance than do less-leveraged companies' due to debt-influenced/imposed discipline. The lower the resultant ratio, the lower the firm's financial risk profile.</p> <p>By comparing average gearing in recovery years to decline year's gives an indication of the magnitude of de-gearing.</p>

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
B) FINANCIAL RESTRUCTURING	Debt service coverage	Debt cover	<p>$(\text{Average EBIT}_{dy2} / \text{Average borrowing cost}_{dy2}) - (\text{EBIT}_{dy} / \text{borrowing cost}_{dy})$</p> <p>This ratio measures the number of times earnings cover borrowing cost (interest expense) and is a profitability/leverage servicing indicator (Sharma & Mahajan, 1980). Generally, all things being equal, the higher the ratio the better the ability of the firm to meet interest payment. Interest are fixed commitments and are <i>charges against profit</i> irrespective of whether the firm makes profit, whereas dividends are <i>appropriation of profits</i> which need not be paid if the firm has no or insufficient retained earnings. Declining firms normally would embark on debt-based restructuring strategy to avoid or solve financial distress (Sudarsanam & Lai, 2001). A debt-based restructuring transaction is one 'where a firm's debt contracts are amended on one of the following terms: (i) promised interest or principal payments are reduced; (ii) the debt's maturity is extended; or (iii) creditors are given equity in the firm (securities convertible into common stock)' (Gilson, 1989:245).</p> <p>Lowering of interest commitments results in an increase in the debt servicing coverage ratio, indicating an improvement in the firm's ability to service fixed debt commitments from its earnings.</p> <p>The resultant differential of this variable gives an indication of the magnitude in the improvement in a firm's debt servicing ability in the recovery years compared to that of the distress years.</p>

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
B) FINANCIAL RESTRUCTURING	Debt service coverage cont'd	COMLEV =	Leverage + Debt cover As the two debt variables attempt to measure the same gearing construct, the two variables are combined for a more effective measure of a firm's indebtedness ³¹ .
	Equity	Share placement (SHAREPLC)	(Average placement proceeds _{dy2} / Average contributed capital _{dy2}) – (Placement proceeds _{dy} / Contributed capital _{dy}) Extant literature tends to pay little attention to this strategy on the basis that a firm in distress is handicapped in its ability to raise additional equity capital. However, such a stance tends to forget that equity instruments can be placed out to private friendly or sympathetic parties. The recent global financial crisis bore this out in that firms in their effort to repair their sheets, the values of which were destroyed by the recent financial crisis, used the financial markets to place out share instruments for additional capital (Mitchell & Ciampa, 2009; Stanton, 2009). The success of such an exercise depends on the state and sentiment of the financial market and the firm's degree/severity of financial distress. Change in this variable indicates an increase (+) or decrease (-) in share placements.

³¹ For parsimony due to the specified limitation of the MRA technique of the number of cases to number of independent variables, the two variables are added together by using the SPSS compute/ transform/add facility. The theoretical rationale is that both relate to the debt gearing construct. A Pearson two tailed correlation test between the combined variable COMLEV and the Debt cover variable revealed significant correlation at the p<0.01 level.

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
C) STRATEGIC RESTRUCTURING <i>TMT change</i>	CEO change	CEO change (CEOCHG)	<p>Dummy equals 1 if new CEO in dy, dy_1 or dy_2, 0 otherwise (Yawson, 2004)</p> <p>Gilson's (1989:246) study of 381 US exchange-listed firms found 52% of sample financially distressed firms experienced TMT change compared to a 19% TMT turnover rate in non-financially distressed firms. Similarly, Grinyer and McKiernan's (1990) study of 26 'sharp-benders' found 55% had changes in CEO. Arrival of a new CEO, acting as new change agent (e.g. strategic change (Barker & Duhaime, 1997:33)), often raises expectations of better (and changing) times ahead when perceived by external (e.g. shareholders and financiers) and internal (e.g. employees) stakeholders. Empirical evidence tends to suggest that there is a positive correlation between changing CEO, revenue growth and turnaround performance (Yawson, 2004:24).</p>

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
C) STRATEGIC RESTRUCTURING <i>TMT change</i>	BOD	BOD size (BODSIZ)	<p>(Average BOD size 2 post-distress years) – (Average BOD size three pre-distress years)</p> <p>Mueller and Barker (1997:129) in their study of 33 matched-pair US manufacturing firms for the 1977 to 1993 period found 'that non-turnaround firms were more likely to have boards that were either too large or too small in the critical years of responding decline'. They found in the second year, turnaround firms that are most likely to recover had BOD sizes of five to seven directors. A matched-pair sample study by Chaganti, Mahajan and Sharma (1985) of 42 US retail firms for 1970 to 1976 found BOD size and corporate failures are related with non-failed firms having larger BODs. This variable is derived from a head count of the number of directors as reported in a firm's published annual report.</p> <p>A negative (-) score for this variable indicates a decrease in BOD size since distress year. Conversely an increase results in a positive (+) score.</p>

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
C) STRATEGIC RESTRUCTURING <i>Revenue generation and acquisitions</i>	New segment New business	New segment New business (NEWBUS)	<p><i>Dummy variable equals 1 if new business acquired, and/or new geographical or industry segment entered into in dy, dy_1 or dy_2, otherwise 0.</i></p> <p>Strategic reorientation or change is needed if a firm's problems are caused by strategic misalignment with its environment and markets (Barker & Duhaime, 1997; Hofer, 1980; Schendel et al., 1976). 'Domain-changing actions' may include going into new geographical and/or product segments (Barker & Duhaime, 1997:25).</p> <p>Product market diversification and geographical diversification are often the two representative dimensions of corporate strategic change mentioned and operationalised in extant strategy literature and related empirical research (Boeker, 1997; Kim, 1989; Westphal & Fredrickson, 2001).</p> <p>As segment reporting is mandatory for ASX listed firms, this variable is to capture 'domain-changing' or reorientation actions taken by firms attempting performance turnarounds.</p> <p>Acquisition of new businesses is one of the turnaround strategic moves by declining firms in an attempt to effect strategic change or reorientation (Barker & Duhaime, 1997). This may include acquisition of firms or business 'competing outside or within historical lines of business' (Barker & Duhaime, 1997:25).</p> <p>Other than capturing new business acquired this dummy variable also serves to capture 'domain-changing actions' (Barker & Duhaime, 1997:24 & 25) like joint-venture, co-opetition, mergers and partnerships undertaken by the sampled firms.</p>

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
C) STRATEGIC RESTRUCTURING <i>Revenue-generation</i>	Sales	Sales growth (SALEGRO)	<p>$(\text{Average net sales}_{dy2} - \text{Net sales}_{dy}) / \text{Total operating revenue}_{dy2}$</p> <p>Sales are the 'forerunner' or prerequisite to profitability. Agenti's (1976) analysis of business failures concluded that the inability to generate profit and high leverage were among the main symptoms of failure. The 'sales' variable was used as a primary indicator for testing of strategic change represented as 'revenue-generating strategy' and 'product/market refocussing strategy' in Hambrick and Schecter's (1983:236) turnaround study of 260 US matured industrial product business units in the mid to late seventies. Hence, sales growth is often used as a performance indicator linked to strategic change/revenue generating activities (Chowdhury & Lang 1996:173)</p> <p>The resultant ratio is an indication of how much of the post-distress years' total operating revenue is made up of sales growth (+) or sales decline (-).</p>

OPERATIONAL VARIABLES RATIONALE MATRIX (cont'd)			
Strategy	Area	Independent variables	Rationale
C) STRATEGIC RESTRUCTURING <i>Asset reduction (corporate level)</i>	Divestitures (business Units & subsidiaries)	Divestitures (DIVEST)	<p><i>Dummy variable equals 1 if divestment in dy, dy_1 or dy_2, otherwise 0.</i></p> <p>According to Bowman and Singh (1993:6) corporate restructuring 'involving mainly organisational structure change is often accompanied by asset disposal or acquisition'. Barker & Duhaime (1997:25) refers to strategic change or reorientation as 'domain-changing' actions. Bibeault's (1982:243) survey of 81 US turnaround company chief executives found that the frequency of using 'divestment of operating divisions' and 'divestment of substantial operating assets' as asset-redeployment strategies was 57% and 31 % respectively.</p> <p>Denis and Kruse (2000:420 & 415) found in their study of 350 large US firms with assets greater than USD100 million for the period 1985 to 1992 that 'asset restructurings are linked with subsequent operating improvements' and positive share reaction to asset restructuring announcement. This is possibly because of selling off least profitable assets. Grinyer and McKiernan's (1990:140) study of 25 UK 'sharp-benders' revealed that sample firms frequently retract to well-understood/familiar core business via business closures (50%), sale (45%) or harvesting of weaker businesses (5%).</p> <p>The expectation is that divestment will be statistically significant from the results of the MRA model.</p>

4.6 Research context decision rule

Strategic versus operational moves

This section seeks to explain the thinking used by this research to distinguish between whether a strategy adopted by a firm is 'strategic' or 'operational'. It discusses the distinction between the two based on existing extant turnaround literature. In practice the distinction between the two may be difficult to differentiate—for example, closing a branch versus closing a whole operating division. Hence, this chapter attempts to develop some workable decision rules to facilitate the conduct and performance of this research.

Strategic change or reorientation is often referred to as 'domain' changing action (Barker & Duhaime, 1997:25.) and is often accompanied by 'corporate restructuring' (Bowman & Singh, 1993) activities when a firm attempts to respond, align and adapt to external environmental changes (Ginsberg, 1988; Rajagopalan & Spreitzer, 1997). According to Prahalad and Hamel (1993:77), "'being strategic" implies a willingness to take the long view and "strategic" investments are those that require a large and pre-emptive commitment of resources—betting bigger and betting earlier—as well as a distant return and substantial risk'.

Hambrick and Schecter (1983:232) refer to the dichotomy of turnaround strategic efforts as 'doing different things' and operational efforts as 'doing things differently'. Identifying the *causes* of performance decline is important in order to implement effective turnaround strategies (*responses*) (Schendel et al., 1976). In practice the distinction between strategic—sometimes referred to as 'entrepreneurial'—versus operational or efficiency improvement measures may be 'blurred' and not easily identifiable³². According to Snow and Hambrick

³² The dichotomy of 'strategic' versus 'operational' turnaround actions may sometimes be difficult to differentiate. This research will not be embroiled in definitional argument or discourse of the

(1980), firms facing external challenges or pressures often *adjust* rather than *change* their strategies. Overall, strategic change or reorientation is expensive as it often involves a complete overhaul of the firm's business model or processes and in the process consumes large amounts of (slack) resources, which may compound the risk of further decline.

For this research, the following are decision rules used in identifying the distinction between 'strategic' and 'operational' turnaround measures.

Changes effected with a 'big picture' or strategic re-focus will be deemed 'strategic'. Chowdhury and Lang (1996:170) refer to such 'strategic turnaround actions' as 'grand, long-term initiatives such as diversification, vertical integration, new markets share trusts, and divestment'. On the other hand, changes at operational level especially to increase efficiency by better use of resources or cut wastage will be deemed 'operational'. For example, closure of unprofitable branches will be considered operational whilst divestitures of unprofitable segments of business due to non-strategic/non-synergistic fit will be deemed 'strategic'.

Barker and Duhaime (1997) provide the following three general attributes of decline that are typical of the need for strategic reorientation or operational efficiency improvement measures.

- The *extent* of a firm's decline often dictates the need for strategic change. A firm with extremely poor performance normally has fundamental strategic misalignment problems when compared to a firm suffering a less severe decline. (Incidentally this resonates with Hofer's (1980) *severity* of decline whereby the degree of 'severity' is the distance *close* to (less

two terms, but rather seeks a workable set of decision rules to facilitate the conduct and performance of the research project. The above decision rules are formulated with this objective in mind.

severe) or *far below* (more severe) a firm's performance break-even profitability. The less severe case needs only efficiency improvement measures to turnaround and the severe case needs strategic change or re-alignment.)

- Firms suffering *firm-based* decline in growing or stable industries often need strategic change. These firms often suffer 'weak strategic positions' relative to their peers due to management's inertia or misalignment with a changing environment and will continue to decline 'unless a strategic reorientation creates new assets and skills that better match environmental demands' (Barker & Duhaime, 1997:19).
- Declines caused by *cyclical* business downturn generally have a lesser need for turnaround strategic change. For firms suffering such a decline, efficiency improvement measures (e.g. cost cutting) are often effective while waiting for the economic upturn to arrive.

The above attributes will act as persuasive influences or guidelines when deciding whether a particular strategy implemented by firms attempting turnaround is 'strategic' or 'operational'. Severity of decline

Following on from the above paragraph, one would expect the effects of 'strategic' change to be far reaching, the implementation of which change is often expensive. Hence, the dollar value materiality involved is a persuasive indicator. Per Snow and Hambrick (1980:529) 'strategic change occurs only when the organisation (1) modifies in a major way its alignment with the environment and (2) substantially alters technology, structure, and process to fit the new alignment'. Materiality will be determined in relation to a firm's total revenue as reported in its published financial reports.

The extant turnaround literature considers revenue-generating strategies (e.g. sales/product/market/technology initiatives) and cost cutting/belt-tightening measures (e.g. employee lay-offs, business unit asset disposal and cost control) as observable performance indicators of strategic change and operational moves respectively (Bowman & Singh, 1993; Chowdhury & Lang, 1996; Grinyer & McKiernan, 1990; Hambrick & Schecter, 1983). Hambrick and Schecter (1983:232) citing Hofer (1980) consider 'strategic' such strategies that involve 'a major redefinition of the firm and/or attempts to increase market share dramatically'.

Product market diversification and geographical diversification are often the two representative dimensions of corporate strategic change mentioned and operationalised in extant strategy literature and related empirical research (Boeker, 1997; Kim, 1989; Westphal & Fredrickson, 2001). Diversification into core business related markets by firms in the California savings and loan industry was found to reduce their failure and mortality rate (Haveman, 1992).

Strategic change or reorientation involving domain changing actions (Barker & Duhaime, 1997) can be either *offensive* or *defensive* (Tan & See, 2004). The former is often expansionary (growth oriented) while the latter is often contractionary (retractive) Tan & See, (2004:190). When faced with performance decline, risk taking firms would most likely respond by expanding their domain, beyond their current one, by way of seeking new markets, mergers, acquisitions, joint ventures, co-opetition and other revenue-generating strategies like new product introduction, new marketing initiatives/reorientation, increase in advertising expenditure, new technology adoption and price structure changes. Tan and See's (2004) study of 46 publicly listed Singapore manufacturing firms between 1995 and 1998 found earnings declining firms were, on the whole, more likely to adopt a defensive strategic stance than an offensive one in order to conserve cash. These were generally smaller sized firms (in terms of total assets). However, they did find some support for larger declining firms adopting

an expansionary strategic stance due to their access to a higher level of potential slack resources. Defensive strategies are often more conservative, with the firm staying within or contracting its 'current domain of operations' Tan & See, (2004:190). They normally take the form of downsizing (e.g. divestments), efficiency and conservation and minimisation of slack resource consumption. Tan and See's findings of smaller declining firms' propensity to adopt defensive strategies are in congruence with Grinyer and McKiernan's (1990) findings that 'sharp-benders' when faced with performance decline often retract to well-understood/familiar core business via business closure (50%), business sale (45%) or harvesting of weaker businesses (5%). These findings also tie in with Bibeault's proposition as described below.

Bibeault (1982:228) is of the opinion that strategic changes 'are usually not attempted in *weak* firms facing emergency turnaround conditionsstrategic actions take longer to pay off'. This 'longer yielding pay-off period ' as a differentiating feature is also shared by Hofer (1980). Hence, this differentiating criterion will be a persuasive influence in the categorisation of strategic versus operational actions taken by a firm in this research context.

The perspective and theory of core competencies seek to explain the comparative competitive advantage of firms (Prahalad & Hamel, 1990, 1993; Sanchez & Heene, 1997; Teece, Pisano, & Shuen, 1997:516). Prahalad and Hamel (1990:82) refer to a firm's core competencies as the 'collective learning in the organisation, especially how to coordinate diverse production skills and integrate multiple streams of technologies' to come up with core products and end products for which the firm is noted for, for example, the famous Sony's miniaturisation technology and Canon's optics, imaging, microprocessor controls technology. Applying this perspective, strategic change and/or reorientation would therefore entail the firm acquiring or developing new 'competency' outside or from its current 'core', for example, via seeking new technology and developing new products from its core competence platform as part of its 'core

strategy'—Prahalad & Hamel, (1994:126). Following on from this perspective, such actions taken by a firm attempting performance turnaround will be deemed, in this research context, as strategic actions.

Corporate diversification as a business strategy can be linked to one aspect of the manifestation of the theory of core competencies. The extant strategy management empirical literature on corporate diversification shows that diversification *per se* does not necessarily lead to superior firm performance in terms of earnings and profitability. Early diversification-performance research tends to support the proposition that diversification into *related* activities within the firm's 'central skill or competence' leads to better profitability over an extended period of time than non-related diversifiers (Christensen & Montgomery, 1981; Palepu, 1985:241; Prahalad & Hamel, 1990; Rumelt, 1982). This is because of the ability of the firm to leverage from its comparative advantage of deep-seated expertise or knowledge, market power and size and the synergistic effect from its core product 'through mechanism such as cross-subsidization, predatory pricing, reciprocity in selling and buying and barriers to entry' (Markides & Williamson, 1994; Palepu, 1985:241). However, recent diversification-performance researchers caution that not all related diversifications will yield superior performance results. An important determining and influencing factor is having an appropriate diversification implementation strategy, principally the maintenance of an adequate level of slack resources as the synergistic effect of shared organisational resources eventually wears out (law of diminishing returns) as diversification often leads to increased complexity in other areas, for example, administration costs (Gary, 2005). Also performance differentials of diversifiers may also be linked to characteristics of market structure (e.g. market share, concentration, growth and firm size) in which the firm operates (Christensen & Montgomery, 1981). Corporate diversification efforts will be deemed as 'strategic' in this research context.

Declining firms, which eventually merged with other entities in the recovery years, will not be included in the final sample. Such firms may display unusual financials from their declining years. They may lose their original corporate form, and continuity of basic underlying financials may be distorted and be unable to provide any meaningful turnaround analysis. Further, as this study is confined to public listed companies, these declining firms may be purchased primarily for their public listed status (Bruton et al., 2003). Such a 'backdoor listing' exercise often resulted in the closure of the firm's original business and the injection of new businesses and assets by the investor, resulting in abnormal increase or decrease in financial parameters.

4.7 Methodology

4.7.1 Statistical tool multiple regression analysis and model #1

This research uses linear Multiple Regression Analysis (MRA) statistical technique and the pc based SPSS software as analysis tools. The advantage of using MRA, as opposed to just analysis of financial ratios per se, is that it can explain the simultaneous effect of multiple predictor variables on the dependent variable (Tummins & Watson, 1975; Whittington, 1980). The MRA equation takes the form of:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots + \beta_n X_n + \varepsilon$$

where the β_n s are called coefficients of partial regression which measure 'the percentage of the variance in the dependent variable Y that is explained by a single independent variable X_n , with the other independent variables held constant'—*Italics added* (Zikmund, 2003:578). The constant a is the vertical axis intercept and ε is the error term.

Closely associated with MRA is the coefficient of multiple determination R^2 , a test statistic which indicates the percentage of change/variation in the dependent variable Y explained by the variation in the independent predictor variables $X_{n's}$. For example, if $R^2=0.75$, the indication is that the variation in the independent predictor variables $X_{n's}$ collectively account for 75% of the variation in the dependent variable Y .

The F test statistic in MRA is a statistical significance test for the whole equation, that is, it compares the variation of the variables defined in the equation (Zikmund, 2003:578). The result of the F test statistic together with the significance level p -value (a measure of confidence level) enables the researcher to know that 'the estimated functional relationship is not due to chance or random variation' (Zikmund, 2003:579) and that there is less than $x\%$ chance of that not holding true (Sekaran, 2003:407). Hence, this enables the researcher to reject or not reject the null hypothesis.

The MRA model #1 is used to test hypotheses H1 to H5, repeated here for easy reference.

H1: ROTA is positively related to the adoption of a combination of operational, financial and strategic turnaround strategies.

H2: Industry effect is significant in influencing profitability and the likelihood of successful turnaround.

H3: The effect of the economy is significant in influencing profitability and the likelihood of successful turnaround.

H4: The likelihood of a successful turnaround is positively related to firm size.

H5: Operational restructuring strategies—that is, efficiency improvement efforts—are more effective in achieving financial performance turnaround than strategic and financial restructuring strategies.

4.7.2 Further analysis—model #2 financial profile over time

The first objective of this test and analysis of its results is to identify recovery firms from those that did not recover or did not fully recover according to the three-fold criteria of financial health: those of improvement in profitability, financial leverage and liquidity. The second objective of this test is to supplement the MRA test model #1 described above. This is because of the small sample size of 88 and the MRA constraint of having a minimum of 'at least five times more cases than independent variables' (Coakes, 2005:169). The 14 independent variables are within the minimum MRA requirement given a sample size of 88 firms (number of cases). As this technical constraint, because of sample size, limits the number of independent (predictor) variables one can have in the MRA model #1, this test 'model #2 financial profile over time' is designed to pick up any discriminating trends that separate recovery firms from non-recovery ones. In the course of doing so, more effective turnaround strategies not tested by the MRA model may be detected.

The results of the MRA model enable the researcher to determine the set of predictors which are tested as being statistically significant in explaining the variance in the dependent variable ROTA. Having determined this, the financial profile of the sample firms at the end of their distress year and at the end of two years, or the second financial year end reporting period post-distress, will be examined and analysed. The reason for doing so is because the eventual effect of the predictors and dependent variable flows through to a firm's profit and loss account and balance sheets. These financial statements form an integral part of a firm's annual report. Bowman (1978), Ginsberg (1988) and Tan and See

(2004) are of the opinion that a company's annual report often provides a rich and useful source of information for the strategy researcher. By analysing the change in selected relevant financial ratios, computed from the financial statements, for the distress year and post-distress years, discerning trends and patterns can be observed which will assist the researcher to discriminate between successful turnaround firms and unsuccessful ones. This 'grave to cradle' approach will help to identify the turnaround efforts and strategies that led to the end results reported in the financial statements.

The financial profile of the sample firms is examined according to the three-fold performance factor areas of: operating efficiency (profitability), financial leverage and liquidity defined in Chapter 3, section 3.3.5.

For easy reference, the variables for the three-fold performance areas are repeated here:

1. Operating efficiency/profitability:

Proxy measurement variable:

- DYROTA-BND (defined as the distress year/period return on total assets minus the three-year Australian Government bond yield rate)

- TYROTA-BND (defined as the target second financial year end/period post-distress return on total assets minus the three-year Australian Government bond yield rate)

2. Financial leverage

Proxy measurement variable:

- LTD/TA (defined as total of long-term debts divided by total assets)

3. Liquidity: working capital

Proxy measurement variable:

- CA/CL (defined as total current assets divided by total current liabilities)

Based on the results of the above analysis, this research classifies the sample firms into three categories for ease of analysis. These are:

Category one (recovery firms): these are firms which satisfy the stringent three-fold inclusive turnaround criteria of:

$TYROTA-BND > 0$ (that is the return on total assets at the end of the second financial year/period post-distress is greater than the Australian government three-year bond yield rate)

$TYLTD/TA - DYLTD/TA < 0$ (that is the ratio of total long-term debt to total assets at the end of the second financial year/period post-distress is less than that which existed at the end of the distress year)

$TYCA/TYCL \geq 1$ (that is current asset ratio at the end of the second financial year/period is greater or equal to one)

Category two (partial recovery firms): these are firms that satisfy the profitability criterion of $TYROTA-BND > 0$ only.

Category three (non-recovery firms): these are non-recovered firms with $TYROTA-BND < 0$, that is, they did not satisfy the profitability criterion.

For this section, this research uses the Mann-Whitney U (MWU) statistical test to compare and examine the differences in the above defined financial profile variables of category two and three with category one firms. The MWU test is a non-parametric test to assess whether two independent samples of observations come from the same distribution. Implicit in the MWU test is the null hypothesis that the sample observations come from the same population with equal probability distributions (e.g. equal means) and the alternative hypothesis is that they are not of equal probability distributions. It is equivalent to the independent group *t* test (Coakes, 2005:211; Zikmund, 2003:543).

4.7.3 Model #3 intensity and timing

This model is designed to test hypothesis H6:

Intensity of efforts and timely execution of turnaround strategies are positively related to the likelihood of successful turnaround.

The effectiveness of turnaround strategies on the financial performance of firms depends on the intensity and timing of such actions as their adoption and implementation per se does not guarantee success. Inertia or slow/delayed implementation or inappropriate actions by corporate managers often leads to corporate failures (Argenti, 1976; Hoffman, 1989; Schendel et al., 1976; Weitzel & Jonsson, 1989). Intensity relates to the amount of resources and effort expended on implementation of turnaround strategies as opposed to superficial or cosmetic cost reduction or revenue improvement efforts.

The process by which a firm implements a strategy is more important than the choice of a particular strategy (Hoffman, 1989). Swift and decisive efforts to stop the 'bleeding' of cash reserves are often crucial to stem the daily cash burn rate

as procrastination of remedial action leads to eventual corporate oblivion. Timing of remedial action is of critical importance.

Borrowing from Sudarsanam and Lai (2001), but modified where applicable, 'intensity' is proxied by the amount incurred by the sample firms for the following activities as reported in their financial statements.

Each of the 'activity' values as reported in the financial statements is expressed as a proportion of the pre-distress year's total asset values, except for CEO change, divestitures and new industry or geographical segments, which are differently defined as indicated below. The common base values of using the pre-distress year's total assets is to enable one to gauge the intensity of turnaround strategies adopted by the sample firms over time. Increasing resultant ratio over DY, DY1 and DY2 implies increasing intensity and decreasing ratio value implies decreasing intensity.

The following formulas where they are labelled with the descriptor 'change' are not defined in the change mode format—that is they are not defined as time 't₁ value minus t₀ value' format. The descriptor 'change' should be read as 'intensity of expenditure relative to or as a proportion of pre-distress year's assets'. The preference for using the descriptor 'change' is in keeping with the sense and objective of the following corresponding result/analysis section of 5.4 whereby the increase or decrease in intensity of turnaround strategy for each of the test variable over the dy₁ and dy₂ post distress periods are reported and analysed.

Hence:

Asset sales intensity = cash received for asset sales divided by pre-distress year's total assets.

Inventory change = inventory divided by pre-distress year's total assets.

Dividend change = dividend paid or provided divided by pre-distress year's total assets.

Long-term debt change = long term debt divided by pre-distress year's total assets.

Equity issue/placement intensity = cash received via equity raising divided by pre-distress year's total assets. Equity raising includes also quasi-equity instruments like convertible notes, options and rights issue.

Financial assets/investment sales intensity = cash received for financial investment assets sales divided by pre-distress year's total assets.

CEO change = one or zero otherwise

Divestitures = one or zero otherwise

New industry or geographical segment = difference between the pre-distress year's number of business (industry) segments and geographical segments reported in the sample firms' annual financial report and that reported for the distress year and each of the two post-distress years/periods.

New/increase or reduction in plant and equipment expenditure intensity = total cost of plant and equipment divided by pre-distress year's total assets.

This model uses the non-parametric Mann-Whitney U test as a statistical procedure to assess the statistical difference in the mean values of the above variables between category one (recovery firms), category two (partial recovery) and category three (non-recovery) firms as they progress from DY to DY2.

Category one firms' activity intensity is separately compared to category two firms' and category three firms'.

4.7.4 Model #4 employee retrenchment

Although the question of lay-off or employee retrenchment has been tested in the MRA model #1 as a predictor variable, it does not answer the 'extent of lay-off' question. As staff retrenchment is an important and much published topical issue in corporate distress and turnaround, the following test is designed to further supplement the testing in the MRA model #1 for the lay-off/employee retrenchment predictor variable.

This model is designed to test hypothesis H7, which states that:

The extent of employee lay-off or retrenchment is significant in affecting the likelihood of successful turnaround.

Lay-off of employees or retrenchment of staff—euphemistically called downsizing or re-engineering—is a well-publicised turnaround operational strategy considered and implemented by most distress firms. Indeed, researchers like Robbins and Pearce (1992, 1993, 1994) believe that retrenchment as a stand-alone strategy should be the universal precursor to any recovery effort regardless of the cause of the performance decline. They recommend a two-stage process: first retrenchment to stabilise the firm's operation, then in the recovery stage implementation of strategic changes or reorientation with a long-term focus. The retrenchment definition adopted by Robbins and Pearce in their 1992 article is wider than just employee retrenchment to include cost and asset reductions. Their view was contrary to the views held by earlier turnaround researchers that distress firms' weak strategic standing vis-à-vis their competitors', poor implementation of a sound strategy or just bad strategy caused them to decline and that strategic change or

reorientation is central to turning them around (Hofer, 1980; Hofer & Schendel, 1978; Schendel et al., 1976:11). However, there appears to be general consensus that retrenchment, being a short-term focus strategy is quicker in pay-back terms than strategic change in turning a firm around (Hambrick & Schechter, 1983; Hofer, 1980). Cutbacks, efficiency improvements and investment in technology improvements were found to be important in improving profitability in the short-term (Arogyaswamy & Yasai-Ardekani, 1997). This researcher believes that strategic change is often more expensive than short-term retrenchment.

In view of the above differences of opinion, the question of the effectiveness of retrenchment as a turnaround operational restructuring strategy is separately examined and tested here. The testing model below adopts a narrower definition of retrenchment, being the laying-off of employees. In this regard it uses the number of employees reported by the above sample firms in their published annual financial statements, to gauge the extent and timing of retrenchment between turnaround and non-turnaround firms. However, such information on the number of employees is not always found to be available for all the relevant years in the study period. Most reporting firms only comply with mandatory reporting regulations and accounting standards on a minimal basis due to the cost of information gathering, processing and provision of such information. Hence, the 'number of employee' information was found to be generally available for only the reporting period/years 2000 to 2004. Therefore this test covers sample firms who have 'number of employees' reported for the period 2000 to 2004. This researcher believes that, despite this handicap, the number of employees is a more effective way of examining the staff lay-off proposition/question than using financial information based on wage cost.

The non-parametric Mann-Whitney U test is used to assess the statistical difference in the retrenchment mean values over DY, DY1 and DY2 for category

one, two and three firms. The parameters of category one firms are separately compared to the parameters of category two firms and category three firms.

4.7.5 Model #5 severity of decline

This model is designed to test hypothesis H8, which states:

Firms in severe performance decline are less likely to turnaround.

Hofer (1980) was one of the first to introduce the propositions of *severity of performance decline* as a contingency affecting the success or failure of implementing recovery measures. Anecdotally, the logical assumption is that firms in severe performance decline are less likely to turnaround. Severity of decline in this research is defined as a decline of more than 10% in EBIT between the distress year and the year immediately before the distress year. Hence, severity of decline is measured by the following formula:

$$\text{Severity} = ((\text{EBIT}_{Dy} - \text{EBIT}_{Dy-1}) / (\text{EBIT}_{Dy-1}))$$

Where Dy = distress year and Dy-1 = year immediately before distress.

This model uses the non-parametric Mann-Whitney U test as a statistical procedure to assess the statistical difference in the mean values of the above severity variable between category one, two and three firms.

4.7.6 Model #6 free assets

This model is designed to test hypothesis H9, which states:

The likelihood of a successful performance turnaround is directly related to the amount of free (unencumbered) assets that a firm has.

The resource based view posits that a firm derives competitive advantage over its competitors because of certain resources it possesses that are valuable, scarce, and inimitable (Penrose, 1959; Wernerfelt, 1984). As mentioned earlier, the over exploitation of such resources often leads to financial distress. A firm in financial distress will often seek to alleviate cash flow pressure by looking for additional sources of funding. Sources of funding often take the form of equity raising or debt financing. Equity raising often takes longer to organise than debt funding.

Firms that have sufficient free or unencumbered (unpledged) assets are looked upon more favourably by external financiers (e.g. banks and financial institutions) as these free assets can act as collateral for loans. Firms with sufficient free assets (i.e. less geared) generally have greater borrowing power. Free assets are generally defined as excess of assets over liabilities, or more specifically, excess of tangible assets over secured loans (Smith & Graves, 2005). The level of free assets is found to be a statistically significant predictor in distinguishing between distressed firms which successfully recover and those which liquidate (Campbell, 1996; Casey et al., 1986; Routledge & Gadenne, 2000; White, 1989). The argument supporting this conclusion is that distressed firms with sufficient free assets are better able to avoid the risk of bankruptcy/liquidation, as free assets increase firms' ability to obtain additional funding, which enables them to ease immediate cash flow problems, finance the enactment of successful turnaround strategies and obtain the continuing support of existing financiers. However, Smith and Graves (2005:316) found no statistical significance at the 0.1 level for this free assets predictor variable, although they did remark that 'higher levels of free assets are associated with recovered companies'. The following test is designed to test this equivocal and unsettled proposition.

The term 'free assets' has been variously defined by different researchers. For example, Casey et al. (1986) define 'free assets' as the ratio of uncollateralised assets (i.e. not given as collateral security) to total assets; Smith and Graves' (2005) definition is (total tangible assets less secured loans)/total tangible assets; and Routledge and Gadenne's (2000) proxy measure is leverage (free assets = total assets/total liabilities).

Although the Casey et al. definition of 'free assets' is considered the most technically appropriate, as per Smith and Graves' comments (2005), details and amount of collateralised assets are often not easily discernable from the published reports of Australian companies. In this regard, this research uses the following proxy variable to measure 'free assets' as a proportion of total assets. Hence:

$$\text{free assets}_{Dy} = (\text{total assets}_{Dy} \text{ less long-term debt}_{Dy}) / \text{total assets}_{Dy}$$

where Dy = distress year

The rationale for using total assets as opposed to total tangible assets—as in the case of Smith and Graves' (2005) study—is in line with the 'total' resource concept expounded by the RBV. In the above definition, total assets include tangible and intangible assets. The justification for including intangible assets is because in this post-industrial information era intangible assets like brand names, trademarks, patents, goodwill and intellectual properties do have commercial value. Grant (2002) expanded the traditional physical/tangible type of resources expounded by the RBV to include such intangible resources like reputation, brand recognition and goodwill as part of the resource suite of a firm. Additionally, in practice most Australian banks and financiers would normally take a floating charge over the total assets of a firm as debt collateral.

The use of long-term debt (LTD) as proxy for collateralised debt is because such information is readily and consistently available from Australian companies' reported financial statements. More importantly LTD will capture the collateralised commitments of a firm. Further, firms in financial distress will most likely avoid the 'mortal sin' in finance of 'borrowing short-term to finance long', thus adding more pressure to their cash flow problem and debt maturity pressures.

To test hypothesis nine, the Mann-Whitney U test will be used to test and compare the mean values of the 'free assets' predictor for category one, two and three firms.

4.8 Data

Corporate turnaround research is often handicapped by the availability of information due to firm sensitivity and confidentiality reasons. As information relating to private non-listed firms is not readily available, this research will only consider public firms listed on the ASX. According to Barker, Patterson and Mueller (2001:245) 'there is no evidence that findings from turnaround studies are not generalisable to private companies'. Data will be sourced from secondary sources in the public domain. These are firms' published annual financial reports, from databases like Connect 4, Factiva, and Financial Analysis (Aspect Huntley—now called Morningstar DatAnalysis). Companies' annual reports with careful content analysis can provide a rich and useful source of quantitative and qualitative information for the strategy researcher (Bowman, 1978; Ginsberg, 1988; Tan & See, 2004).

4.8.1 Rationale and weakness of accounting data

Despite the limitations of using accounting data in measuring firm performance (e.g. Chakravarthy, 1986; Venkatraman & Ramanujam, 1986), due to the risk of manipulation of accounting information, policies and valuation bases, this study believes that the following are mitigating factors.

- ASX public listed firms are reporting and independently audited entities.
- The study period is 11 years³³ and any 'rogue' public listed firm would not out-live such a long period by continuing to misstate its financial results to the ASX and ASIC. Any inadvertent inclusions would be few and unlikely to be statistically significant.
- Reporting entities (e.g. ASX listed companies) that are regulated by the Australian Corporations Act 2001 are required to apply Australian Accounting Standards (AASBs) in the preparation of their financial statements. Compliance is mandatory. The AASBs are reporting standards set by the Australian Accounting Standards Board (AASB)³⁴, a government agency who develops and maintains financial reporting standards applicable to private and public entities in the Australian economy. Its statutory power

³³ The sample period is 1995 to 2005. For each sample firm the years of interest covers six years, that is the selection rule of '+++-' and the two consecutive years post distress. The end year 2005 is extended to 2007 for sample firms whose distress year falls on 2005 and their two post recovery or failure years extend past 2005 to 2007. With each sample firm's years of interest covering six years, the 88 sample firms would collectively cover 1995 to 2005. Hence, the *study period* mentioned above is 11 years.

³⁴ Refer Australian Accounting Standards Board; Australian Accounting Standards; <http://www.aasb.gov.au/About-the-AASB.aspx>; 18.2.2012. Wikipedia; Australian Accounting Standards Board; http://en.wikipedia.org/wiki/Australian_Accounting_Standards_Board; 19.2.2012.

and functions are prescribed by the Australian Securities and Investments Commission Act 2001. The Australian Securities and Investments Commission's (ASIC's) role is to protect the Australian business and financial community through regulating and enforcing laws relating to financial services and company matters. Prior to 2000, Australian Accounting Standards (AASs) were issued by the former AASB and the Public Sector Accounting Standards Board (PSASB) of the Australian Accounting Research Foundation (AARF) on behalf of the Australian professional accounting bodies. Members of professional accounting bodies preparing financial statements are required to comply with the applicable AASs even to entities not regulated by the Corporations Act. Majority of the AASs were superseded by the AASBs for reporting periods beginning on or after 1 January 2005. Since 1991, all standards issued by the AASB are captioned as AASB Accounting Standards, applicable to all types of entities. The mandatory (legal) requirement of ASX listed companies to prepare their financial statements in accordance with the AASBs should provide some level of acceptable standard in the quality of reported financial performance information. Australia also adopted and issued Australian equivalents of International Financial Reporting Standards (IFRS) for annual reporting periods beginning on or after 1 January 2005.

- Financial data and ratios have been used extensively by researchers to measure firm performance and collapse (Chakravarthy, 1986; Hossari & Rahman, 2005).
- The use of share market values for measuring performance is considered not suitable as they are subject to 'extreme volatility for troubled firms' (Hambrick & D'Aveni, 1988:10).

4.8.2 Financial ratios

Financial ratios have been widely used by researchers, operational management practitioners and financial analysts for multiple purposes in relation to firm performance and firm financial characteristics. They have been widely used in decision making (Gibson, 1963) and reported upon over the years in empirical studies in economics, finance, management and accounting. The two main uses of accounting/financial ratios according to Whittington (1980) are 'normative' and 'positive'. The former relates to comparing a firm's performance ratio to a norm or standard, for example, industry or peers' standard, and the latter relates to predicting/forecasting a certain event befalling a firm, for example, bankruptcy and credit risk assessment (Altman, 1968; Beaver, 1966a). This 'positive' use also includes the myriad of published research using financial ratios as input or proxy variables to empirical research models. To this, one can add a third category use of financial ratios—that of 'regulatory', whereby financial regulatory bodies used them to administer and gauge regulatory compliance in relation to predetermined parameters.

The choice of which accounting/financial ratio to use and its usefulness depends on the task and question one has on hand. The numerous published financial ratios in current and past literature further complicate this choice, as more than one ratio may measure the same thing or phenomenon. In Walsh's (2008) book entitled 'Key Management Ratios' there are more than 100 financial ratios listed and explained. Chen and Shimerda's (1981) literature survey/review of 26 studies, which used financial terms and ratios, notes that 65 of the 100 terms used are accounting ratios. Of the sixty-five, 'forty-one of these were considered useful and/or are used in the final analysis by one or more of the researchers' (Chen & Shimerda, 1981:51). The same authors and others (Horrigan, 1965; Pinches et al., 1975) believe that a majority of the ratios are variants of the same basic equation or ratio and that this overlap and confusion can be eliminated by categorizing them into six or seven basic firm performance factors or areas.

Pinches et al. (1975) found that financial ratios can be grouped into the following seven categories or factors of: return on investments, capital turnover, financial leverage, short-term liquidity, cash position, inventory turnover and receivables turnover. Hence the 'effectiveness of turnaround' variables in section 3.3.5 in the main follow this categorization, but with emphasis on efficiency measure (profitability EBIT), financial leverage (TD/TA) and liquidity (CA/CL); all necessary factors for a sustainable performance turnaround.

The use of financial ratios in statistical modelling has its own 'idiosyncrasies' and challenges, which need special consideration. This relates to the assumption taken by most researchers that the predictor variables in the research statistical model have normal distributions. For example, the statistical models in the sixties and seventies predicting company insolvency and bankruptcy (Altman, 1968; Altman, Haldeman, & Narayanan, 1977) although tested to be reliable one to three years prior to corporate failure (Mossman, Bell, Swartz, & Turtle, 1998) rely on the assumption of data (financial ratios) being derived from multivariate normal distributions. Altman's bankruptcy prediction model uses multiple discriminant analysis, which requires the normal distributional characteristic of financial ratios for bankrupt and non-bankrupt firms. This would be rare, as financial ratios often displayed skewed distribution caused by the presence of outliers (Deakin, 1976; Ezzamel, Mar-Molinero, & Beecher, 1987; Frecka & Hopwood, 1983; Watson, 1990) and also have theoretical distribution characteristics and form as described below. This methodical assumption has been questioned and criticised in regard to research result reliability and generalisability (Ohlson, 1980; Richardson & Davision, 1983; Zmijewski, 1984).

Financial ratios by their constructional nature express a relationship (Lev & Sunder, 1979) between two accounting variables, often expressed as a numerator value (top) and a denominator (bottom) value. In short, it expresses a joint relationship between two variables. According to G. Whittington (1980:219): 'the basic assumption of ratio analysis is that of proportionality, i.e. it is assumed

that a proportionate relationship exists or ought to exist between the two variables whose ratio is calculated'. If such assumption of proportionality is violated, then the joint distribution will be skewed (Barnes, 1982). Mcleay and Omar (2000:217) distinguish between two main types of financial ratios, those of unbounded ratios and bounded ratios.

Bounded ratio: 'those ratios where the numerator and the denominator are each bounded at zero and where the resultant ratio may take positive values only (such as quick assets/current liabilities and sales/total assets)'. These ratios often have extreme right-hand tail positive values only.

Unbounded ratios: 'those ratios where only one of the financial aggregates is bounded at zero and where the second variate may range through zero and take positive and negative values and where, therefore, the ratio itself may take both positive and negative values (such as earnings before tax/total assets and sales/net working capital)'. These ratios may have extreme values in both distribution tails.

Mcleay and Omar (2000:217) also mention that there are other classes of ratios. These are: '(a) ratios with a lower bound of -100%, (b) ratios which are proportions and which are bounded by 0% and +100% and (c) ratios of two unbounded financial aggregates, each of which may take zero, and the ratio of which may therefore be undefined'.

For bounded ratios, Mcleay and Omar (2000) recommend a skewness-reducing transformation procedure and for unbounded ratios a kurtosis-reducing one.

Other researchers (e.g. Mulchler, 1985; Watson, 1990), cognizant of the special problems (skewness and outliers) associated with using financial ratios, employed outlier identification, truncation/trimming processes and normality transformation methods to approximate normal distribution. The two most

common transformation methods to induce normality are: applying square root and/or natural logarithms (Deakin, 1976; Pinches et al., 1975) to the raw data (financial ratios), which according to Kirk (1968) are generally and widely used and reported in accounting literature. However, according to Ezzamel, Mar-Molinero and Beecher (1987), such transformation methods do not seem to solve the problems caused by the presence of outliers.

In statistics, an outlier is 'a value that lies outside the normal range of a set of data' (Zikmund, 2003:490). Outliers distort the distributional properties of observations and cause distribution skewness resulting in departure from normality. A normal distribution is uniquely described by its mean and standard distribution (Ezzamel et al., 1987) with 'almost all (99 percent) of its value within ± 3 standard deviations from its mean' (Zikmund, 2003:411). Some methods used by researchers to deal with outliers are elimination/deletion (e.g. Frecka & Hopwood, 1983) and the process of winsorising (Copland & Ingram, 1982), whereby the value of an outlier is changed to that of the closest non-outlier. This research uses the standard feature in the SPSS software to deal with outliers, whereby the default value of \pm three standard deviations from the mean is used.

Section 4.12 'test for normality' and section 4.13 'treatment of missing data value' set out the methods used by this research to mitigate the above problems relating to the use of financial ratios.

4.9 Data collection and sampling method

Using the Aspect Huntley financial database (now called Morningstar DatAnalysis) and its enquiry facility, an initial sample of 110 ASX listed firms out of a population of 2220 ASX listed firms was found to satisfy the selection criteria detailed in Chapter 3. The sampling period is the 11-year period 1995 to

2005³⁵ and the list of 2220 firms was run on 25 May 2006. The main reasons for selecting this sample research period are as follows. This researcher started his doctoral studies in 2004-05. For contemporaneous, availability and currency of information reasons, the end period of 2005 was chosen. Also this period, 1995 to 2005, witnessed the unfolding of certain macro economic events—the Asian financial crisis 1997, the introduction of the Australian goods and services tax on 1 July 2000, the technology wreck (dot.com) 2002 and the US sub-prime/oil crisis 2007. Such environmental events have an impact on organizations/firms since environmental factors are important determining factors on organizational/firm performance as discussed in the literature review of Chapter 2.

Basically, to recapitulate, the selection rule yielding the initial sample of 110 is that a sample firm must have experienced three consecutive years of positive EBIT followed by a negative year of EBIT. This negative EBIT year is deemed the distress year. Borrowing the concept used by Sudarsanam and Lai (2001), the EBIT selection criterion rule is pictorially referred to here as the '+++-' (plus, plus, plus, minus) rule. In addition, a sample firm must have a quick ratio, (CA-IN)/CL (current assets-inventory/current liabilities) less than one at the end of the distress year. As banks, financial institutions and insurance companies are regulated financial institutions, using EBIT as a selection criterion would not be a valid representation of their financial performance, since a large proportion of their earnings is made up of interest revenue and interest expense. Sampling, therefore, excluded them. The three consecutive '+++' (plus, plus, plus) years followed by a '-' (minus) year rule is considered to be a conservative stringent selection process which led the researcher to be confident that the '-' (minus) year is a 'performance shock' (Yawson, 2004) or decline and not some random performance occurrence.

³⁵ The end year 2005 is extended to 2007 for sample firms that had two post-distress years extending into 2007.

Data and test variable values and turnaround activities for the sample were collected from the firm's annual report, from information stored in the Aspect Huntley database (now called Morningstar DatAnalysis) and Connect 4 database. Twenty-two selected sample firms were eliminated from the initial sample of 110 for various reasons explained below. This resulted in a final sample size of 88 firms as per Table 3.

Table 3 *Initial sample*

Count	ASX Code	Company name	GICS SECTOR	
1	AAT	Autron Corporation Limited	IFT	
2	ACX	Acma Engineering & Construction Group Limited	IND	
3	AGG	Anglogold Ashanti Limited	-	Eliminated
4	AGX	Agenix Limited	HCR	
5	AIE	A.I. Limited	IND	
6	AIG	Aircruising Australia Limited	CDS	
7	AIX	Australian Infrastructure Fund	IND	Eliminated
8	AIZ	Air New Zealand Limited	-	Eliminated
9	AJL	AJ Lucas Group Limited	IND	
10	AOG	Australian Oil And Gas Corporation Ltd	-	Eliminated
11	ASB	Austal Limited	IND	
12	ASL	Ausdrill Limited	IND	
13	ATG	Austin Group Limited	CDS	
14	AUG	Aurora Gold Limited	-	Eliminated
15	AUO	Austral Coal Limited	MAT	
16	AUT	Aurora Oil & Gas Limited	ENG	
17	AUX	Ausron Limited	IFT	
18	AVR	Avatar Industries Limited	CDS	
19	BDL	Brandrill Limited	IND	
20	BPK	Bremer Park Limited	IND	
21	CAA	Capral Aluminium Limited	MAT	
22	CCW	Carlovers Carwash Limited	IND	
23	CEC	Coneco Limited	IND	
24	CHQ	Chiquita Brands South Pacific Limited	CSP	
25	CLK	Cypress Lakes Group Limited	CDS	
26	CLL	P Cleland Enterprises Limited	IND	
27	CLO	Clough Limited	IND	
28	CMK	Cumnock Coal Limited	ENG	
29	CNA	Coal & Allied Industries Limited	ENG	
30	COM	Comops Limited	IFT	
31	CPI	CPI Group Limited	IND	
32	CSH	Concept Hire Limited	IND	

Table 3 *Initial sample (cont'd)*

Count	ASX Code	Company name	GICS SECTOR	
33	CTY	Country Road Limited	CDS	
34	DLS	Drillsearch Energy Limited	ENG	
35	DMY	Dromana Estate Limited	CSP	
36	DOR	Dome Resources NL	-	Eliminated
37	DTL	Data3 Limited	IFT	
38	EBG	Eumundi Group Limited	CDS	
39	ECT	Ectec Limited	-	Eliminated
40	EMB	Embelton Limited	IND	
41	ENE	Energy Developments Limited	UTI	
42	ERG	ERG Limited	IFT	
43	EWC	Energy World Corporation Ltd	UTI	
44	EZL	Euroz Limited	FIN	
45	FEA	Forest Enterprises Australia Limited	MAT	
46	GCL	Gloucester Coal Ltd	ENG	
47	GDL	Hi Sun Holdings Limited	-	Eliminated
48	GNC	Graincorp Limited	CSP	
49	GRT	Garratt's Limited	CSP	
50	HAO	Haoma Mining NL	MAT	
51	HGL	Hudson Investment Group Limited	FIN	
52	HLE	Harvest Living Limited	CDS	
53	IHG	Intellect Holdings Limited	IFT	
54	JVG	JV Global Limited	IND	
55	JYC	Joyce Corporation Limited	CDS	
56	KTL	KTL Technologies Limited	IND	
57	LAL	Lowan Australia Limited	CSP	
58	LAU	Lindsay Australia Limited	IND	
59	LMS	Luminus Systems Limited	-	Eliminated
60	MAH	Macmahon Holdings Limited	IND	
61	MDC	McConnell Dowell Corporation Limited	IND	
62	MNA	Magnetica Limited	-	Eliminated
63	MPI	Mark Sensing Limited	MAT	

Table 3 *Initial sample (cont'd)*

Count	ASX Code	Company name	GICS SECTOR	
64	MSF	Maryborough Sugar Factory Limited (The)	CSP	
65	MSI	Multistack International Limited	IND	
66	MTD	Metroland Australia Limited	FIN	
67	MUR	Murchison United NL	MAT	
68	NFO	Network Foods Limited	CSP	
69	NTG	National Telecoms Limited	IFT	
70	OCE	Ocean Capital Limited	CDS	
71	OLH	Oldfields Holdings Limited	IND	
72	OPI	Optima ICM Limited	IFT	
73	OTI	Oriental Technologies Investment Limited	IND	
74	OTR	Otter Gold Mines Limited	-	Eliminated
75	PAS	Pasminco Limited	CDS	
76	PDR	Port Douglas Reef Resorts Limited	CDS	
77	PLF	Prime Life Corporation Limited	FIN	
78	PLR	Pearl River Tyre (Holdings) Limited	-	Eliminated
79	PRH	Primac Holdings Limited	-	Eliminated
80	QIL	Quoin (Mintzberg) Limited	-	Eliminated
81	QRS	QRSciences Holdings Limited	IFT	
82	RBM	Redbank Mines Limited	MAT	
83	RDF	Redflex Holdings Limited	IFT	
84	REM	Reliance Mining Limited	MAT	
85	RPG	Raptis Group Limited	FIN	
86	RTS	Retail Technology & Services Limited	IFT	
87	RYW	Reynolds Wines Limited	-	Eliminated
88	SBM	St Barbara Limited	MAT	
89	SCC	Scott Corporation Limited	IND	
90	SCD	Scantech Limited	IFT	
91	SDS	SDS Corporation Limited	IND	
92	SKT	Sky Network Television Limited	-	Eliminated
93	SNL	Supply Network Limited	CDS	
94	SRA	Strathfield Group Limited	CDS	
95	STR	Service Stream Ltd	IFT	
96	STS	Structural Systems Limited	IND	
97	TAN	Tandou Limited	CSP	
98	TCO	Transmetro Corporation Limited	CDS	

Table 3 *Initial sample (cont'd)*

Count	ASX Code	Company name	GICS SECTOR	
99	TEM	Tempo Services Limited	-	Eliminated
100	THO	Thomas & Coffey Limited	IND	
101	TNN	Tenon Limited	-	Eliminated
102	VII	Vietnam Industrial Investments Limited	MAT	
103	VLS	Vita Life Sciences Limited	HCR	
104	WBA	Webster Limited	CSP	
105	WCP	WCP Resources Limited	MAT	
106	WFL	Willmott Forests Limited	MAT	
107	WMT	Western Metals Limited	-	Eliminated
108	WSF	Westfield Holdings Limited	-	Eliminated
109	WWH	Water Wheel Holdings Limited	-	Eliminated
110	YTS	Arthur Yates & Co. Limited	-	Eliminated

Source: developed for this research

4.9.1 Elimination reasons

<i>Company</i>	<i>Reasons</i>
Anglogold Ashanti Limited	Not an Australian company, financials in Rand and USD.
Australian Infrastructure Fund	An investment fund – financial institution
Air New Zealand Limited	Not an Australian company.
Australian Oil And Gas Corporation Ltd	Company taken over by a Canadian company in July 2002, subsequently delisted from ASX listing on 2 September 2002.
Aurora Gold Limited	In February 2003, company completed a merger with Abelle Limited (ABX) and subsequently delisted from ASX on 12 December 2006.

Dome Resources NL	Delisted from ASX listing on 22 March 2001 due to compulsory acquisition by a foreign company, Durban Roodepoort Deep Limited.
Ectec Limited	Delisted from ASX listing on 31 August 2001 and placed in voluntary liquidation on 8 December 2000.
Hi Sun Holdings Limited	A Hong Kong operating company. Delisted from ASX listing on 21 June 2001.
Luminus Systems Limited	Year ended 2000 financial report and comparatives were in US dollars. Also year ended December 1998 financial report was not available.
Magnetica Limited	Delisted from ASX listing on 15 October 2007. Only financial reports for financial years ended 30 June 2006 and 2007 are available.
Otter Gold Mines Limited	Delisted from ASX listing on 24 March 2003 due to take over by Normandy Limited (ASX code NFM).
Pearl River Tyre (Holdings) Limited	Not an Australian company. An investment holding company. Delisted from ASX listing on 10 May 2004.
Primac Holdings Limited	Delisted from ASX listing on 30 November 1998.
Quoin (Mintzberg) Limited	Financial reports in Papua New Guinea currency. Liquidator appointed to company on 27 September 2002.
Reynolds Wines Limited	Liquidator appointed to company in August 2003. Delisted from ASX listing on 30 August 2004.
Sky Network Television Limited	Not an Australian company. Financial reports in New Zealand dollars.

Tempo Services Limited	Delisted from ASX listing on 14 April 2005 due to Pacific Service Solutions Pty Ltd's 100% acquisition.
Tenon Limited	Not an Australian company. Financial reports in New Zealand dollars. Delisted from ASX listing on 2 October 2004.
Western Metals Limited	Entered voluntary administration in July 2003.
Westfield Holdings Limited	Suspended from ASX listing following formation of WDC (Westfield Group) due to merger of Westfield Holdings Ltd, Westfield Trust & Westfield America Trust in July 2004.
Water Wheel Holdings Limited	Company in voluntary administration, 16 February 2000.
Arthur Yates & Co. Limited	Delisted from ASX listing 6 April 2001.

The above 22 companies were eliminated from the initial sample of 110 companies for the reasons noted above. In general, when a company is delisted from the ASX official listing or in voluntary administration follow-up and tracking of its subsequent financial progress was not possible due to the unavailability of published public domain data relating to these companies. Similarly, company takeovers and/or subsequent privatizations render it impossible to meaningfully track the subsequent progress of the target company.

4.9.2 Final sample

After the above eliminations, the final reduced sample size is 88 as set out in Table 4 below.

Table 4 *Final sample*

Count	ASX Code	Company name	GICS SECTOR	DISTRESS YEAR
1	AAT	Autron Corporation Limited	IFT	2002
2	ACX	Acma Engineering & Construction Group Limited	IND	2000
3	AGX	Agenix Limited	HCR	2004
4	AIE	A.I. Limited	IND	2001
5	AIG	Aircruising Australia Limited	CDS	2000
6	AJL	AJ Lucas Group Limited	IND	2005
7	ASB	Austal Limited	IND	2003
8	ASL	Ausdrill Limited	IND	2000
9	ATG	Austin Group Limited	CDS	1999
10	AUO	Austral Coal Limited	MAT	2004
11	AUT	Aurora Oil & Gas Limited	ENG	2001
12	AUX	Ausron Limited	IFT	2001
13	AVR	Avatar Industries Limited	CDS	2002
14	BDL	Brandrill Limited	IND	2003
15	BPK	Bremer Park Limited	IND	2002
16	CAA	Capral Aluminium Limited	MAT	2001
17	CCW	Carlovers Carwash Limited	IND	1998
18	CEC	Coneco Limited	IND	2001
19	CHQ	Chiquita Brands South Pacific Limited	CSP	2004
20	CLK	Cypress Lakes Group Limited	CDS	2005
21	CLL	P Cleland Enterprises Limited	IND	2002
22	CLO	Clough Limited	IND	2005
23	CMK	Cumnock Coal Limited	ENG	2001
24	CNA	Coal & Allied Industries Limited	ENG	2003
25	COM	Comops Limited	IFT	2001
26	CPI	CPI Group Limited	IND	2004
27	CSH	Concept Hire Limited	IND	2002
28	CTY	Country Road Limited	CDS	1998
29	DLS	Drillsearch Energy Limited	ENG	2002
30	DMY	Dromana Estate Limited	CSP	2003
31	EBG	Eumundi Group Limited	CDS	2001
32	DTL	Data3 Limited	IFT	2001
33	EMB	Embelton Limited	IND	2004
34	ENE	Energy Developments Limited	UTI	2001
35	ERG	ERG Limited	IFT	2003
36	EWC	Energy World Corporation Ltd	UTI	2002
37	EZL	Euroz Limited	FIN	2004
38	FEA	Forest Enterprises Australia Limited	MAT	1999
39	GCL	Gloucester Coal Ltd	ENG	2001
40	GNC	Graincorp Limited	CSP	1999

Table 4 *Final sample (cont'd)*

Count	ASX Code	Company name	GICS SECTOR	DISTRESS YEAR
41	GRT	Garratt's Limited	CSP	2003
42	HAO	Haoma Mining NL	MAT	2004
43	HGL	Hudson Investment Group Limited	FIN	2002
44	HLE	Harvest Living Limited	CDS	2003
45	IHG	Intellect Holdings Limited	IFT	2000
46	JVG	JV Global Limited	IND	2003
47	JYC	Joyce Corporation Limited	CDS	2000
48	KTL	KTL Technologies Limited	IND	2001
49	LAL	Lowan Australia Limited	CSP	2001
50	LAU	Lindsay Australia Limited	IND	1999
51	MAH	Macmahon Holdings Limited	IND	2001
52	MDC	McConnell Dowell Corporation Limited	IND	2001
53	MPI	Mark Sensing Limited	MAT	2001
54	MSF	Maryborough Sugar Factory Limited (The)	CSP	2003
55	MSI	Multistack International Limited	IND	2001
56	MTD	Metroland Australia Limited	FIN	2000
57	MUR	Murchison United NL	MAT	2000
58	NFO	Network Foods Limited	CSP	2002
59	NTG	National Telecoms Limited	IFT	2002
60	OCE	Ocean Capital Limited	CDS	2003
61	OLH	Oldfields Holdings Limited	IND	2001
62	OPI	Optima ICM Limited	IFT	2002
63	OTI	Oriental Technologies Investment Limited	IND	2001
64	PAS	Pasminco Limited	CDS	2004
65	PDR	Port Douglas Reef Resorts Limited	CDS	2001
66	PLF	Prime Life Corporation Limited	FIN	2002
67	QRS	QRSciences Holdings Limited	IFT	2004
68	RBM	Redbank Mines Limited	MAT	2001
69	RDF	Redflex Holdings Limited	IFT	1999
70	REM	Reliance Mining Limited	MAT	2000
71	RPG	Raptis Group Limited	FIN	1999
72	RTS	Retail Technology & Services Limited	IFT	1999
73	SBM	St Barbara Limited	MAT	2001
74	SCC	Scott Corporation Limited	IND	1998
75	SCD	Scantech Limited	IFT	2000
76	SDS	SDS Corporation Limited	IND	1998
77	SNL	Supply Network Limited	CDS	1999
78	SRA	Strathfield Group Limited	CDS	2002
79	STR	Service Stream Ltd	IFT	2001
80	STS	Structural Systems Limited	IND	2002

Table 4 *Final sample (cont'd)*

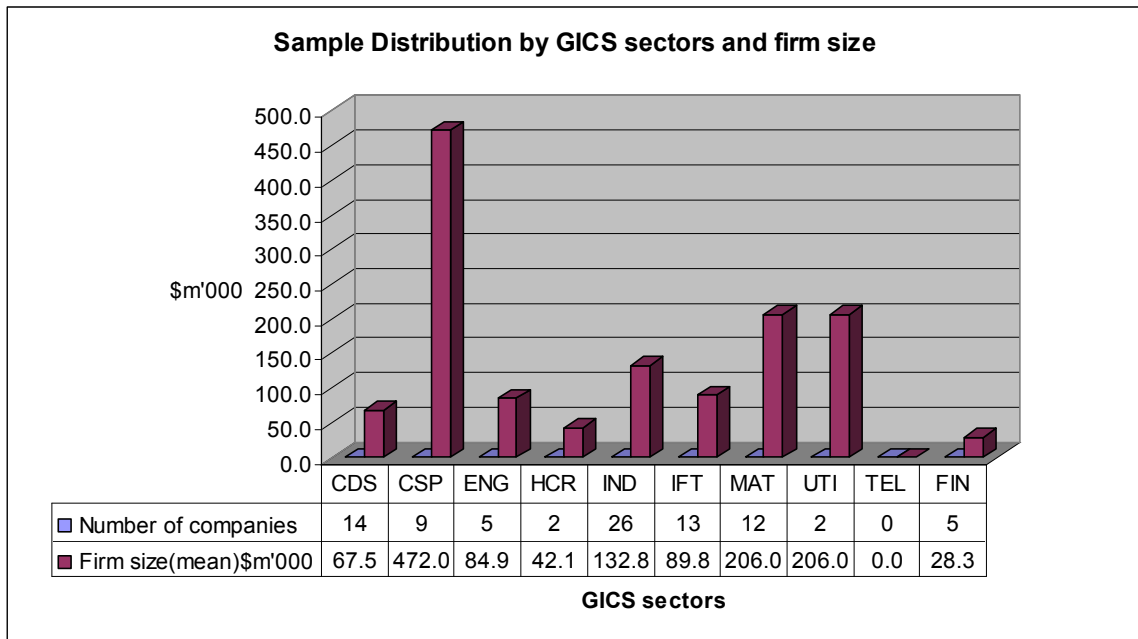
Count	ASX Code	Company name	GICS SECTOR	DISTRESS YEAR
81	TAN	Tandou Limited	CSP	2005
82	TCO	Transmetro Corporation Limited	CDS	1998
83	THO	Thomas & Coffey Limited	IND	1999
84	VII	Vietnam Industrial Investments Limited	MAT	2004
85	VLS	Vita Life Sciences Limited	HCR	2002
86	WBA	Webster Limited	CSP	2000
87	WCP	WCP Resources Limited	MAT	2001
88	WFL	Willmott Forests Limited	MAT	2002

Source: developed from Aspect Huntly database (DatAnalysis)

Final sample—distribution by GICS sector and firm size (mean\$)

The following graph in Table 5 shows the distribution of the 88 sample firms by firm size proxied by firm's market capitalization (mean \$million) and ASX GICS industry classification sector.

Table 5 Final sample graph—distribution by GICS sector and firm size



Source: analysis of data

Legend: ASX GICS sectors
 CDS = Consumer discretionary
 CSP = Consumer staples
 ENG = Energy
 HCR = Health care
 IND = Industrials
 IFT = Information technology
 MAT = Materials
 UTI = Utilities
 TEL = Telecommunication services
 FIN = financials³⁶

4.10 Justification for small sample size

Small sample size is often typical of turnaround-related research, for example, Barker and Mone (1994)—sample size 32; Barker and Patterson Jr. (1996)—

³⁶ Exclude banks, financial institutions and insurance companies

sample size 29; Grinyer and McKiernan (1990)—sample size 25; Robbins and Pearce (1992)—sample size 32; Chaganti, Mahajan et al. (1985)—sample size 21 matched pairs; Barker and Barr (2002)—sample size 29; Castrogiovanni and Bruton (2000)—sample size 46; and LoPucki (1983)—sample size 41. Nearer to home, Routledge and Gadenne's (2000:248) reorganisation/liquidation study of Australian firms has a sample size of 40.

According to Barker and Patterson (1996:315) 'studies of turnaround attempts often have smaller sample size because firm-level turnarounds are not an everyday occurrence and sample firms must be carefully selected for a study based on patterns in financial performance data...' Further, they are of the opinion that 'there is no evidence that findings from turnaround studies are not generalizable to private companies' (Barker & Patterson, 1996:315).

4.11 Financial characteristics of sample distress firms

To *illustrate and validate* the effectiveness of the financial performance selection criterion of '+++' Earnings Before Interest and Tax (EBIT), the following Table 6 shows the financial profile of the distress firms represented by the following accounting indicators. The accounting indicators or ratios were selected to cover the three key areas of financial performance, that is, accounting (accrual) profitability, cash flow and debt level.

Table 6 *Summary of financial characteristics of distress firms: year of distress compared to three consecutive years prior to distress*

Financial characteristics	3yr pre-distress Mean (1)	Distress year DY Mean	Difference (DY-3yr pre) Z-test statistic	Asymp. Sig (2 tailed)
ROTA %	0.088	-0.137	-8.147	0.000***
QUICKR %	1.584	0.558	-6.468	0.000***
SALES \$m	130.0	113.8	-2.087	0.037*
TOTREV \$m	138.8	124.2	-1.408	0.159
NPAT \$m	4.6	-0.436	-7.189	0.000***
TD \$m	55.2	52.1	-2.664	0.008*

Source: developed from analysis

*** indicates significance at the <0.001

*indicates significance at the <0.05

Where:

ROTA = pre-tax return on total assets

QUICKR = quick asset ratio, a proxy indicator of liquidity

SALES = trading income

TOTALREV = total revenue

NPAT = net after tax profit

TD = total debt

(1) Mean (average) of the three years prior to the distress year

To illustrate and validate the deterioration in financial performance of the sample 88 firms, the non-parametric Wilcoxon matched-pairs signed ranks test was used. Barber and Lyon (1996:395) have demonstrated that the 'non-parametric Wilcoxon signed-rank T test statistics are uniformly more powerful than parametric t -statistics' in studies dealing with accounting based operating performance, especially if there are extreme observations in the distributions. It tests the significance of the difference in mean score of samples which are not independent and is applicable for 'before/after' experiment, where the same

subjects are measured twice' (Zikmund, 2003:542). In this context the 'before and after' results are encapsulated in the EBIT financial performance sample selection criterion of '+++-', that is, three years of consecutive positive EBIT followed by one year of performance shock of negative EBIT.

The Z-test statistic in Table 6 results shows significant difference in the mean scores for all the selected financial characteristic variables except for TOTREV. This is because total revenue includes sales revenue plus non-core activity or miscellaneous income when compared to sales, which comprises a firm's trading or core activity income. Such non-core income often does not occur with the same regularity as a firm's sales income. Although TOTREV did not yield a significant p value, its mean value shows a deterioration from 138.8 to 124.2.

4.12 Testing for normality—firm size

As described in Chapter 3, the chosen variable to proxy firm size is the firm's market capitalization value as defined and obtained from the Aspect Huntley database (now called Morningstar DatAnalysis) as:

Market Capitalisation ('MC') = 'The market value of the company's equity capital.'

This is calculated by multiplying the number of common shares by the current price. Other classes of equity such as preference shares are normally not included, except in certain cases where the shares are 'quasi-ordinary'. The current price is the 'closing share price on the last day of the company's financial year times the number of shares outstanding at the end of the period'

The use of a firm's market capitalization value, rather than other book based accounting values (e.g. total assets or total sales), overcomes any common variance or collinearity with the return on total assets (ROTA) book value.

The MC adopted by this research is the MC of the firm at the end of its financial year preceding its distress year.

As one of the essential assumptions of multiple regression analysis, the assumption of variable normality is therefore considered necessary as a preliminary step to test the normality of the variable Firmsiz (Firm size). Lee (1985) argues that firm size may inadvertently introduce systematic bias resulting in non-normality of financial ratios. This is borne out by the following normality test results of Firmsiz in Table 7.

Using SPSS Analyse, Descriptive Statistics and Explore functions the following results are obtained.

Table 7 Normality testing results

Descriptives				
			Statistic	Std. Error
FIRMSIZE	Mean		100.85568	29.251684
	95% Confidence Interval for Mean	Lower Bound	42.71479	
		Upper Bound	158.99657	
	5% Trimmed Mean		52.59040	
	Median		19.20000	
	Variance		75298.171	
	Std. Deviation		274.405121	
	Minimum		1.000	
	Maximum		2149.100	
	Range		2148.100	
	Interquartile Range		68.450	
	Skewness		5.661	.257
	Kurtosis		37.608	.508

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
FIRMSIZE	.358	88	.000	.361	88	.000

a. Lilliefors Significance Correction

The Shapiro-Wilk test is usually considered more appropriate for small sample size (Bird & Mchugh, 1977), for example, less than 100, and more sensitive to detect non-normality than the Kolmogorov-Smironov test (Ezzamel et al., 1987). Shapiro and Wilk (1965) and Shapiro, Wilk and Chen (1968) have shown that it is also effective in normality tests for sample sizes as small as 20.

As can be ascertained from the above, the Shapiro-Wilk statistic shows a significance level of $0.000 < 0.05$ which indicates that sample's firm size distribution is skewed and non-normal. A distribution is considered exactly normal if skewness and kurtosis values are equal to zero (Coakes, 2005:35). The distribution as reported above is positively skewed with high positive skewness and kurtosis scores. The result is of no surprise as firms listed on the ASX are of varying sizes. In the sample, the range value is large at 2148.1 with a mean of 100.85 and a standard deviation of 274.4.

Logarithmic transformation and square root transformation are two of the most common transformation to normality techniques used. Such techniques are often acceptable in accounting literature and research to reduce skewness in raw data distributions (Deakin, 1976; Kirk, 1968). Both techniques are not applicable to negative values. The resultant product variable Firmsiz as defined above will always be of positive value as the number (quantity) of shares in a firm and their related market price per share will always be of positive values only. Financial ratios which take on positive values only is referred to by Mcleay and Omar (2000:213) as 'bounded ratios' and 'are characterized by extreme values in the right hand tail only'. As skewness was extreme, it was considered necessary to transform the Firmsiz variable by using the SPSS natural logarithmic transformation function—that is, LN(numexpr). According to Hair et al., 2010:78 'logarithm or square root typically works best on positive skewness', and that although 'several transformations "fixed" the normality problem, but only the logarithmic transformation also addressed heteroscedasticity' (Hair et al., 2010:82). Ezzamel, Mar-Molinero and Beecher (1987:479) are of the opinion that: 'It seems that logarithmic transformations are most useful when the distribution is *substantially non-normal for the raw data*' (*italics for emphasis*).

The following table (Table 8) summarises the results of the transformation to normality.

Table 8 Normalised firm size

Descriptives				
			Statistic	Std. Error
NORMALISED FIRMSIZE	Mean		3.21878	.167254
	95% Confidence Interval for Mean	Lower Bound	2.88634	
		Upper Bound	3.55121	
	5% Trimmed Mean		3.17712	
	Median		2.95490	
	Variance		2.462	
	Std. Deviation		1.568979	
	Minimum		.000	
	Maximum		7.673	
	Range		7.673	
	Interquartile Range		2.116	
	Skewness		.467	.257
	Kurtosis		.117	.508

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
NORMALISED FIRMSIZE Z	.136	88	.000	.975	88	.080

a. Lilliefors significance correction

Source: developed from analysis

With Shapiro-Wilk at 0.08 > 0.05 significance, normality has been achieved in the main (Coakes, 2005:35).

4.13 Treatment of missing data value

Small sample size and missing data 'are common problems with research in the area of financial distress' (Routledge & Gadenne, 2000:257). The data value found to be missing in this research relates to the non-availability of published data relating to the number of employees reported by listed firms for some of the years in the study period. Of the 88 sample firms, employee numbers were available for 68 of them. This was due to a change in public companies reporting requirements. The period within which firms are required to report such employee information was from 2000 to 2004 inclusive. In dealing with missing data, Hair et al. (2010:54) remark that there is no perfect imputation techniques for missing data and that: 'What should be recognised is that each method has advantages and disadvantages, such that the researcher must examine each missing data situation and select the most appropriate imputation method'. Further, they remark that 'mean substitution is one acceptable means of generating replacement values for the missing data', and that there are several other acceptable statistical methods which enable 'the researcher to combine the estimates into a single composite' to overcome this problem.(Hair et al., 2010:64).

An alternative solution to the missing employee numbers problem is to substitute the missing value with the value of the change in the provision for employee benefits for the sample firms with missing employee numbers to give a predictor variable called LAY-OFF, as a proxy for employee retrenchment, as defined in Table 1 (Independent variables) in Chapter 4. The provision for employee benefits is reported each year by all sample firms in their balance sheets. The rationale underpinning LAY-OFF is set out in Table 2 (Operational variables rationale matrix) in Chapter 4.

4.14 Rigour

Rigour in any research context dictates that the objectives of validity, reliability, accuracy and representativeness be met. In this research:

1. validity is achieved by the observation of performance indicators, which are the results of managerial actions
2. reliability and accuracy is achieved by the use of independently audited public domain information as well as research subjects' compliance and adherence to generally accepted accounting and auditing standards
3. representativeness is achieved by the research subjects meeting rigorous predetermined financial criteria of improvements in three critical performance areas of profitability, leverage and liquidity, as stipulated in section 3.3.5, for distinguishing a successful turnaround firm from an unsuccessful one.

Tan and See (2004) are of the opinion that the use of published annual reports of listed firms satisfies the validity and accuracy requirement. This is because such reports are signed as 'true and fair' by members of top management who hold important fiduciary responsibilities. In the Australian context, the Australian Securities and Investments Commission exercises regulatory and supervisory compliance with provisions set out in the *Corporations Act*.

4.15 Conclusion

As mentioned in the introduction and chapter outline paragraph, this chapter operationalises the conceptual model of Chapter 3 for testing. It sets the stage by describing the theoretical perspective, theoretical underpinnings of the

independent variables, methodological framework, data attributes and sampling procedures for this research. The effectiveness of the sampling criterion of '+++-' was statistically tested and found to be effective in identifying sample firms with deterioration in financial performance decline. As MRA assumes variable normality, firm size (FIRMSIZ) is normalised by logarithmic transformation method as a prelude to prepare the data for testing as set out in the following Chapter.

CHAPTER 5 TEST RESULTS AND DATA ANALYSIS

5.1 Introduction

The overall objective of this chapter is to report on the patterns and trends of test results and analyse them for their relevance to the research questions and hypotheses.

Section 5.2 of this chapter operationalises the conceptual research model described in Chapter 3 and the research methodology of Chapter 4. This section also reports and analyses the results of the multicollinearity test, the multiple regression model #1 test within the backdrop of the relevant hypotheses, discusses overall model fit and normality and linearity assessment. Section 5.3 reports on the results of test model #2 'financial profile over time' of turnaround versus non-turnaround firms. Section 5.4 reports on and analyses the results of test model #3 'intensity and timing'. Section 5.5 examines the effectiveness of retrenchment of employees as a turnaround operational strategy and reports on the results of test model #4 'employee retrenchment'. Section 5.6 reports on the results of test model #5 which deals with whether the predictor 'severity of decline' discriminates between firms that successfully recovered and those that did not. Section 5.7 reports on the test results of model #6 which is designed to test the hypothesis as to whether the amount of free assets is a significant predictor in discriminating between distressed firms that recovered and those that did not. The final section 5.8 presents the grand summary of the chapter.

5.2 Operationalisation of research model

The operationalised multiple regression analysis (MRA) model #1 is:

$$\text{ROTA}_{dy2} = a + \beta_1 \text{LAY-OFF} + \beta_2 \text{ASTSAL} + \beta_3 \text{INTYCHG} + \beta_4 \text{DIV} + \beta_5 \text{COMLEV} + \beta_6 \text{SHAREPLC} + \beta_7 \text{CEOCHG} + \beta_8 \text{BODSIZ} + \beta_9 \text{NEWBUS} + \beta_{10} \text{SALGRO} + \beta_{11} \text{DIVEST} + \beta_{12} \text{INDROTA} + \beta_{13} \text{GDPCHG} + \beta_{14} \text{NFIRMSIZ} + \varepsilon$$

Where

a is the constant, the vertical axis intercept

β_n = beta coefficients

ε = error term (or residual)

Dependent variable is:

ROTA_{dy2} = return on total assets at the end of dy2 where dy2 = two years or second financial year end/period post-distress.

Predictor variables are:

LAY-OFF = employee retrenchment.

ASTSAL = plant and equipment and fixed asset sales (ASSET SALES)

INTYCHG = change in inventory level (INVENTORY CHANGE)

DIV = change in dividend paid or provided (DIVIDEND)

COMLEV = change in financial leverage and debt servicing ability (LEVERAGE).

SHAREPLC = share or quasi-equity instrument placements (SHARE PLACEMENT)

CEOCHG = CEO change (CEO CHANGE)

BODSIZ = Board of directors size change (BOARD SIZE)

NEWBUS = new business or segment (NEW BUSINESS)

SALGRO = sales revenue growth (SALES GROWTH)

DIVEST = divestments of business units and/or entities (DIVESTITURES)

The predictor variables are defined, explained and rationalised in Table 1 and Table 2 of Chapter 4.

Control environmental variables are:

INDROTA = change in industry median return on total assets (INDUSTRY ROTA)

GDPCHG = change in gross domestic product (GDP CHANGE)

and

NFIRMSIZ = Normalised firm size (FIRM SIZE)

The control variables are defined in section 3.3.6 of Chapter 3.

The 14 independent variables are within the minimum MRA requirement of having 'at least five times more cases than independent variables' (Coakes, 2005:169) given a sample size of 88 firms (number of cases).

Significance of statistical test results are reported in the following manner as suggested by Coolican (1990:174):

- significant : $p < 0.05$
- highly significant: $p < 0.01$
- very highly significant: $p < 0.001$

A fourth level, that of mildly significant, is taken to be $p < 0.1$

5.2.1 Multicollinearity of independent variables

Multicollinearity refers to the problem of the independent predictor variables being co-related with each other, that is, they measure the same thing or construct. Such a problem affects the regression co-efficient of the predictor variable, as in an MRA model the regression co-efficient measures the effect of a unit change in the predictor variable on the dependent variable, while holding other predictor variables constant. Multicollinearity will therefore result in imprecise regression co-efficient for the affected variable (Hair et al., 2010; Mendenhall & Sincich, 1989).

To test for multicollinearity of all the variables in the model, the Pearson correlation test is performed.

Table 9 shows the summary results of the SPSS Pearson correlation test and the mean and standard deviation of variables used in the MRA model.

According to (Bryman & Cramer, 2005), a correlation value equal to or in excess of 0.8 for a predictor variable would indicate a multicollinearity problem.

In Table 9, all the values of the predictor and control variables in the Pearson correlation matrix are less than 0.8, including those that are tested significant, indicating that the problem of multicollinearity has not been violated.

Further confirmation of this is the VIF and tolerance values. The VIF (variance inflation factor) relating to the coefficient of each predictor (i.e. independent variable) provides an indication of whether a coefficient is badly estimated. A small VIF value indicates multicollinearity is not a problem. Per Montgomery, Peck, et al. (2006:307) 'if any VIF exceeds five or ten, that coefficient is poorly estimated or unstable because of near-linear dependences among the regressors.'

The VIFs in Table 10 entitled 'Coefficients' are all less than two (i.e. maximum value 1.657, minimum value 1.049) and not within five to ten, hence multicollinearity and poor estimation of coefficients have not been violated. A tolerance value—the VIF is the inverse of the tolerance value—near to one *would not* indicate a multicollinearity problem (Hair et al., 2010:201). In Table 10 the tolerance values are in the main near to one (i.e. 0.604 to 0.954).

Table 9 Pearson correlation test results

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Dependent variable 1.RETURN ON TOTAL ASSETS	-0.064	0.365	-														
Predictors 2.ASSET SALES	0.675	4.222	.052	-													
3.BOARD SIZE	0.136	1.904	-.171	-.072	-												
4.CEO CHANGE	0.682	0.468	-.010	.100	.193	-											
5.COMBINED LEVERAGE	7.041	53.741	.269*	-.027	.042	-.012	-										
6.DIVIDEND	-14.484	112.738	-.037	.021	.080	-.089	-.006	-									
7.DIVESTITURE	0.614	0.490	-.171	.119	.094	.310**	-.031	-.042	-								
8.GDP CHANGE	0.077	0.016	.123	-.104	.074	-.057	.104	-.009	-.050	-							
9.INDUSTRY RETURN ON TOTAL ASSETS	0.014	0.049	.025	-.011	-.018	-.021	.210*	.051	.072	.070	-						
10.INVENTORY CHANGE	-0.140	0.975	-.006	.004	-.094	.188	.006	-.019	.150	.147	.066	-					
11.LAY-OFF	0.162	1.899	.081	-.058	.056	.073	.118	.023	.050	-.028	.219*	-.009	-				
12.NEW BUSINESS	0.386	0.490	-.005	.044	.169	.191	.168	.109	.294**	.044	.257*	.063	.249*	-			
13.NORMALISED FIRM SIZE	3.219	1.569	.141	-.004	-.097	.037	.071	-.278**	.127	.351**	.084	.058	-.221*	.209	-		
14.SALE GROWTH	-13.557	116.002	.662**	.013	.067	.152	.128	-.015	-.094	.044	.036	-.009	.068	.091	-.112	-	
15. SHARE PLACEMENT	0.013	0.168	.074	-.017	-.081	.062	-.232*	-.056	.030	-.084	-.128	.140	.050	.138	-.158	.071	-

Source: developed from analysis

† p < 0.1; * p < 0.05; ** p < 0.01; *** p < 0.001

5.2.2 Results of the operationalised MRA model #1

To test hypotheses one, two, three, four, and five, the MRA model as per section 5.2 is run using the SPSS computer software. The following table, Table 10, summarises the results of the test.

Table 10 Summary results of MRA model #1.

MRA model #1 summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.783 ^a	0.613	0.539	0.247927

ANOVA^b

Model 1	Sum of squares	df	Mean square	F	Sig.
Regression	7.110	14	0.508	8.262	0.000 ^a
Residual	4.487	73	0.061		
Total	11.597	87			

a. Predictors: (constant), asset sales, board size, CEO change, leverage, dividend, divestiture, GDP change, industry return on assets, inventory change, lay-off, new business, normalised firm size, sale growth, share placement.

b. Dependent variable: Return on Total Assets (ROTATY)

Coefficients^a

Model 1	Unstandardized coefficients		Standardised coefficients			Colinearity statistics	
	B	Std. error	Beta	t	Sig.	Tolerance	VIF
Constant	-.173	.146		-1.183	.241		
ASSET SALES	.006	.006	.069	.921	.360	.954	1.049
BOARD SIZE	-.029	.015	-.150	-1.905	.061†	.855	1.169
CEO CHANGE	-.043	.064	-.056	-.679	.499	.789	1.267
LEVERAGE	.001	.001	.218	2.775	.007**	.856	1.168
DIVIDEND	.000	.000	.090	1.129	.263	.837	1.195
DIVESTITURES	-.052	.061	-.070	-.859	.393	.796	1.257
GDP CHANGE	.005	1.821	.000	.003	.998	.791	1.265
INDUSTRY ROTA	-.326	.589	-.044	-.555	.581	.848	1.179
INVENTORY CHANGE	-.006	.029	-.016	-.201	.841	.880	1.136
LAY-OFF	.027	.016	.142	1.745	.085†	.806	1.241
NEW BUSINESS	-.125	.068	-.168	-1.852	.068†	.646	1.549
FIRMSIZE	.074	.022	.316	3.372	.001**	.604	1.657
SALES GROWTH	.002	.000	.679	8.852	.000***	.900	1.111
SHARE PLACEMENT	.302	.176	.139	1.714	.091†	.806	1.240

Source: developed from analysis

a. dependent variable: Return On Total Assets (ROTATY)

† p <0.1; *p <0.05; ** p <0.01; *** p <0.001

The results of the multiple regression analysis in Table 10 indicates that the seven independent variables together account for a majority of 61.3% (R^2) of the variance in the dependent variable ROTATY (i.e. the return on total assets at the end of two years or second financial year end/period post-distress). The F statistic at 8.262 shows a significance level of $p < 0.001$ (i.e. 0.000), indicating that at least 99.99% of the time the model will hold true.

The above coefficients in Table 10 shows that the seven independent variables with various levels of significance are:

Independent Variables	Std.Beta coefficients	Sig.
BOARD SIZE	-0.150	0.061 [†]
LEVERAGE	0.218	0.007**
LAY-OFF	0.142	0.085 [†]
NEW BUSINESS	-0.168	0.068 [†]
FIRMSIZE	0.316	0.001**
SALES GROWTH	0.679	0.000***
SHARE PLACEMENT	0.139	0.091 [†]

The rest of the predictor (independent) variables were tested not significant.

The partial regression coefficients (standardised Beta's) relating to the seven variables are in the right direction as expected, except for COMLEV and the NEWBUS (new business) variable.

5.2.3 Stepwise regression analysis

In order to find out which among the predictor variables are the most influential in accounting for the variance on the dependent variable, a stepwise multiple regression was preformed (Sekaran, 2003:407). Results of this test are summarised below.

Independent Variables	R ² CHANGE	Sig.
SALES GROWTH	0.438	0.000***
FIRM SIZE	0.047	0.007**
BOARD SIZE	0.039	0.011*
LEVERAGE	0.031	0.019*
TOTAL	0.555	

As can be seen from the above, the four predictors account for the bulk (56%) of the variance in the dependent variable with change in sales accounting for 44% of the 56%.

5.2.4 Hierarchical regression analysis

To determine which *set* of predictor variables is significant in adding to the variance of the dependent variable a hierarchical regression analysis is performed (Sekaran, 2003:407). The following summarises the result of this test.

Independent Variables	R ² CHANGE	Sig.
SALES GROWTH,LEVERAGE,FIRM SIZE,BOARD SIZE,	0.555	0.000***
LAY-OFF,SHARE PLACEMENT, NEW BUSINESS	0.035	0.084 [†]
TOTAL	0.590	

From the above results, the seven predictors of 'sales growth, leverage, firm size, board size, lay-off, share placement and new business', taken as a *set* of strategies account for 59% of the 61% variance in the dependent variable, ROTATY (return on assets). Of the 59%, the hierarchical regression analysis shows that the first four predictor combination of 'sales change, leverage, firm size and board size', accounts for the lion's share of 56% and 'lay-off, share placement and new business', account for 3%. Other predictor variables of 'asset sales, inventory change, dividend, CEO change, divestiture, industry ROTA (industry effect) and GDP change (economy effect)', were tested not significant.

Hence:

H1 ROTA is positively related to the adoption of a combination of operational, financial and strategic turnaround strategies, is supported.

H4 The likelihood of a successful turnaround is positively related to firm size, is supported.

This is because the *combination* of sales growth (strategic), firm size (contextual control), leverage (financial), new business (strategic), share placement (financial), board size (strategic) and employee lay-off (operational) has a significant effect on the dependent variable ROTA.

H2 Industry effect is significant in influencing profitability and the likelihood of successful turnaround, is not supported.

H3 The effect of the economy is significant in influencing profitability and the likelihood of successful turnaround, is not supported.

H5 Operational restructuring strategies (i.e. efficiency improvement efforts) are more effective in achieving financial performance turnarounds than strategic and financial restructuring strategies, is mildly supported (Employee layoff, as an example of efficiency improvement strategies, was tested significant at $p=0.085 < 0.1$ level).

5.2.5 Overall model fit—assessment and generalisability

There is no marked difference between the adjusted R^2 value and the R^2 value (0.613 versus 0.539, see Table 10) indicating that there is little loss in the predictive power of the model, which would indicate there is no overfitting of the

model (Hair et al., 2010:227). The standard error of the estimate in Table 10 shows 0.247927, which means that at the 95% confidence level ($p < 0.05$) the margin of error for any predicted value of ROTA can be calculated to be within ± 0.5 ($\pm 1.96 \times$ standard error of the estimate, i.e. $\pm 1.96 \times 0.247927 = \pm 0.49$) variation, which is not material. However, for generalisability, the guideline is that the ratio of observations to variables in the regression equation should be at least 20:1 (Coakes, 2005; Hair et al., 2010:219). The model meets the minimum requirement for multiple regression analysis of five observations to one variable (Coakes, 2005:169) in that it has 88 observations to 14 variables, a ratio of 6.3:1. Hence, although it meets the multiple regression minimum conditions it may have limited generalisability.

5.2.6 Normality and linearity assessment

The scatterplot of residuals against predicted values indicates that there is no clear relationship between residuals and predicted values indicating the assumption of linearity for the regression variate (Coakes, 2005; Hair et al., 2010). Normal probability plots of the residuals show the values fall within the diagonal with no substantial or systematic departures indicating that the regression variate on the whole meets the assumption of normality (Hair et al., 2010).

5.3 Further analysis—model #2 financial profile over time

This analysis is not to test any hypothesis. The objectives of this test are described in section 4.7.2 and repeated below for easy reference.

The first objective of this test and analysis of its results is to identify recovery firms from those that did not recover or did not fully recover according to the three-fold criteria of financial health: those of improvement in profitability, financial leverage and liquidity. The second objective of this test is to supplement the MRA test Model #1 described above. This is because of the small sample size of 88 and the MRA constraint of having a minimum of 'at least five times more cases than independent variables' (Coakes, 2005:169). The 14 independent variables are within the minimum MRA requirement given a sample size of 88 firms (number of cases). That is, the MRA model #1 has 6.3:1 predictor variables to one sample firm (case). As this technical constraint, because of sample size, limits the number of independent (predictor) variables one can have in the MRA model #1, this test 'model #2 financial profile over time' is designed to pick up any discriminating trends that separate recovery firms from non-recovery ones. In the course of doing so, more effective turnaround strategies not tested by the MRA model may be detected.

Having determined the set of predictors which are tested statistically significant in explaining the variance in the dependent variable ROTA, the next section 5.3.1 examines the financial profile of the sample firms at the end of their distress year and at the end of the second financial year or period post-distress.

5.3.1 Turnaround versus non-turnaround firms

Model #2 financial profile over time

In accordance with Chapter 4, the financial profile of the 88 sample firms at the end of the second financial year/period post-distress was examined under the three-fold performance factor areas of:

1. Operating efficiency/profitability:

Proxy measurement variable:

- DYROTA-BND (defined as the distress year/period return on total assets minus the three-year Australian Government bond yield rate)

- TYROTA-BND (defined as the target second financial year/period post-distress return on total assets minus the three-year Australian Government bond yield rate)

2. Financial leverage

Proxy measurement variable:

- LTD/TA (defined as total of long-term debts divided by total assets)

3. Liquidity: working capital

Proxy measurement variable:

- CA/CL (defined as total current assets divided by total current liabilities)

For analysis purpose, this study classifies the 88 sample firms' financial profile into three categories based on the following criteria.

Category one (recovery firms): these are firms which satisfy the stringent three-fold inclusive turnaround criteria of:

TYROTA –BND >0 (that is, the return on total assets at the end of the second financial year/period post-distress is greater than the Australian government three-year bond yield rate).

$TYLTD/TA - DYLTD/TA < 0$ (that is, the ratio of total long-term debt to total assets at the end of the second financial year/period post-distress is less than that which existed at the end of the distress year).

$TYCA/TYCL \geq 1$ (that is, current asset ratio at the end of the second financial year/period is greater or equal to one).

Category two (partial recovery firms): these are firms which satisfy the profitability criterion of $TYROTA-BND > 0$ only.

Category three (non-recovery firms): these are non-recovered firms with $TYROTA-BND < 0$ that is, they did not satisfy the profitability criterion.

A Mann-Whitney U (MWU) test is performed to compare and examine the differences in the above defined financial profile variables, of category two and three firms with that of category one firms over time DY, DY1 and DY2. Tables 11a, 11b and 11c show the financial profile of the three categories of firms in accordance with the above financial variables at the end of the distress year DY and second financial year or reporting period post-distress (DY2).

A summary of the mean values of their financial profile is reported in Table 12. Summary results of the Z-test are reported in Tables 12a and 12b.

Table 11a *Model #2 category one (recovery) firms' financial profile*

NAME	FIRM SIZE \$M	DY ROTA	TY ROTA	DY ROTA-BND	TY ROTA-BND	DY LTD/TA	TY LTD/TA	DY CA/CL	TY CA/CL
A.I.E Limited	16.6	-0.021	0.060	-0.076	0.016	0.341	0.083	1.079	1.121
Austal Limited	252.7	-0.154	0.149	-0.199	0.098	0.061	0.048	1.218	2.271
Ausdrill Limited	31.4	-0.028	0.058	-0.087	0.002	0.118	0.061	1.037	1.756
Avatar Industries Limited	23.9	-0.022	0.105	-0.078	0.051	0.000	0.000	0.934	1.195
Brandrill Limited	18.3	-0.203	0.066	-0.247	0.015	0.299	0.146	0.520	1.103
Data3 Limited	18.4	-0.040	0.098	-0.105	0.054	0.048	0.002	0.870	1.045
Eumundi Group Limited	4.8	-0.002	0.169	-0.056	0.111	0.597	0.375	0.476	1.543
Embelton Limited	5.1	-0.013	0.077	-0.068	0.032	0.202	0.001	1.460	1.561
Austin Group Limited	13.7	-0.009	0.075	-0.066	0.020	0.111	0.001	1.321	1.829
Optima ICM Limited	14.3	-1.715	0.088	-1.770	0.044	0.028	0.002	0.994	1.215
Scott Corporation Limited	21.9	-0.013	0.088	-0.072	0.032	0.386	0.334	1.073	1.004
SDS Corporation Limited	29.2	-0.022	0.096	-0.079	0.042	0.111	0.028	1.052	1.592
Euroz Limited	2.2	-0.025	0.059	-0.081	0.004	0.098	0.000	1.565	1.615
Count = 13									
MEAN	34.8	-0.174	0.092	-0.229	0.040	0.185	0.083	1.046	1.450

Source: developed from analysis

Where:

DY = distress year

TY = target year, which is the end of the two years/second financial year end reporting period post-distress (i.e. DY+2).

Firm size = firm's market capitalisation in millions of dollars prior to distress

ROTA = return on total assets

ROTA-BND = ROTA minus three-year Australian government bond rate

LTD/TA = long-term debt divided by total assets

CA/CL = current assets divided by current liabilities

Table 11b Model #2 category two (partial recovery) firms' financial profile

NAME	FIRM SIZE \$M	DY ROTA	TY ROTA	DY ROTA-BND	TY ROTA-BND	DY LTD/TA	TY LTD/TA	DY CA/CL	TY CA/CL
Autron Corporation Limited	310.4	-0.022	0.086	-0.079	0.032	0.009	0.098	0.932	1.408
Acma Engineering & Construction Group Limited	23.4	-0.060	0.067	-0.113	0.022	0.000	0.168	0.710	0.836
Aircruising Australia Limited	1.6	-0.013	0.078	-0.073	0.022	0.001	0.000	0.269	0.719
Austral Coal Limited	119.7	-0.099	0.093	-0.153	0.035	0.249	0.395	0.212	0.774
Coneco Limited	9.3	-0.085	0.201	-0.141	0.156	0.419	0.490	0.735	0.780
Chiquitta Brands South Pacific Limited	123.9	-0.047	0.074	-0.101	0.017	0.202	0.288	1.620	1.018
Cumnock Coal Limited	175.4	-0.059	0.078	-0.110	0.024	0.014	0.000	1.236	0.841
Coal & Allied Industries Limited	2149.1	-0.012	0.231	-0.066	0.179	0.201	0.020	0.541	0.627
Concept Hire Limited	12.8	-0.254	0.191	-0.310	0.136	0.007	0.080	1.227	1.144
Energy Developments Limited	394.4	-0.033	0.100	-0.077	0.049	0.356	0.361	0.667	2.500
Energy World Corporation Ltd	17.5	-0.141	0.083	-0.196	0.025	0.221	0.443	0.108	1.065
Hudson Investment Group Limited	15.6	-0.052	0.130	-0.071	0.078	0.020	0.521	0.379	0.101
Joyce Corporation Limited	17.5	-0.171	0.063	-0.227	0.018	0.000	0.301	0.815	1.255
Macmahon Holdings Limited	14.3	-0.036	0.099	-0.091	0.054	0.329	0.196	0.670	0.622
National Telecoms Limited	199.9	-1.971	0.542	-2.016	0.491	0.040	0.025	0.427	0.918
Oldfields Holdings Limited	5.1	-0.206	0.075	-0.262	0.021	0.045	0.118	1.008	1.401
Supply Network Limited	4.3	-0.025	0.117	-0.081	0.061	0.000	0.006	1.691	1.702
COUNT = 17									
MEAN	211.4	-0.193	0.136	-0.245	0.084	0.124	0.206	0.779	1.042

Source: developed from analysis

Table 11c Model #2 category three (non-recovery) firms' financial profile

	FIRM SIZE \$M	DY ROTA	TY ROTA	DY ROTA-BND	TY ROTA-BND	DY LTD/TA	TY LTD/TA	DY CA/CL	TY CA/CL
Agenix Limited	60.9	-0.105	-0.557	-0.160	-0.615	0.116	0.000	1.436	2.525
AJ Lucas Group Limited	79.9	-0.405	0.042	-0.456	-0.023	0.209	0.246	1.042	1.257
Aurora Oil & Gas Limited	2.9	-0.128	-0.208	-0.183	-0.253	0.153	0.000	0.944	0.000
Ausron Limited	72.1	-0.023	-0.043	-0.079	-0.088	0.099	0.003	1.007	0.600
Bremer Park Limited	152.2	-0.020	0.001	-0.066	-0.053	0.260	0.389	1.176	1.109
Capral Aluminium Limited	477.5	-0.039	-0.012	-0.090	-0.066	0.000	0.086	1.581	1.697
Carlovers Carwash Limited	15.1	-0.129	0.059	-0.181	-0.006	0.254	0.136	0.310	0.331
Cypress Lakes Group Limited	17.4	-0.062	-0.017	-0.113	-0.081	0.496	0.379	0.441	0.438
P Cleland Enterprises Limited	27.4	-0.055	0.043	-0.111	-0.011	0.502	0.000	0.674	7.734
Clough Limited	184.9	-0.124	-0.182	-0.175	-0.246	0.016	0.140	1.256	0.989
Comops Limited	23.8	-0.141	-0.142	-0.192	-0.196	0.099	0.491	0.830	0.777
CPI Group Limited	45.2	-0.045	0.020	-0.099	-0.038	0.051	0.000	1.752	1.507
Country Road Limited	79.5	-0.042	0.037	-0.094	-0.023	0.044	0.024	2.481	2.812
Drillsearch Energy Limited	5.7	-0.049	-0.046	-0.105	-0.100	0.005	0.003	0.457	1.577
Dromana Estate Limited	6.1	-0.021	-0.067	-0.066	-0.118	0.034	0.005	1.558	1.868
ERG Limited	917.8	-0.081	-0.065	-0.137	-0.120	0.398	0.075	1.176	0.995
Forest Enterprises Australia Limited	109.6	-0.116	0.010	-0.171	-0.035	0.004	0.095	0.909	1.119
Gloucester Coal Ltd	26.9	-0.084	-0.212	-0.140	-0.267	0.648	0.079	1.330	0.716
Graincorp Limited	391.5	0.000	0.045	-0.069	-0.008	0.368	0.290	1.113	1.373
Garratt's Limited	2.4	-0.019	-0.065	-0.139	-0.122	0.223	0.012	0.801	0.669
Haoma Mining NL	23.2	-0.085	-0.315	-0.108	-0.369	0.000	0.040	0.517	0.215
Harvest Living Limited	12.0	-0.026	-0.445	-0.940	-0.501	0.000	0.000	0.584	2.005
Intellect Holdings Limited	92.6	-0.881	0.018	-0.425	-0.033	0.008	0.275	0.985	1.579
JV Global Limited	1.5	-0.380	-0.553	-0.464	-0.609	0.166	0.116	0.995	0.597

Source: developed from analysis

Table 11c Model #2 category three (non-recovery) firms' financial profile (cont'd)

NAME	FIRM SIZE \$M	DY ROTA	TY ROTA	DY ROTA-BND	TY ROTA-BND	DY LTD/TA	TY LTD/TA	DY CA/CL	TY CA/CL
KTL Technologies Limited	6.8	-0.301	-0.333	-0.356	-0.387	0.021	0.143	0.677	0.700
Lowan Australia Limited	6.7	-0.149	-0.083	-0.213	-0.134	0.131	0.170	1.049	1.194
Lindsay Australia Limited	5.2	-0.020	0.030	-0.075	-0.015	0.083	0.244	0.866	1.035
McConnell Dowell Corporation Limited	72.8	-0.025	0.033	-0.080	-0.011	0.003	0.014	1.389	1.398
Mark Sensing Limited	22.5	-0.046	0.009	-0.091	-0.042	0.013	0.009	1.103	1.695
Maryborough Sugar Factory Limited	16.1	-0.017	-0.205	-0.072	-0.250	0.064	0.064	0.477	0.551
Multistack International Limited	12.4	-0.057	0.041	-0.110	-0.005	0.002	0.001	0.742	0.820
Metroland Australia Limited	8.4	-0.015	-0.001	-0.075	-0.057	0.319	0.451	0.630	0.785
Murchison United NL	133.2	-0.465	-2.290	-0.521	-2.344	0.010	0.000	0.201	0.254
Network Foods Limited	2.7	-0.063	-0.045	-0.018	-0.096	0.133	0.051	1.303	1.408
Ocean Capital Limited	7.5	-0.016	0.044	-0.071	-0.001	0.170	0.098	0.300	0.846
Oldfields Holdings Limited	5.1	-0.206	0.075	-0.262	0.021	0.045	0.118	1.008	1.401
Oriental Technologies Investment Limited	14.0	-0.010	0.056	-0.061	-0.005	0.000	0.000	0.498	1.024
Pasminco Limited	1001.4	-0.003	-0.032	-0.058	-0.077	0.669	0.000	0.420	0.584
Port Douglas Reef Resorts Limited	22.2	-0.036	0.015	-0.092	-0.039	0.138	0.001	1.941	4.229
Prime Life Corporation Limited	106.2	-0.077	0.033	-0.132	-0.024	0.212	0.165	0.867	0.414
QR Sciences Holdings Limited	1.0	-0.008	-0.106	-0.063	-0.151	0.322	0.000	0.229	0.759
Redbank Mines Limited	1.6	-0.001	-0.941	-0.057	-0.997	0.002	0.000	0.256	6.124
Redflex Holdings Limited	48.0	-0.091	0.017	-0.151	-0.039	0.000	0.000	-0.155	2.620
Reliance Mining Limited	10.4	-0.061	-0.192	-0.117	-0.247	0.000	0.000	1.692	41.719
Raptis Group Limited	9.0	-0.018	0.025	-0.075	-0.030	0.228	0.281	0.992	0.546
Retail Technology & Services Limited	9.6	-0.321	0.003	-0.377	-0.042	0.121	0.198	0.809	1.282
St Barbara Limited	121.4	-0.216	-0.009	-0.269	-0.068	0.069	0.000	0.313	1.094

Source: developed from analysis

Table 11c Model #2 category three (non-recovery) firms' financial profile (cont'd)

NAME	FIRM SIZE \$M	DY ROTA	TY ROTA	DY ROTA-BND	TY ROTA-BND	DY LTD/TA	TY LTD/TA	DY CA/CL	TY CA/CL
Scantech Limited	14.7	-0.397	-0.299	-0.449	-0.359	0.131	0.302	1.280	1.349
Strathfield Group Limited	64.6	-0.056	0.043	-0.112	-0.011	0.006	0.155	1.030	1.159
Service Stream Ltd	3.7	-0.005	-1.898	-0.061	-1.943	0.149	0.000	0.296	0.201
Structural Systems Limited	16.3	-0.073	0.003	-0.129	-0.051	0.062	0.225	1.057	1.261
Tandou Limited	37.5	0.000	-0.127	-0.052	-0.195	0.251	0.498	0.644	1.668
Transmetro Corporation Limited	14.0	-0.053	0.042	-0.105	-0.018	0.432	0.382	0.630	1.158
Thomas & Coffey Limited	21.8	-0.239	0.037	-0.295	-0.019	0.105	0.182	1.030	1.179
Vietnam Industrial Investments Limited	19.1	-0.007	-0.016	-0.058	-0.077	0.075	0.009	1.107	1.152
Vita Life Sciences Limited	108.9	-0.044	0.009	-0.090	-0.042	0.206	1.016	0.995	0.816
Webster Limited	21.2	-0.012	0.008	-0.072	-0.048	0.192	0.168	1.350	1.296
WCP Resources Limited	19.3	-0.001	-0.398	-0.056	-0.443	0.079	0.000	1.286	1.173
Willmott Forests Limited	20.3	-0.041	0.038	-0.097	-0.016	0.135	0.152	0.893	0.646
COUNT = 58									
MEAN	83.2	-0.103	-0.158	-0.163	-0.211	0.150	0.136	0.923	2.045 [^]

Source: developed from analysis

[^] excluding outliers with TY CA/CL >5.0, mean = 1.132

Table 12 Model #2 **summary** of mean values—financial profile of category one, two & three firms during distress and post-distress period

	DISTRESS YEAR			POST-DISTRESS		
	CAT1	CAT2	CAT3	CAT1	CAT2	CAT3
ROTA	-0.174	-0.193	-0.103	0.092	0.136	-0.158
ROTA-BND	-0.229	-0.245	-0.163	0.040	0.084	-0.211
LTD/TA	0.185	0.124	0.150	0.083	0.206	0.136
CA/CL	1.046	0.779	0.923	1.450	1.042	2.045 [^]

Legend: cat1 = recovery firms, cat2 = partial recovery firms, cat3 = non-recovery firms

ROTA = return on total assets

ROTA-BND = ROTA minus three-year Australian bond rate

LTD/TA = long-term debt divided by total assets

CA/CL = current assets divided by current liabilities

Table 12a *Financial profile: results of test of difference in mean values—financial profile between category one firms compared to category two*

	DISTRESS YEAR				POST-DISTRESS			
	CAT1	CAT2	Z statistics	Asymp.sig (2 tailed)	CAT1	CAT2	Z statistics	Asymp.sig (2 tailed)
ROTA	-0.174	-0.193	-1.843	0.065†	0.092	0.136	-1.298	0.194
ROTA-BND	-0.229	-0.245	-1.423	0.155	0.040	0.084	-1.215	0.225
LTD/TA	0.185	0.124	-1.362	0.173	0.083	0.206	-1.949	0.051†
CA/CL	1.046	0.779	-1.862	0.063†	1.450	1.042	-2.616	0.009*

Table 12b *Financial profile: results of test of difference in mean values—financial profile between category one firms compared to category three*

	DISTRESS YEAR				POST-DISTRESS			
	CAT1	CAT3	Z statistics	Asymp.sig (2 tailed)	CAT1	CAT3	Z statistics	Asymp.sig (2 tailed)
ROTA	-0.174	-0.103	-1.071	0.284	0.092	-0.158	-5.583	0.000***
ROTA-BND	-0.229	-0.163	-0.996	0.319	0.040	-0.211	-5.606	0.000***
LTD/TA	0.185	0.150	0.669	0.503	0.083	0.136	-0.734	0.463
CA/CL	1.046	0.923	-1.219	0.223	1.450	2.045 (a)	-1.903 (a)	0.057† (a)

Source: developed from analysis

† p < 0.1; *p < 0.05; ** p < 0.01; *** p < 0.001

(a) Excluding outliers with TY CA/CL > 5.0, the mean value is 1.132 and z = -2.483 with p = 0.013

Results of MWU test—model #2 financial profile over time

(i) Category one (recovery) versus category two (partial recovery)—distress year DY

The mean values of category one's ROTA in DY in Table 12a is -0.174 versus category two's -0.193 with a Z-statistic of -1.843 and the difference in ROTA mean values is statistically mildly significant at the 0.1 level (p = 0.065). However, the difference (severity of loss) in mean ROTA in DY in percentage terms between the category one and category two is only about 2% (-0.193 minus -

0.174). That is, the magnitude of their severity of distress is quite comparable in the distress year.

The other variable which is tested statistically mildly significant at 0.1 level ($p=0.063$) is the liquidity ratio CA/CL with a Z-statistic of -1.862. The magnitude/quantum difference between mean CA/CL for category one and category two is about 27% (1.046-0.779). That is category one firms on average are about 27% more liquid than category two firms in the distress year (start of the distress–turnaround period).

The other two financial profile ratios of ROTA-BND and LTD/TA for category one and category two firms in DY are tested not statistically significant with $z = -1.423$, $p= 0.155$ and $z = -1.362$, $p=0.173$, respectively. On average, the difference in mean ROTA-BND between category one and category two firms in DY is about 2% (-0.229 minus - 0.245). The difference in mean LTD/TA in DY between category one and category two firms is about 6% (0.185-0.124). That is, category one firms are on average 6% more highly geared than category two firms in DY (start of the distress–turnaround period).

In summary, the financial profile of category one and category two firms in DY is as follows.

Severity of distress is fairly comparable (difference of about 2%) as indicated by their ROTAs and the difference is tested statistically mildly significant at the 0.1 level.

In terms of liquidity, category one firms are on average 27% more liquid than category two firms and the difference is statistically mildly significant at the 0.1 level.

In terms of financial leverage, category one firms are on average 6% more geared than category two and the difference is not statistically significant.

(ii) Category one (recovery) versus category two (partial recovery)—Post-distress (i.e. DY+2)

Moving from DY to DY2 post-distress, their financial profile changed as indicated in the Post-distress section in Table 12a. The difference in the mean profitability ratio variables of ROTA and ROTA-BND are tested not statistically significant, that is, ROTA $z = -1.298$, $p=0.194$ and ROTA-BND $z = -1.215$, $p=0.225$. However, the difference in mean leverage (LTD/TA) and liquidity (CA/CL) ratios are tested statistically mildly significant and significant respectively, that is, LTD/TA $z = -1.949$, $p=0.051$ (at 0.1 significance) and CA/CL $z = -2.616$, $p=0.009$ (at 0.05 significance). In terms of profitability, category one firms have improved from a loss situation in DY of mean ROTA = -0.174 to a positive profit situation of mean ROTA = 0.092, a turnaround of about 27% (0.174+0.092). Similarly, category two firms' profitability improved from a loss of mean ROTA in DY of -0.193 to a profit situation of 0.136 in DY2; a turnaround of approximately 33% (i.e. 0.193+0.136). Category one's improvement (decrease) in mean leverage LTD/TA is about 10% between DY and DY2 (i.e. 0.185-0.083). However, category two's mean LTD/TA has moved in the opposite direction, an increase of about 8% from 0.124 in DY to 0.206 in DY2. This implies category two firms mainly fund the growth in profitability through long-term debt financing. This lends support to the MRA model's test results, as described above, that debt when put to effective use is positively related to the profitability variable. Both category one and category two firms improved their liquidity positions as evidenced by the improvement in mean CA/CL of about 40% (i.e. 1.450-1.046) for category one and an improvement of about 26% (i.e. 1.042-0.779) for category two between DY and DY2.

In summary, by the end of DY2 we have:

Both category one and two firms have on average improved their profitability performance from a loss to a profit situation, and the difference in the values of profitability ratios is statistically not significant.

Both categories have improved their liquidity positions, with category one firms on average being more liquid than category two firms. The difference in the mean values of the liquidity ratio CA/CL is statistically significant at the 0.05 level.

In the leverage area, both have moved in opposite directions with category one achieving a decrease in LTD/TA whilst category two's mean LTD/TA has worsened. The difference in the mean values of LTD/TA is statistically mildly significant at the $p < 0.1$ level.

(iii) Category one (recovery) versus category three (non-recovery)—distress year DY

The mean values of category one's ROTA in DY in Table 12b is -0.174 versus category three's -0.103 with a Z-statistic of -1.071 and the difference in ROTA mean values is statistically not significant, $p=0.284$. The difference (severity of loss) in mean ROTA in DY in percentage terms between the category one and category three is about 7% (-0.174 minus -0.103). Similarly, there is no significant difference in the mean ROTA-BND in DY between category one and category three firms (i.e. $z = -0.996$, $p=0.319$). The difference in mean ROTA-BND is also about 7% (i.e. -0.229 minus -0.163). On average, category one firms are 7% worst off in terms of the profitability ratios ROTA and ROTA-BND than category three firms in DY (start of the distress–turnaround period).

The other two financial profile ratios of LTD/TA and CA/CL for category one and category three firms are tested not statistically significant with $z = 0.669$, $p = 0.503$ and $z = -1.219$, $p = 0.223$, respectively. On average, the difference in the leverage ratio mean LTD/TA between category one and category three firms in DY is about 4% (0.185 – 0.150); with category one more geared than category three. The difference in the liquidity ratio mean CA/CL in DY between category one and category three firms is about 12% (1.046-0.923). That is, whilst category one and category three firms are quite comparable in the leverage department, on average category one is 12% more liquid than category three in DY (start of the distress–turnaround period).

In summary, the financial profile of category one and category three firms in DY is as follows.

In terms of profitability (severity of loss), on average category one is 7% worse off than category three, and this difference is statistically not significant.

In terms of financial leverage, category one and category three firms are quite comparable, with category one being approximately 4% more geared between the two. This difference is not statistically significant.

In terms of liquidity, category one firms are 12% more liquid than category three firms and the difference is not statistically significant.

(iv) Category one (recovery) versus category three (non-recovery)—post-distress (i.e. DY+2)

Moving from DY to DY2 post-distress, their financial profile changed as indicated in the post-distress section in Table 12b, which shows a completely different picture. Category one firms' profitability ratios of ROTA and ROTA-BND are all

positive with mean ROTA = 0.092 and mean ROTA-BND = 0.040 respectively. Category three's loss has worsened by 6%, that is, mean ROTA slipped from -0.103 in DY to -0.158 in DY2, whilst category one on average achieved a turnaround in profitability of 27% (i.e. 0.092+0.174). The difference in mean ROTA and ROTA-BND is significant at the $p < 0.001$ level, that is, ROTA $z = -5.583$, $p = 0.000$; ROTA-BND $z = -5.606$, $p = 0.000$.

In terms of financial leverage, category one mean LTD/TA improved by about 10% (i.e. 0.185-0.083) over the DY to DY2 period, whilst category three's shows slight improvement of about 1.4% (i.e. 0.150-0.136). This difference is not statistically significant with $z = -0.734$, $p = 0.463$.

In terms of liquidity, both categories have improved. Category one's mean CA/CL improved by 40% from 1.046 DY to 1.450 DY2, and category three's shows much improvement of 112% from 0.923 DY to 2.045 DY2. (If excluding outliers with TY CA/CL > 5.0, the improvement is 21% from 0.923 to 1.132 for category three). This difference in mean CA/CL is statistically mildly significant with $z = -1.903$, $p = 0.057$ at the <0.1 significance level. (If outliers are excluded, $z = -2.483$, $p = 0.013$ at the <0.05 significance level). That is the results are significant in both cases. Category three firms, in their efforts to turnaround, actively sold off assets and inventories to repay debts—for example, in the financial year ended 30 June 2000 Reliance Mining Limited (Geographe Resources Limited) ran down/sold its gold bullion inventories to pay off \$9million of debts in current liabilities and P Cleland Enterprises Limited in the financial year ended 30 June 2003 realised approximately \$74 million from sale of assets, business and controlled entities to repay current and long-term debts. Distress firms, category three, actively reduced debt level, especially those due and payable, to a more serviceable and affordable level relative to operating income to stay afloat. Repayment of debt in current liabilities improves the CA/CL ratio. Whilst category one firms, already on the road to recovery, felt less liquidity/cash flow pressures as time progressed.

In summary, by the end of DY2 we have:

Category one firms have successful turnaround according to performance criteria set out in Chapter 3, whilst category three firms are still in a loss situation. The difference in profitability is statistically significant at the 0.001 level.

Both categories have decreased their financial leverage, with category one, on average, showing a bigger decrease of 10% compared to category three's decrease of 1.4%. The difference in LTD/TA is not statistically significant.

In the area of liquidity, both show improvement with category three's improvements (112%) far outstripping category one's (40%). The difference in CA/CL between category one and three is statistically mildly significant at the $p < 0.1$ level. (If adjusting for outliers the improvement for category three is 21% with $p < 0.05$ significance level). Both categories use their improvement in liquidity to lower long term debts with category one firms' LTD/TA mean value falling by 10% (0.185 to 0.083) by the end of DY2 than category three's falling by only 1.4% (0.150 to 0.136) for the same period.

5.4 Model #3 intensity and timing

Having looked at the changing financial profiles of the three categories of firms between DY and post-distress DY2, which reflect the results of strategies adopted and identified by the MRA test as per section 5.2.2, the following section examines the intensity and timing of strategies implemented by the sample firms.

This section tests hypothesis six which states that:

Intensity of efforts and timely execution of turnaround strategies are positively related to the likelihood of successful turnaround.

'Intensity' is proxied by the amount incurred by the sample firms for the following activities, as defined by the test variables below, which is repeated here for easy reference.

Each of the 'activity' values as reported in the financial statements is expressed as a proportion of the pre-distress year's total asset values, except for CEO change, divestitures and new industry or geographical segments, which are differently defined as indicated below. The common base values of using the pre-distress year's total assets is to enable one to gauge the intensity of turnaround strategies adopted by the sample firms over time. Increasing resultant ratio over DY, DY1 and DY2 implies increasing intensity and decreasing ratio value implies decreasing intensity.

The following formulas where they are labelled with the descriptor 'change' are not defined in the change mode format—that is they are not defined as time 't₁ value minus t₀ value' format. The descriptor 'change' should be read as 'intensity of expenditure relative to or as a proportion of pre-distress year's assets'. The preference for using the descriptor 'change' is in keeping with the sense and objective of the following corresponding result/analysis section of 5.4 whereby the increase or decrease in intensity of turnaround strategy for each of the test variable over the dy₁ and dy₂ post distress periods are reported and analysed.

Hence:

Asset sales intensity = cash received for asset sales divided by pre-distress year's total assets.

Inventory change = inventory divided by pre-distress year's total assets.

Dividend change = dividend paid or provided divided by pre-distress year's total assets.

Long-term debt change = long term debt divided by pre-distress year's total assets.

Equity issue/placement intensity = cash received via equity raising divided by pre-distress year's total assets. Equity raising includes also quasi-equity instruments like convertible notes, options and rights issue.

Financial assets/investment sales intensity = cash received for financial investment assets sales divided by pre-distress year's total assets.

CEO change = one or zero otherwise

Divestitures = one or zero otherwise

New industry or geographical segment = difference between the pre-distress year's number of business (industry) segments and geographical segments reported in the sample firms' annual financial report and that reported for the distress year and each of the two post-distress years/periods.

New/increase or reduction in plant and equipment expenditure intensity = total cost of plant and equipment divided by pre-distress year's total assets.

Category one firms' activity intensity is separately compared to category two firms' and category three firms'.

Intensity of turnaround strategies: testing for statistical difference

The non-parametric Mann-Whitney U (MWU) test is used to assess the statistical difference in the mean values of the intensity of turnaround efforts per summary Table 13. Category one (recovery) firms' parameters are separately compared to category two's (partial recovery) and category three's (non-recovery). The results of the MWU tests are tabulated in Tables 14a and 14b below.

Table 13 examines the intensity of turnaround strategies of recovered and non-recovered firms over the distress and post-distress periods. It summarises the intensity (*mean values*) of turnaround strategy over time, being at the end of the distress year and at the end of year one or next financial reporting period ('DY+1') and two years or second financial year end reporting period post-distress ('DY+2').

Table 13 Model #3 summary of intensity (mean values) of turnaround strategies of recovered and non-recovered firms over the distress and post-distress periods

	Distress Year DY			Distress Year +1 DY1			Distress Year +2 DY2		
	CAT1	CAT2	CAT3	CAT1	CAT2	CAT3	CAT1	CAT2	CAT3
Turnaround strategy									
Operational restructuring									
<i>Asset sales</i>	0.012	0.040	0.052	0.081	0.046	0.085	0.012	0.034	0.062
<i>Inventory change</i>	0.165*	0.095*	0.177	0.171†	0.080†	0.137	0.188†	0.092†	0.146
Financial restructuring									
<i>Dividend change</i>	0.002	0.004	0.010	0.001	0.003	0.003	0.017**	0.014	0.003**
<i>Long-term debt change</i>	0.495	0.322	0.305	0.372	0.328	0.273	0.240	0.328	0.344
<i>Equity issue/placement</i>	0.079	0.023	0.053	0.084	0.018	0.111	0.123	0.009	0.103
<i>Financial assets/investments sales</i>	0.002	0.017	0.009	0.001	0.000	0.011	0.121	0.001	0.005
Strategic restructuring									
<i>CEO change</i>	0.308	0.235	0.276	0.385	0.235	0.241	0.231	0.118	0.276
<i>Divestitures</i>	0.231	0.235	0.234	0.385	0.235	0.310	0.385	0.176	0.293
<i>New industry or geographical segment</i>	-0.231	-0.059	0.052	-0.538†	-0.353	0.052†	-0.385	-0.353	-0.155
<i>New / increase or reduction plant & equipment</i>	0.354	0.460	0.336	0.275	0.505	0.242	0.290†	0.549†	0.308

Source: developed from analysis

See tables 14a and 14b for MWU test results of corresponding Z-statistic score and p-value.

† p < 0.1; * p < 0.05; ** p < 0.01; *** p < 0.001

Legend: cat1= recovery firms, cat2 = partial recovery firms, cat3 = non-recovery firms

Table 14a Model #3 test statistics intensity comparison between category one versus category two firms

14a Panel #1	DY ASST SALE	DY CEO CHG	DY DIV CHG	DY DIVEST	DY INVEST SALE	DY INVEN CHG	DY LONG DEB CHG	DY NEW EQTY	DY NEW PLT OR REDN	DY NEW INDY OR GEO
Mann-Whitney U	104.500	102.500	100.500	110.000	99.000	62.500	99.000	102.000	93.000	108.000
Wilcoxon W	195.500	255.500	191.500	201.000	190.000	215.500	252.000	255.000	184.000	199.000
Z	-.253	-.437	-.538	-.029	-.689	-2.009	-.481	-.402	-.732	-.242
Asymp. Sig. (2-tailed)	.801	.662	.591	.977	.491	.045*	.630	.688	.464	.809
Exact Sig. (2-tailed Sig.)	.805 a	.742 a	.680 a	1.000 a	.650 a	.043 a	.650 a	.742 a	.483 a	.934 a

14a Panel #2	DY1 ASST SALE	DY1 CEO CHG	DY1 DIV CHG	DY1 DIVEST	DY1 INVEST SALE	DY1 INVEN CHG	DY1 LONG DEB CHG	DY1 NEW EQTY	DY1 NEW PLT OR REDN	DY1 NEW INDY OR GEO
Mann-Whitney U	85.500	94.000	100.500	94.000	93.500	67.500	100.000	89.500	73.000	107.000
Wilcoxon W	238.500	247.000	191.500	247.000	246.500	220.500	191.000	242.500	164.000	198.000
Z	-1.082	-.870	-.599	-.870	-1.645	-1.801	-.439	-.992	-1.569	-.181
Asymp. Sig. (2-tailed)	.279	.385	.549	.385	.100	.072†	.660	.321	.117	.856
Exact Sig. (2-tailed Sig.)	.300 a	.509 a	.680 a	.509 a	.483 a	.072 a	.680 a	.385 a	.123 a	.902 a

14a Panel #3	DY2 ASST SALE	DY2 CEO CHG	DY2 DIV CHG	DY2 DIVEST	DY2 INVEST SALE	DY2 INVEN CHG	DY2 LONG DEB CHG	DY2 NEW EQTY	DY2 NEW PLT OR REDN	DY2 NEW INDY OR GEO
Mann-Whitney U	108.500	98.000	109.000	87.500	107.000	69.500	73.000	100.000	68.000	106.000
Wilcoxon W	199.500	251.000	200.500	240.500	198.000	222.000	164.000	253.000	159.000	197.000
Z	-.085	-.810	-.045	-1.256	-.281	-1.717	-1.569	-.542	-1.779	-.225
Asymp. Sig. (2-tailed)	.932	.418	.964	.209	.778	.086†	.117	.588	.075†	.822
Exact Sig. (2-tailed Sig.)	.934 a	.621 a	.967 a	.341 a	.902 a	.086 a	.123 a	.680 a	.079 a	.869 a

Source: developed from analysis

a. not corrected for ties

† p < 0.1; * p < 0.05; ** p < 0.01; *** p < 0.001

b. Grouping variable: Cat

Table 14b Model #3 test statistics intensity comparison between category one versus category three firms

14b Panel #1	DY ASST SALE	DY CEO CHG	DY DIV CHG	DY DIVEST	DY INVEST SALE	DY INVEN CHG	DY LONG DEB CHG	DY NEW EQTY	DY NEW PLT OR REDN	DY NEW INDY OR GEO
Mann-Whitney U	317.500	365.000	347.500	364.500	305.000	337.500	361.000	364.000	289.500	324.000
Wilcoxon W	2028.500	2076.000	438.500	455.500	396.000	2048.500	452.000	2075.000	2000.500	415.000
Z	-.895	-.229	-.615	-.241	-1.328	-.587	-.238	-.219	-1.301	-1.170
Asymp. Sig. (2-tailed)	.371	.819	.539	.810	.184	.557	.812	.827	.193	.242

14b Panel #2	DY1 ASST SALE	DY1 CEO CHG	DY1 DIV CHG	DY1 DIVEST	DY1 INVEST SALE	DY1 INVEN CHG	DY1 LONG DEB CHG	DY1 NEW EQTY	DY1 NEW PLT OR REDN	DY1 NEW INDY OR GEO
Mann-Whitney U	318.000	323.000	368.500	349.000	347.500	318.500	374.000	377.000	293.500	283.500
Wilcoxon W	2029.000	2034.000	2079.500	2060.000	438.500	2029.500	2085.000	2088.000	2004.500	374.500
Z	-.882	-1.047	-.219	-.514	-.615	-.871	-.045	.000	-1.242	-1.859
Asymp. Sig. (2-tailed)	.378	.295	.827	.608	.539	.384	.964	1.000	.214	.063†

14b Panel #3	DY2 ASST SALE	DY2 CEO CHG	DY2 DIV CHG	DY2 DIVEST	DY2 INVEST SALE	DY2 INVEN CHG	DY2 LONG DEB CHG	DY2 NEW EQTY	DY2 NEW PLT OR REDN	DY2 NEW INDY OR GEO
Mann-Whitney U	351.000	360.000	246.000	342.500	346.000	307.000	288.500	340.500	268.500	305.500
Wilcoxon W	442.000	451.000	1957.000	2053.500	437.000	2018.000	379.500	431.500	1979.500	396.500
Z	-.396	-.330	-2.888	-.640	-.732	-1.043	-1.316	-.609	-1.614	-1.320
Asymp. Sig. (2-tailed)	.692	.742	.004**	.522	.464	.297	.188	.542	.107	.187

Source: developed from analysis

† p < 0.1; *p < 0.05; ** p < 0.01; ***p < 0.001

b. Grouping variable: Cat

Results of test of intensity and timing of turnaround strategies (model #3).

Table 13 above shows the shifting pattern of the intensity of efforts expended on each turnaround strategy over time by category one, two and three firms.

Asset sales:

For all firms, the intensity of asset sales increased in the first year/period following the distress year. For category one, starting with a mean value of 0.012 at the end of the distress year DY, it increased to 0.081 one year post-distress (DY1) and eased off dramatically in year two (DY2) after distress at 0.012. This is expected as the need to generate more cash inflows decreases once a recovering firm is well on the road to recovery. Category two's mean values for the corresponding years/periods show less variations starting at 0.040, then 0.046 and then 0.034. On the other hand, category three's mean values show increasing intensity being maintained, starting at 0.052, then 0.085 and only slight easing-off at the end of the second year post-distress at 0.062. This is expected as a non-turnaround firm would indulge in more asset sales to make ends meet. The difference in mean values for asset sales intensity is tested not statistically significant for all cases. This indicates that all firms indulged in asset sales with intensity in the first year following distress in their efforts to turn around.

Inventory change:

Funds tied up in excess inventory amount to idle unproductive cash and are an indication of the inefficiency of short-term asset utilisation/realisation. To release this idle tied-up cash, firms will try to increase turnover of inventory (e.g. through sales programmes). The result of this is often indicated by the reduction of

inventory on hand at the end of each reporting period or financial year. Surprisingly, except for category three, the mean values of inventory change for category one and two in Table 13 did not show a convincing downward trend between the distress year and the post-distress years. However, there is a significant difference in inventory change in DY between categories one and two ($z = -2.009$, $p=0.045$, <0.05 , refer to Table 14a panel one). Category one shows a gradual build up of inventories (i.e. 0.165 at the end of DY, 0.171 in DY1 and 0.188 at the end of DY2). Category two shows a decrease of about 16% from 0.095 at the end of DY to 0.080 at the end of DY1 and back up to 0.092 at the end of DY2. In DY1, the difference in mean values of inventory change between category one and category two is statistically mildly significant with $z = -1.801$, $p=0.072$, <0.1 , refer to Table 14a panel two. Similarly in DY2, the difference in mean value of inventory change between category one (mean value 0.188) and two (mean value 0.092) is tested mildly significant with $z=-1.717$, $p=0.086$, <0.10 , refer to Table 14a panel three. Category three firms, by themselves, do overall show a gradual decrease over the period in question, with 0.177 at the end of DY, 0.137 at the end of DY1 and 0.146 at the end of DY2, (i.e. a decrease of about 18% from DY 0.177 to 0.146 at the end of DY2). The figures tend to suggest that category one's mean inventory level increased gradually as sales improved, whilst category three firms were still reducing inventory levels two years post-distress in an effort to turnaround and improve cash flow. Category one firms' inventory level mean value of 0.188 at the end of the DY2 is two times greater than category two's 0.092, suggesting that recovering category one firms, with improvement in liquidity³⁷, built up their inventory to a higher level than category two firms to meet increasing sales.

³⁷ Analysis of liquidity proxy measurement CA/CL tabulated in Table 12a shows significant difference in mean values between category one and category two firms' CA/CL.

Dividend change:

When faced with profitability and cash flow problems, a firm will try to 'walk a tight rope' between cutting dividends to shareholders without unduly damaging its market reputation and its shareholder relationship. Category one and two firms' mean values for dividend change show similar pattern for dividend change intensity. Category one reduced their dividend intensity mean value to 0.001 by the end of DY1 from 0.002 in DY (a decrease of 50%), but increased it in DY2 to 0.017. For category two, similar patterns are evident at 0.004 in DY1 and an increase to 0.014 at the end of DY2. On the other hand, category three's post-distress years (DY1 and DY2) dividend change mean values at 0.003 are less than their distress year's 0.010 (a decrease of 70%). This reduction in dividend by financially distressed firms in their efforts to turnaround has empirical support (e.g. DeAngelo & DeAngelo 1990). Recovered firms—for example, category one in this instance—appear to restore their dividend policy/amount per share as soon as cash flow and profitability allow them to do so in order to protect and maintain their market image and shareholder relationship. This is evidenced by the significant difference in mean values ($z = -2.888$, $p=0.004$, < 0.01 , refer Table14b panel three) between category one (mean value 0.017) and category three (mean value 0.003) at the end of DY2.

Long-term debt change:

Debt or the level of leverage in capital structure carries the burden of having enough profits to service the level of debt and meet bank or financier debt covenant. As interest commitments are a charge against profit irrespective of whether there is enough profit to meet such charges, distress firms will try to embark on strategies to reduce or refinance their existing debts by seeking out lower interest bearing debt instruments and/or less onerous financial obligations. Category one firms' mean values of long-term debt change intensity shows a rapidly decreasing trend of 0.495 in the distress year, 0.372 in the year after

distress and down to 0.240 (i.e. about half—52%—of its distress year's 0.495) at the end of DY2. Category two firm's mean values stay fairly constant throughout the distress and post-distress years at 0.322, 0.328 and 0.328, whilst category three firms' 0.305, 0.273 and 0.344 evidenced a slight decrease at the end of one year post-distress (to 0.273), but a slight increase back to the 0.344 distress year level in DY2. The evidence tends to suggest recovery or turnaround firms are those that are more successful in reducing their debt level. This intensity of effort seems to gather pace in the first year post-distress (DY1) whereby the mean value went from 0.495 to 0.372, which is a 25% decrease for category one firms. However, the difference is tested not statistically significant in all cases. This implies debt reduction may not be the single determining factor for successful performance turnaround.

Equity issue/placement:

Distress firms facing cash flow problems will seek out alternative cheaper and less onerous sources of finance. Equity raising is an attractive source of finance, as dividend—which is the cost of equity capital—is an appropriation of profit and not a charge against profit and need not be paid if there is not enough profit to meet such obligation. However, the ability of a distress firm to seek out equity finance is often constrained by the general economic environment and its own financial and profitability status. In a down economy, equity raising from the capital markets and the general public can arguably be less likely to be successful than in a boom economy. In Table 13, Category one firms are found to intensify their equity issue/placement efforts *during* the distress year and *throughout* the post-distress years with mean values of 0.079, 0.084 and 0.123. Category two firms showed a *decreasing* trend of intensity with mean values of 0.023, 0.018 and 0.009. This may account for the fact that the financial profile of category two firms differs from that of fully satisfying the stringent three-fold recovery criteria as set out in section 3.3.5, with the difference mainly in the

cash flow/liquidity area. Category three firms also *increased* the equity raising activity *during* distress and *throughout* the post-distress years (i.e. 0.053, 0.111 and 0.103). However, the difference is tested not statistically significant in all cases. The increase in the intensity of equity raising for category one firms during the distress-turnaround period also coincided with the trend in the reduction of long term debt (LTD/TA) as discussed in the preceding paragraph. This may explain why category one firms are more successful in turning around by raising equity and paying off long term debts. Equity raising per se may not be the single determining factor for turnaround but the application of such funds matters.

Financial assets/investments sales:

Proceeds from sale of financial assets (e.g. shares) held as investments often helped to alleviate cash flow pressure. Category one firms' mean value for this activity increased from 0.002 (mean value) at the end of the distress year to 0.121 at the end of DY2, an increase of 5950%. Category two firms show a decrease in the intensity of this activity with mean values of 0.017, 0.000 and 0.001 over the same turnaround period. However, the difference in mean values between category one and two firms is tested not significant in DY ($z=-0.689$, $p=0.491$), DY1 ($z= -1.645$, $p = 0.100$) and DY2 ($z= -0.281$, $p=0.778$), refer to Table14a, panel one, panel two and panel three, respectively. On the other hand, Category three firms appear to intensify this activity in DY (mean value 0.009) and one year post-distress (mean value 0.011), but the intensity decreased to 0.005 (mean value) at the end of DY2. This may imply that Category three firms in their effort to turnaround consume a greater amount of spare resources as the crisis worsens and eventually run out of diminishing scarce resource to sell.

CEO change:

Table 13 shows 31% (0.308) of category one firms changed their CEO or MD during the distress year, 39% (0.385) in DY1 and 23% (0.231) in DY2. For category two firms the change percentage is 24% (0.235) in DY and DY1 and 12% (0.118) in DY2. The percentage of category three firms that changed their CEO stays fairly constant at 28% (0.276), 24% (0.241) and 28% (0.276) for the same comparative periods. This tends to indicate that recovered or turned around firms decrease the frequency of CEO or MD change as they recover from financial distress or decline. Also there appears higher percentage of CEO change in the early period of distress (i.e. DY and DY1 for category one firms rather than categories two and three). However, the difference in mean values for this variable has not shown statistical significance in all cases. This does not negate the fact that between 39% and 24% of sample firms change their CEO in an effort to turnaround.

Divestitures:

In order to stem the decline in profitability it is reasonable to assume distress firms will seek to sell or dispose of the unprofitable or loss-making part of their business in order to conserve and minimise the utilisation of cash and scarce resources. Table 13 shows that firms in all three categories effected divestitures in one form or another. Twenty-three per cent (0.231) of category one firms effected divestitures in the distress year and 39% (0.385) of them in both DY1 and DY2. For category two firms, the percentage is 24% (0.235) in the distress year DY with the same 24% (0.235) in DY1 and 18% (0.176) of them in DY2. For category three firms the percentage is 23% (0.234) in DY, 31% (0.310) in DY1 and 29% (0.293) in DY2. Divestiture, therefore, appears to be a popular strategy adopted by distress firms in their effort to turnaround. Incidentally, the

extent (percentage) of such occurrence tends to follow the extent of CEO or MD changes mentioned above. This is in line with the expectation that a new CEO or MD will effect structural or strategic change. The difference in the mean values for the divestiture variable is tested not significant in all cases.

New industry or geographical segment:

When compared to the number of industry or geographical segments which a sample firm operates in the pre-distress year, category one firms in Table 13 appear to intensely decrease the number of such segments with negative mean values of minus 0.231 for the distress year, minus 0.538 and minus 0.385 for DY1 and DY2 respectively. Similarly, category two firms also displayed such a trend: minus 0.059 in DY, and staying static (i.e. no change in number of segments) at minus 0.353 for DY1 and DY2. The key result is that category three firms appear to do the opposite with positive mean value of 0.052 for both DY and DY1 (i.e. no change in the number of segments) but with a reduction in the mean value of minus 0.155 only in DY2. This belated action may be the reason which adversely affects the success of remedial efforts to achieve turnaround. Also there is a mild significant difference ($z = -1.859$, $p=0.063$, <0.1 , refer to Table14b panel two) in the mean value for this strategy between category one (-0.538) and category three firms (0.052) at the end of DY1. This shift in intensity from short operational restructuring to long-term strategic focus early in the turnaround effort by recovering category one firms is consistent with the turnaround actions of distress firms reported by Sudarsanam and Lai (2001) and Grinyer, Mayes et al. (1988). Further, P Grinyer and P McKiernan (1990:140) in their research reported that frequently, the strategic business changes effected by sharp-benders relate mostly to 'a return to a well-understood core business, by means of closure (in 50% of the companies), sale (45 percent) or harvesting (5 percent) of weaker businesses'.

New/increase or reduction in plant and equipment expenditure intensity:

Among the three categories, category one firms show the least mean values of 0.354, 0.275 and 0.290 for DY, DY1 and DY2 respectively. Category two firms appear to intensify their investment in new plant and equipment with increasing mean values of 0.460 DY, 0.505 DY1 and 0.549 DY2, whilst Category three firms' intensity decreased slightly at 0.336 for DY to 0.308 at the end of DY2 with more decrease in the interim to 0.242 one year post-distress. The difference in mean values between category one (0.290) and category two (0.549) at the end of DY2 is mildly significant with $z = -1.779$, $p=0.075$ at the $p<0.1$ level, refer to Table14a panel three. Category two's intensity in new plant investments may have accounted for the lesser CA/CL liquidity score when compared to category one's, as more liquid funds are expended in building longer-term productive capacity.

Summary of the results of intensity and timing tests.

For easy reference, the following is a summary of the results of intensity and timing tests.

Asset sales:

Results indicate asset sales intensity and timing is not statistically significant among categories one, two and three as all engaged in asset sales. In terms of timing and intensity, category one and category three effected higher intensity for this activity **earlier** (in DY1) than category two, but category one eased off dramatically in DY2, whilst categories two and three eased off slightly.

Inventory change:

Results indicate statistical significance ($p < 0.05$) at the end of DY between categories one and two. By the end of DY1 and DY2 the difference was mildly significant ($p < 0.1$). On the other hand, category three *intensified* inventory sales between DY and DY2, evidenced by *18% decrease* (i.e. mean value 0.177 to 0.146) in inventory between DY and end of DY2.

Dividend change:

As expected, results indicate significant difference ($p < 0.01$) between category one and category three firms at the end of DY2. Category one firms reduced dividend intensity by about 50% between DY and DY1 whilst in the same period category three firms reduced by about 70%. However, recovery category one firms restored their dividend payout *as soon as possible*.

Long-term debt change:

Overall, the difference among the three categories is tested not statistically significant. However, category one firms were more successful in reducing debt level—that is, a 52% decrease in average long-term debt between DY (mean 0.495) and DY2 (mean 0.240—and they did this *earlier* (25% reduction) in DY1 (mean value 0.495 DY decreased to 0.372 DY1).

Equity issue/placement:

Results indicate no statistical significance among all three categories. However, except for category two, categories one and three show *increasing* intensity between DY and DY2. However, the difference between category one and three is that category one's increasing intensity in equity raising corresponds with a downward trend in long term debt between DY and DY2.

Financial assets/investments sales:

Test results indicate that category one firms aggressively sold off financial investments in the period between DY and DY2 (a 5950% increase in mean values). Although all categories participated in this activity, categories two and three's intensity *decreased* by the end of DY2, presumably because they ran out of free financial assets to sell.

CEO change:

Results indicate no statistical significance in the difference in intensity (mean values) among all three categories. However, between 39% and 24% of sample firms changed their CEO in their effort to turnaround. Category one's intensity is *higher* in DY and DY1 than categories two and three's.

Divestitures:

Results indicate no statistical significance in the difference in intensity among all three categories. However category one shows *increasing* intensity between DY and DY2.

New industry or geographical segment:

Results show a mild significant difference, $p=0.063$ ($p<0.1$), in the intensity between category one and three at the end of DY1. However, categories one and two appear to decrease this intensity ***earlier*** than category three firms.

New/increase or reduction in plant and equipment expenditure intensity:

Results show only mild significance, $p=0.075$ ($p<0.1$), in the intensity between category one and two firms at the end of DY2. Category two shows increasing intensity between DY and DY2, whilst category one shows decreasing intensity for the same period, which started ***earlier*** in DY1.

From the above analyses, overall the evidence supports H6 that:

Intensity of efforts and timely execution of turnaround strategies are positively related to the likelihood of successful turnaround.

The discriminating factors appear to be that category one (recovery) firms often effect turnaround strategies earlier and in greater intensity than category two (partial recovery) and category three (non-recovery) firms. This is evidenced by category one firms' commencement of turnaround strategies earlier (often in DY or DY1) and in greater intensity than category two or three firms in the activities of: asset sales, long term debt reduction, new industry or geographical segment and new/increase or reduction in plant and equipment expenditure intensity (refer above analysis identified by the word 'earlier' in bold italics print). The variables tested significant are: inventory change, dividend change, new industry or geographical segments and new/increase or reduction in plant and equipment expenditure intensity.

5.5 Model #4 employee retrenchment

Although the question of lay-off or employee retrenchment has been tested in the MRA model #1 as a predictor variable, it does not answer the 'extent of lay-off' question. As staff retrenchment is an important, much-published, topical issue in corporate distress and turnaround the following test is designed to further supplement the testing in the MRA model #1 for the lay-off/employee retrenchment predictor variable.

This section tests hypothesis seven, which states that:

The extent of employee lay-off or retrenchment is significant in affecting the likelihood of successful turnaround.

Table 15 is a summary of the mean and median values of DY1EMP and DY2EMP in the distress and post-distress years for category one, two and three firms after eliminating cases with incomplete number-of-employee data and abnormal events, (e.g. corporate takeovers and mergers) which would distort the mean value computation. However, any firm that strategically realigned or changed their principal activity has been included in the computation. The test model variables are defined as follows.

DY1EMP = number of employees one financial year (or first financial year end reporting period) after distress divided by distress year's number of employees.

DY2EMP = number of employees two financial year (or second financial year end reporting period) after distress divided by distress year's number of employees.

The reason for expressing the above variables as a proportion (percentage) of distress year's number of employees is to gauge the extent of staff lay-off. For example, if DY1EMP equals 0.87 (87%) it implies that in year one post-distress

the intensity of staff lay-off was 13% and 0.90 (90%) would imply a 10% lay-off and so on.

Table 15 Model #4 retrenchment of employees—summary of mean and median values

DISTRESS YEAR +1 (DY1); DISTRESS YEAR +2 (DY2)	CAT1 DY1 EMP	CAT2 DY1 EMP	CAT3 DY1 EMP	CAT1 DY2 EMP	CAT2 DY2 EMP	CAT3 DY2 EMP
Turnaround strategy						
Operational restructuring						
<i>Retrenchment of employees</i>						
Mean	0.870	0.883	0.926	0.905	0.888	0.924
Median	0.897	0.891	0.876	0.934	0.862	0.835

Source: developed from analysis

Legend: cat1 = recovery firms, cat2 = partial recovery firms, cat3 = non-recovery firms

EMP= employee

The above Table 15 shows the shifting intensity of employee retrenchment over time by category one, two and three firms. Intensity is represented by the mean values of variables DY1EMP and DY2EMP defined and explained above.

Model #4 employee retrenchment: test for significant difference

The non-parametric Mann-Whitney U test is used to assess the statistical difference in the mean values reported in Table 15 below. Category one firms' parameters are separately compared to category two's and category three's. The results of the MWU tests are tabulated in Tables 15a and 15b below.

Table 15a Model #4 employee retrenchment test statistics intensity comparison between category one versus category two firms

15a Panel #1 DISTRESS YEAR +1 (DY1)	CAT1 DY1 EMP	CAT2 DY1 EMP	CAT1 VS CAT 2 Z	ASYMP.SIG (2 TAILED)*
Turnaround strategy				
Operational restructuring				
<i>Retrenchment of employees</i>				
Mean	0.870	0.883	-0.089	0.929
Median	0.897	0.891		

15a Panel #2 DISTRESS YEAR +2 (DY2)	CAT1 DY2 EMP	CAT2 DY2 EMP	CAT1 VS CAT 2 Z	ASYMP.SIG (2 TAILED)*
Turnaround strategy				
Operational restructuring				
<i>Retrenchment of employees</i>				
Mean	0.905	0.883	-0.447	0.655
Median	0.934	0.862		

Source: developed from analysis

*with correction for ties

Table 15b Model #4 employee retrenchment test statistics intensity comparison between category one versus category three firms

15b Panel #1 DISTRESS YEAR +1 (DY1)	CAT1 DY1 EMP	CAT3 DY1 EMP	CAT1 VS CAT 3, Z	ASYMP.SIG (2 TAILED)*
Turnaround strategy				
Operational restructuring				
<i>Retrenchment of employees</i>				
Mean	0.870	0.926	-0.353	0.724
Median	0.897	0.876		

15b Panel #2 DISTRESS YEAR +2 (DY2)	CAT1 DY2 EMP	CAT3 DY2 EMP	CAT1 VS CAT 3, Z	ASYMP.SIG (2 TAILED)*
Turnaround strategy				
Operational restructuring				
<i>Retrenchment of employees</i>				
Mean	0.905	0.924	-0.782	0.434
Median	0.934	0.835		

Source: developed from analysis

*with correction for ties

Model #4 results of the MWU retrenchment test

The MWU test output shows that the results, after adjusting for ties and Z-score conversion, are not statistically significant in all cases.

In DY1 category 1 versus category 2, $Z = -0.089$, $p=0.929$ ($p>0.05$), and in DY2, $Z = -0.447$, $p=0.655$ ($p>0.05$).

In DY1 category 1 versus category 3, $Z = -0.353$, $p=0.724$ ($p>0.05$) and in DY2, $Z = -0.782$, $p=0.434$ ($p>0.05$).

In terms of mean (median) values at the end of DY1, category one firms' DY1 staff level was about 87% (89.7%) of that which existed in DY and by the end of

DY2 the mean (median) staff number was 90.5% (93.4%). The slight increase in DY2, but still below the DY level, may be due to the fact that category one firms are already on their way to recovery. The median value indicates that at least 50% of category one firms shed their staff numbers by about 10% by the end of the first year (DY1) after distress (i.e. 100% minus 89.7%).

Similarly, category two firms did the same as category one in DY1. In terms of mean (median) values, at the end of DY1, category two firms' DY1 staff level was about 88.3% (89.1%) of that which existed in DY and by the end of DY2 the mean (median) staff number was 88.3% (86.2%). However, unlike category one, category two firms' mean (median) staff level at the end of DY2 *remained fairly static* at mean (median) 88.3% (86.2%). That is category two firms, on average, did not increase their staff level from that which existed at the end of DY1. This may be that, unlike category one firms, they were not quite on the road to recovery due to liquidity constraint. (To recapitulate, category two firms did not satisfy the liquidity criterion set forth in Chapter 3). However, over the two post-distress years (DY1 and DY2), at least 50% of category two firms shed about 11% to 14% of their staff from their distress year's (DY's) level—that is, median for DY1 is 89.1% and DY2 is 86.2%.

The mean (median) value for category three firms at the end of DY1 was 92.6% (87.6%) of their distress year's level. Although category three firms did lay off staff in DY1, the extent was lower than that of category one and two firms'. The mean value of category three at the end of DY1 was 92.6% versus category one's 87% and category two's 88.3%. At the end of DY2, category three's mean value of 92.4% did not move much from its DY1 level of 92.6%. However, category three's median of 87.6% DY1 and 83.5% DY2 imply that at least 50% retrenched about 12% to 16% of their DY staff level during the post-distress years.

Summary of results—staff retrenchment/lay-off:

The above indicates that the difference in the *extent* of employee retrenchment is not statistically significant for all three categories of firms for the time period concerned. This is because all three categories retrenched their staff over the post-distress years, barring those that strategically reoriented or changed their business activities or because of acquisitions of businesses. Hence, H7—The extent of employee lay-off is significant in affecting the likelihood of successful turnaround—is not supported.

However, the observation in all cases is that 50% of the firms retrenched about 10 to 16% of their staff by the end of two years post-distress in an effort to achieve profitability turnaround. According to Chowdhury and Lang (1993:14), 'small p-values do not always reflect practical significance of a phenomenon'.

5.6 Model #5 severity of decline

This model tests hypothesis eight, which states that:

Firms in severe performance decline are less likely to turnaround.

To recapitulate the definition for severity of decline:

$$\text{Severity} = ((\text{EBIT}_{Dy} - \text{EBIT}_{Dy-1}) / (\text{EBIT}_{Dy-1}))$$

where Dy = distress year and $Dy-1$ = year immediately before distress.

The non-parametric Mann-Whitney U test is used to assess the statistical difference in the mean values of the 'severity' variable of category one firms

compared to category two, and three. The mean and median values together with the results of the MWU tests and corresponding Z-statistic are reported in Table 16 below.

Table 16 *Severity of decline: testing for statistical difference of mean values*

Panel 16a *Test of severity mean value difference between category one firms compared to category two.*

Severity	Mean	Median	Mann-Whitney U	Wilcoxon W	Z-statistics	Asymp.sig (2 tailed)	Exact sig.(2*(1-tailed)
Cat1	-5.019	-1.394					
Cat2	-3.814	-2.010					
			83	236	-1.151	0.250	0.263 ^a

Source: developed from analysis

a. not corrected for ties.

b. grouping variable: category

Legend: cat1= recovery firms, cat2 = partial recovery firms, cat3 = non-recovery firms

Panel 16b *Test of severity mean value difference between category one firms compared to category three.*

Severity	Mean	Median	Mann-Whitney U	Wilcoxon W	Z-statistics	Asymp.sig (2 tailed)
Cat1	-5.019	-1.394				
Cat3	-21.165	-2.336				
			290	2001	-1.293	0.196

Source: developed from analysis

a. grouping variable: category

Model #5 results of the MWU severity of decline test

Panel 16a shows that the decline in EBIT mean and median value of category one firms from the pre-distress year's EBIT is -5.019 (decrease 502%) and -1.394 (decrease of 139%) respectively. For category two firms, the decline is mean -3.814 (decrease of 381%) and median -2.010 (decrease of 201%).

Panel 16b shows that the decline in EBIT mean and median value of category three firms from the pre-distress year's EBIT is -21.165 (decrease of 2116%) and -2.336 (decrease of 234%) respectively.

In percentage terms the performance decline mean and median value experienced by all three categories is severe—that is, more than 10% from their pre-distress year's EBIT (i.e. from the EBIT of the year immediately before the distress year).

However, the MWU test output panels 16a and 16b show that the results, after correction for ties and Z-score conversion, are not statistically significant in all cases, which is:

For category one (recovery) versus category two (partial recovery), $z = -1.151$, $p=0.250$ ($p>0.05$).

For category one (recovery) versus category three (nonrecovery), $z = -1.293$, $p=0.196$ ($p>0.05$).

Therefore, H8—firms in severe performance decline are less likely to turnaround—is not supported as no statistical significant differences in severity of decline exist in all cases. Despite this, category three's (non-recovery) severity mean value (-21.165) is about four times greater than category one's (recovery) (-5.019). This tends to indicate partial support for hypothesis H8, albeit the non statistical significant result obtained.

5.7 Model #6 free assets

This model tests hypothesis nine, which states that:

The likelihood of a successful performance turnaround is directly related to the amount of free (unencumbered) assets that a firm has.

The definition for free assets is as follows:

$$\text{Free assets}_{Dy} = (\text{total assets}_{Dy} \text{ less long-term debt}_{Dy}) / \text{total assets}_{Dy}$$

Where Dy = distress year

The non-parametric Mann-Whitney U test is used to assess the statistical difference in the mean values of the 'free assets' variable of category one firms compared to categories two, and three. The mean and median values together with the results of the MWU tests and corresponding Z-statistic are reported in Table 17 below.

Table 17 *Free assets: testing for statistical difference of mean values*

Panel 17a *Test of free assets mean value difference between category one firms compared to category two.*

Free Assets	Mean	Median	Mann-Whitney U	Wilcoxon W	Z-statistics	Asymp.sig (2 tailed)	Exact sig.(2*(1-tailed)
Cat1	0.815	0.889					
Cat2	0.876	0.960					
			78	169	-1.362	0.173	0.183 ^a

Source: developed from analysis

a. not corrected for ties.

b. grouping variable: category

Legend: cat1 = recovery firms, cat2 = partial recovery firms, cat3 = non-recovery firms

Panel 17b *Test of free assets mean value difference between category one firms compared to category three.*

Severity	Mean	Median	Mann-Whitney U	Wilcoxon W	Z-statistics	Asymp.sig (2 tailed)
Cat1	0.815	0.889				
Cat3	0.850	0.890				
			332	423	-0.669	0.503

Source: developed from analysis
a.grouping variable: category

Model #6 results of the MWU free assets test

Panels 17a and 17b above show that the mean values of the predictor 'free assets' are fairly comparable among category one, two and three firms, that is, about 80 to 90% of the total assets are not pledged to secure long term debt (category one 82%, category two 88% and category three 85%). Also the median values between category one (88.9%) and category three (89%) are almost equal. The median value for category two is higher at 96%.

However, the MWU test output panels 17a and 17b show that the results, after correction for ties and Z-score conversion, are not statistically significant in all cases as follows:

For category one (recovery) versus category two (partial recovery) $z = -1.362$, $p=0.173$ ($p>0.05$).

For category one (recovery) versus category three (non-recovery) $z = -0.669$, $p=0.503$ ($p>0.05$).

Therefore, H9—the likelihood of a successful performance turnaround is directly related to the amount of free (unencumbered) assets that a firm has—is not supported as no statistical significant differences in free assets exist in all cases.

5.8 Summary

This chapter operationalises and tests the conceptual MRA model and the various models used to test the hypotheses developed in Chapter 3 by using the methodology described in Chapter 4. The hypotheses are developed with the aim of assessing the relative effectiveness of corporate turnaround strategies carried out by Australian firms between 1995 and 2005.³⁸ The main emphasis is to illuminate the present unsettled controversy of whether operational efficiency, financial or entrepreneurial strategies are more effective in turning around the financial performance of distressed firms.

As profitability is a priori condition to achieve financial performance turnaround, the above MRA model shows that the *set* of predictors that significantly accounts for the variance in the profitability dependent variable ROTA is: sales change, financial leverage, firm size, board size, employee retrenchment, share capital raising (placement) and new business. The MRA results indicate that improvement in financial performance turnaround depends on a combination of operational efficiency, financial and entrepreneurial strategies, rather than on a single type of strategy.

³⁸ End period 2005 extended to 2007 when sample firms' test performance recovery year ends on 2007.

The analysis of the changing financial profile or characteristics of the sample firms as they moved from the distress year to post-distress years revealed that successful turnaround firms show improvements in the three critical areas of profitability, financial leverage and liquidity. The 'improvement' criteria are explained, theoretically supported by extant literature and defined in section 3.3.5.

The intensity and timing analysis of turnaround efforts revealed that inventory change, dividend change, new industry or geographical segments and decreasing plant and equipment intensity effected early are significant effective discriminating turnaround strategies.

The Z-statistic test on the *extent* of employee retrenchment between category one, two and three firms did not show statistical significance differentiating recovery category one firms from category two and three. The main reason for the non-significant results is that all three categories effected employee retrenchment, especially in the first post distress year, thus there was no significant difference in the mean values. It was observed that at least 50% of the firms in all categories retrenched between 10 to 16% of their staff by the end of two years following distress. On the question of the impact of employee retrenchment on financial performance, the MRA model shows employee retrenchment to have mild significance on ROTA as a discriminating turnaround strategy.

The Z-statistic test of mean values of predictor 'severity of decline' did not support the hypothesis that: *firms in severe performance decline are less likely to turnaround*. Despite this, the severity of decline mean value of category three (non recovery) firms is about four times greater than category one's (recovery), indicating partial support for this hypothesis.

Similarly, the Z-statistic test of mean values of predictor 'free assets' did not support the hypothesis that: *the likelihood of a successful performance*

turnaround is directly related to the amount of free (unencumbered) assets that a firm has.

The next chapter is a discussion of the above findings in the context of extant turnaround literature and implications for practising managers trying to effect a successful financial turnaround. It also discusses theoretical contributions, limitations and directions for future research.

CHAPTER 6 DISCUSSION AND CONCLUSIONS

6.1 Introduction

The objective of this chapter is to summarise the findings of this research. It discusses their implications in relation to existing literature, suggests practical implications for practising managers enacting corporate performance turnarounds, discusses the limitations of this research, suggests future directions for turnaround research and concludes on the research problem.

Section 6.2 of this chapter provides links to chapters one and two in this thesis by a recapitulation of their main points relevant to this research. The next section 6.3 summarises the test results of Chapter 5 and section 6.4 discusses the test results in relation to extant corporate turnaround literature and empirical findings. Section 6.5 discusses the applicability of the resource based view of the firm and the stage perspective of turnaround in relation to test results. Section 6.6 links the research findings to the various major theoretical propositions and schools of thought described in the literature of Chapter 2. Section 6.7 provides an overall summary and conclusion of the results of this research. Section 6.8 discusses the contributions made by this research to the body of corporate turnaround knowledge. Practical implications for practising managers are discussed and prescribed in section 6.9. Section 6.10 discusses the limitations of this research. Future directions and suggestions of potential performance turnaround research topics and 'room for improvements' are discussed in section 6.11. The final section 6.12 concludes.

6.2 Recapitulation

Chapters 1 and 2 highlight the fact that existing corporate turnaround literature is a 'charted but unsettled sea of opinions' and research test results to date—in regards to what are the determinants for a successful turnaround—are patchy, inconclusive and in some cases, contradictory. The present conundrum is due to a lack of a generally accepted theoretical framework or a theory of turnaround to guide empirical research (Chowdhury, 2002; Meyer, 1988; Pandit, 2000; Robbins & Pearce, 1993) and the lack of a generally accepted operational definition and measurement of performance decline (Pandit, 2000; Pretorius, 2009; Weitzel & Jonsson, 1989). Added to this fluid scenario, there is a paucity of corporate turnaround research outside the Anglo-American context (Ahlstrom & Bruton, 2004), that is, using Australian sourced data in an Australian context. This indicates that further testings are needed. This research aims to fill this theoretical gap by assessing the applicability of the RBV and stage perspective in relation to research findings and improve on the operational definition of performance turnaround for sustainable financial health and its measurement. This research uses ASX listed companies' financial data for testing in order to answer the following research questions:

1. To what extent do the causal contingencies of Resource Based View (RBV) of the firm and Stage Perspective of Turnaround (SPT) relate to the research findings and affect the relative effectiveness of turnaround efforts?
2. How do Australian firms react when faced with performance shock or firm survival-threatening performance decline?
3. What strategies or measures account for successful turnaround situations in the Australian context?
4. Are intensity and timing of efforts in turnaround situations important?

6.3 Summary of findings

For easy reference, a summary of test results are presented in the following Table 18.

Table 18 *Summary of findings*

Hypotheses	Findings
<i>H1 ROTA is positively related to the adoption of a combination of operational, financial and strategic turnaround strategies.</i>	Supported
<i>H2 Industry effect is significant in influencing profitability and the likelihood of successful turnaround.</i>	Not supported
<i>H3 The effect of the economy is significant in influencing profitability and the likelihood of successful turnaround.</i>	Not supported
<i>H4 The likelihood of a successful turnaround is positively related to firm size.</i>	Supported
<i>H5 Operational restructuring strategies (i.e. efficiency improvement efforts) are more effective in achieving financial performance turnarounds than strategic and financial restructuring strategies.</i>	Partially supported
<i>H6 Intensity of efforts and timely execution of turnaround strategies are positively related to the likelihood of successful turnaround.</i>	Supported

Hypotheses	Findings
<i>H7 The extent of employee lay-off is significant in affecting the likelihood of successful turnaround.</i>	Not supported
<i>H8 Firms in severe performance decline are less likely to turnaround.</i>	Partially supported
<i>H9 The likelihood of a successful performance turnaround is directly related to the amount of free (unencumbered) assets that a firm has.</i>	Not supported

6.4 Discussion of test results

6.4.1 Hypotheses H1 to H4 : strategies, industry, economy & firm size

Hypothesis H1: Return on Total Assets—ROTA—is positively related to the adoption of a combination of operational, financial and strategic turnaround strategies.

Hypothesis H2: industry effect is significant in influencing profitability and the likelihood of successful turnaround.

Hypothesis H3: the effect of the economy is significant in influencing profitability and the likelihood of successful turnaround.

Hypothesis H4: the likelihood of a successful turnaround is positively related to firm size.

The MRA model #1 is used to test the hypotheses H1, H2, H3, H4.

The MRA test results in Chapter 5 show that the seven predictors of *sales growth (strategic)*, *firm size (contextual control)*, *leverage and debt cover (financial)*, *new segment/business (strategic)*, *share placement (financial)*, *board size (strategic)* and *employee lay-off (operational)* account for 59% of the 61% change in the dependent variable, return on total assets.

Sales growth or change

Overall the MRA results show that of the seven influential predictors, sales growth is one of the three predictors which significantly ($p < 0.001$) affects the profitability measure of return on total assets (ROTA). SALES GROWTH accounts for 44% of the 61% of R^2 . It has a p value of 0.000. The profitability variable has been tested significant in differentiating between recovered bankrupt firms from those that eventually liquidated (Campbell, 1996; Casey et al., 1986; Routledge & Gadenne, 2000). Similarly, these studies use ROTA as a measure of firm profitability. The beta coefficient of +0.679 is in the right positive direction as expected, that is, sales increase directly contributes to operating profit and hence ROTA. The increase in sales as a discriminating factor between recovered and non-recovered firms is further evidenced by category one (recovery firms), two (partial recovery firms) and three's (non-recovery firms) median value of sales increase (decrease) as a proportion of DY2 (two financial years or second statutory reporting period post-distress) total operating revenue. Category one's median sales improvement was +0.058 (5.8%), category two's was +0.089 (8.9%) whilst category three's experienced a decrease of -0.083 (minus 8.3%). The increase in sales for turnaround firms supports Schendel and Patton's (1976) study that recovered firms achieved greater increase in sales and reduction in cost of sales to sales ratio. However, net operating profitability of a firm, hence ROTA, is also dependent on the level of expenses incurred by a firm. Firms in decline generally will cut expenses, especially discretionary ones, to reduce operating costs to survive. Sales normally suffer affecting firm failure

rates if firms cannot establish stable customer relationships (Baum, 1996; Levinthal, 1991). Following on from this, the logical conclusion is that strategies that increase sales would reduce the chance of firm failures. However, Henderson (1999) warns of the risk of pursuing sales growth strategies (e.g. risky technology strategy) without tradeoffs between risk and fast returns.

Firm size

This predictor variable, firm size, NFIRMSIZ, like sales growth, has been tested statistically significant at the $p < 0.01$ level ($p=0.001$). The beta coefficient is a positive 0.316, that is, the bigger the firm size the more positive effect it has on increasing ROTA. Hence, hypothesis H4 is supported. However, the question of firm size having a deterministic effect on the success or failure of firm performance turnaround has not been fully settled as test results to date have been mixed. For example, Campbell (1996) found recovered firms are generally larger than failed ones, but Pant's (1991) findings contradicted this in that smaller firms have a better chance of turnaround. According to Pant, a small firm is more nimble and can adjust faster and more easily to a changing environment than larger firms. Like Pant (1991), Bruton, Ahlstrom and Wan (2003) found firm size has a significant negative relationship with performance in the context of turnaround. Whilst White (1989) is of the opinion that it is easier for larger firms to raise additional capital than their smaller counterparts in their quest to remain viable, because they are better equipped to do so, due to their previous success in external capital raising. Barker and Mone (1998) found no support for the positive influence of size on turnaround. Routledge and Gadenne's (2000) study of 20 reorganised and 20 liquidated Australian firms that went into voluntary administration between 1993 and 1995 found firm size was not a significant predictor of successful/unsuccessful reorganisation. However, Ohlson's (1980) study of 105 bankrupt US firms between 1970 and 1976 found firm size to be an important predictor of bankruptcy with smaller

firms more likely to fail. The result of this research supports the larger firm proposition as indicated by the positive beta coefficient and the statistically significant result.

Leverage and debt cover

The predictor variable, financial leverage and debt cover, COMLEV, has been tested statistically significant at the $p < 0.05$ ($p=0.007$) level. The beta coefficient is a positive 0.218. It is therefore surprising the beta coefficient is not in the opposite direction (i.e. negative) as the cost of servicing debt is a charge against profit irrespective of whether there are profits to meet debt obligations and loan covenants. Such charges have a negative impact on profit. However, it is generally believed that there is a distinction between good and bad debt as it depends on whether funds from debt are put to good and effective use. Under current Australian tax legislation, interest on debt is income tax deductible so long as the interest is incurred in the course of carrying on a business to produce assessable income, *Income Tax Assessment Act* s 8.1. Tax savings on interest deductibility will release more funds for operational requirement through payment of lower income tax expense/liability.

This variable COMLEV is a combination of change in financial leverage and change in interest cover (i.e. extent of EBIT covering interest/borrowing cost) over the distress years as defined in Chapter 4 Table 2. Ability to service interest cost is positively related to EBIT, (i.e. firms with higher profits are more likely to have better interest cover). The ability of a firm to service interest cost from its earnings often places a lid on the firm's ability to *infinitely* increase its debt level. Hence, the above factors also account for a positive beta coefficient. The positive beta coefficient also implies the ability to service debt increases as leverage decreases (i.e. interest cost decreases with debt level), thus a positive relationship with ROTA.

The reasons for the positive beta coefficient, as explained above, are also in line with the test results of model #3—intensity and timing (refer section 5.4). There the results show turnaround firms are those that were more successful in reducing their debt levels and they did this reduction earlier than non-turnaround ones. The results are in line with Thain and Goldthorpe's (1989a) study of 27 Canadian listed turnaround firms, that about a third of the firms embarked on debt restructuring to lower leverage and that the closer a firm was to crisis decline (risk of insolvency and difficulty in paying debts as and when they fall due) the more likely they were to pursue debt restructuring as part of their strategy to turnaround.

However, the results for leverage and debt cover in this research contradict the results of some of the US studies. For example, Chowdhury and Lang (1993:14) found that 'firms that increase their debt/equity ratios appeared to have higher instances of turnarounds'. The main reason put forward by them is that firms that achieved successful turnarounds are those that can 'marshal financial support for the turnaround'. Pant (1991) found turnaround firms have higher proportionate debt (debt/asset ratio) relative to their industry average. This implies that turnaround firms relied on external debt financing to provide excess funds to take on turnaround activities. The difference in findings may be because of the perception of risk between US capital market providers and Australia's, with the latter being more conservative in their lending policies, as Australian banks, who are part of the Australian financial services industry, are regulated by the Australian Prudential Regulation Authority³⁹ (APRA). The recent US financial crisis (e.g. sub-prime mortgage and related problems)

³⁹ APRA 'is the prudential regulator of the Australian financial services industry. It oversees banks, credit unions, building societies, general insurance and reinsurance companies, life insurance, friendly societies and the majority of the members of the superannuation industry' Australian Prudential Regulation Authority; About APRA; <http://www.apra.gov.au/aboutApra/>, 17.3.12

highlighted the less-regulated US capital markets when compared to its Australian counterparts. In more conservative capital markets, firms in distress may find it harder to obtain debt or equity finance. Logically, one would expect distress firms to reduce debt either voluntarily or by being forced by debt covenants.

New segment or business

The predictor variable, new business, NEWBUS, has been tested statistically mildly significant at the $p < 0.1$ ($p = 0.068$) level. The beta coefficient is a negative 0.168. This variable attempts to capture the effect of a firm's entrepreneurial or strategic turnaround efforts as opposed to efficiency oriented ones. The negative beta coefficient is somewhat surprising—that is, it has a negative effect on the earnings dependent variable ROTA. Firms in severe decline are more likely to change strategy (Schendel et al., 1976). However, a new business often takes a few years to be in a profit situation as it seeks to establish new customers and market footing. In the initial two or three years it will require resources and possibly a drain on profits to establish its new business. There is evidence that a high proportion of new start-up firms failed within five years (Phillips and Kirchhoff (1988) as cited by Chowdhury and Lang (1993)). Bates (2005) notes that in the United States, according to Census Bureau CBO data, 36% of small businesses who were active in 1992 had closed down by 1996. Similarly, Cressy (2006:103) mentions that recent studies reported in small business economics literature provide empirical support that around half of randomly selected start-ups die in the first two and a half years of trading, and 'a less known but equally remarkable fact is that firm failure distribution over time trading is positively skewed with a mean that appears relatively constant in calendar time'. Hence, this 'liability of newness' syndrome may account for a negative beta coefficient, especially in the first two years of the new business division's operations.

Share placement

The purpose of this predictor, share placement, SHAREPLC, is to capture the effect of new shares and/or quasi related equity instruments, like convertible notes and options, issued by a distress firm to replenish its depleted cash resources. SHAREPLC is tested statistically mildly significant at the $p < 0.1$ ($p = 0.091$) level with a positive beta coefficient of 0.139 on ROTA. Distressed firms are often constrained in their ability to raise additional capital. However, this research found that additional capital raising can take place with friendly or related investors like a parent entity or director in the group. Additional capital raised often increases a firm's earnings capacity or propensity to generate operating profits if the funds are put to effective use in the course of a firm's turnaround efforts. Hence, it accounts for a positive beta coefficient. Such additional scarce resources will help finance entrepreneurial moves, pay down debts or provide a buffer to cushion further downturns (Francis & Mariola, 2005; Robbins & Pearce, 1993).

Board of director (BOD) size

The predictor variable, board of directors, BOD, yields a mild statistical significance on ROTA with a p value of 0.061, that is, $p < 0.1$. This variable aims to capture the change in average BOD size two years post-distress from the average BOD size three years pre-distress. The beta coefficient is a negative 0.150 effect on ROTA. This negative relationship on ROTA is surprising as the resource dependency perspective posits that larger boards have an advantage over smaller ones as BOD acts as an interface with the environment to reduce uncertainties and also as a conduit to procurement of resources (Pfeffer & Salancik, 1978). Hence, larger boards with reputable outside directors will be advantageous for firms, especially those in financial distress. As discussed in Chapter 2, results to date of BOD testing either in terms of size or composition

(ratio of inside to outside/independent directors) and its effect on firm financial and organisational performance have not been unequivocal (Chaganti et al., 1985; Gales & Kesner, 1994; Mueller & Barker, 1997; Provan, 1980; Zahra & Stanton, 1988). This research found that the mean value of BOD size change variable is 0.136—that is, sample firms on average increased their post-distress BOD size by 14%. This average increase in BOD size in post-distress years tends to provide support for the resource dependency perspective, as bigger BODs can act as conduit to procure funding and resources to fund turnarounds. The beta coefficient is a negative 0.150. Larger boards of directors generally lead to higher total directors' fees, which will lead to lower profitability, hence this has a negative effect on ROTA, at least in the short-term until the increase in revenue is in full swing.

6.4.2 Hypothesis H5: operational restructuring strategies

Efficiency improvement efforts are more effective in achieving financial performance turnarounds than strategic and financial restructuring strategies.

The MRA model #1 is also used to test the hypothesis H5.

The predictor variable, Lay-off (employee retrenchment) was tested mildly significant with $p \text{ value} = 0.085 < 0.1$ and a positive beta co-efficient of 0.142. This implies that employee retrenchment has a positive impact on the dependent variable ROTA. Employee retrenchment as part of operational efficiency improvement strategy is often proposed to yield quicker results in relation to financial performance turnaround. As mentioned in chapter 2, Robbins and Pearce (1992, 1994) are of the opinion that irrespective of the cause of the decline retrenchment of assets and costs are necessary in achieving performance turnaround, especially in the first stage of implementing remedial turnaround actions. The test results of H7 (extent of employee

retrenchment) discussed in section 5.8 lends support to Robbins and Pearce's opinion as 50% of the firms tested therein retrenched between 10 to 16% of their staff at the end of two years post distress. The reason why H5 is rated as partially supported is because of the mild p value of 0.085 at the < 0.1 level obtained by the MRA model. Also, the hierarchical regression analysis results of section 5.2.4 indicate that 'Lay-off' did not form part of the first group of a combination of sales growth (strategic), leverage and debt cover (financial), firm size (firm specific) and board size (strategic) which together account for 56% (0.555) of the 59% variation in ROTA.

6.4.3 Non-significant predictors

The following predictor variables are tested not statistically significant in the MRA model #1.

CEO Change

The chief executive officer change, CEOCHG, variable is tested not significant $p=0.499$ with a beta coefficient of negative 0.056. As mentioned in Chapter 2, frequent and sudden TMT change is often symptomatic of a distress or 'sick' organisation. Distress organisations are more likely to change their senior management team—for example, CEO (chief executive officer) or MD (managing director). Some researchers are of the opinion that changes to top management team are important to effect and achieve a successful turnaround (Bibeault, 1982; Castrogiovanni, Baliga, & Kidwell, 1992; Hofer, 1980; Slater, 1984). They believe that a new CEO and a new top management team will be more willing to effect change with new motivation, new insights and expertise brought to bear on stemming the decline, rather than being blinkered by past

actions and bias. However, test results have been mixed. For example, Smith and Graves (2005) found the change in CEOs and directors was not statistically significant between recovered and non-recovered firms, whilst Thain and Goldthrope (1989b) found that one of the significant changes made by recovered firms is a change of senior management.

The non-significance of the CEO change factor as a discriminating factor between recovered and non-recovered firms obtained by this research may be due to two factors. Firstly, differences in the Australian corporate context and 'atmosphere' as compared to that existing in the USA. In Chapter 1 it was highlighted that although there are similarities between the corporate governance regulatory framework of Australia, the US and the UK, there are practical consequential dissimilarities in that the corporate governance in Australia is less regulated with the principles of good governance recommended by the ASX (Suchard et al., 2001). In this less regulated⁴⁰ environment, boards of directors are less likely and tardier at getting rid of the CEO in declining firms unless pressure is brought to bear by market and analyst sentiment due to poor performance of the firm's share price. Suchard et al. (2001) also found a 'lagged response' between firm performance and CEO turnover in Australia in comparison to the US/UK markets where current poor performance results in faster CEO removal. Smith and Graves' (2005) research used listed UK manufacturing companies, whilst Thain and Goldthrope's (1989b) used listed Canadian firms. Secondly, CEO change may be a consequence of decline rather than a deterministic driver on return on assets. This uncertainty resonates

⁴⁰ The comment of 'less regulated' refers to corporate governance in Australia being less prescriptive and more flexible when compared to the US and the UK due to the 'if not why not' approach adopted by the ASX for listed companies if they depart from ASX recommended good corporate governance principles as discussed in chapter 1. However, in Australian financial markets financial institutions such as banks, credit unions, building societies, insurance companies and majority of the members of the superannuation industry are further regulated by the compliance regime administered by the Australian Prudential Regulation Authority (APRA).

with Mueller and Barker's (1997) observations that failing firms experienced difficulty in retaining and attracting existing and prospective staff.

Asset sales

The predictor variable, asset sales, ASTSAL, has not been tested statistically significant, $p=0.360$, in the MRA model. The variable ASTSAL is measured as the average asset sale proceeds in the two post-distress years compared to that in the distress year as defined in Table 2 of Chapter 4. However, the beta coefficient is in the right positive direction $+0.069$ indicating that increase in asset sales contributes to profitability, return on total assets, albeit only approximately 7%.

The intensity of effort test shows that all firms carried out asset sales in the first year following distress. Those who successfully turned around (i.e. category one firms) eased off the intensity by the end of year two after distress. This is expected as recovered firms are well on the way to recovery with improved liquidity and hence less reliant on asset sales to generate liquidity. The non-significant result shown by the MRA model may indicate the problem of asset specificity (Balakrishnan & Fox, 1993). Specialised assets normally have a restricted market and the principle of 'double co-incidence of wants'⁴¹ and information asymmetry between seller and potential buyer works to reduce the incidence of sale. The value of assets which require high maintenance costs or regular updating usually fall in value for firms in severe decline as the risk of liquidation increases (Titman, 1984). In this context, the buyer is worried that he

⁴¹ The term 'double coincidence of wants' is an economic transaction cost term coined by W.S. Jevons relating to limitations of a barter economy. (Jevons, W. S. 1875. *Money and the mechanism of exchange*. New York: Garland.)

The use of money as a medium of exchange and common denominator, rather than a barter system, has mitigated this problem. The narrow usage of the term here only refers to the anxious buyer willing to sell and the seller wanting the same assets to fulfill his or her objectives.

will be left with a high cost problem and this will likely act to reduce demand for the asset in question. The bankruptcy costs of these specialised assets are normally higher (Titman, 1984).

Another reason for the non-significant result may be due to the fact that, in practice, distressed assets are often sold at below or near to written down book value (wdv), the so called 'fire-sale' price. Hence, although asset sales help bring in more cash, thus easing cash flow, the profit on sale resulting from the difference between wdv and sale proceeds may not be as high as wished for. Hence, the effect on the construct profitability variable, ROTA is also negligible. This may also account for the non-significant MRA result for asset sales. In sum, the indication is that asset sales may help alleviate cash flow but may add little to profitability. Smith and Greaves (2005:317) infer that 'companies that expand their asset base are more likely to affect a recovery'. Yawson (2004) found asset sales to be significant in the year following the distress year but with a negative effect on firm performance. He suggests that 'an ad hoc decision to eliminate assets following a performance shock could result in operating loss' (Yawson, 2004:20).

Inventory change

The predictor variable inventory change, INTYCHG, has not been tested statistically significant, $p=0.841$, in the MRA model. However, the beta coefficient is in the right negative direction, that is, minus 0.016. This variable captures 'the change in inventory level relative to sales' between the distress year and the second year post-distress of sample firms. A lower 'inventory level relative to sales' ratio indicates more efficient inventory sale conversion rate, hence higher ROTA. High turnover of inventory (i.e. lower inventory to sales ratio) is normally a measure of efficiency and liquidity as high inventory level implies idle funds are tied up and not circulating to generate cash flow. High

turnover of inventory is one of the drivers of sales revenue and profitability contribution (Walsh, 2008:79-93). The intensity of efforts test shows category one, two and three firms actively reduced their inventory levels in the distress year to increase cash flow. Recovered category one firms were found to build up inventory by the end of DY1, to meet increasing sales, whilst category three firms were still actively reducing their inventory, two years post-distress. Prudent inventory policy would be to decrease inventory level when demand falls off and increase it when sales increase as excess inventory involved excess carrying cost.

The main reason for the non-significant MRA model result for this variable on the profitability variable ROTA is that firms in distress often discount their inventory to increase sales in a desperate attempt to increase cash flow. Hence, the profit margin contribution may not be as great as in normal times. In the distress context, better utilisation and turnover of inventory is more a liquidity driver than a profitability driver. This is evidenced by the fact that category one, two, and three's liquidity proxy measure CA/CL shows improvements between DY and DY2, that is, category one's CA/CL mean value went from 1.046 to 1.450, category two's from 0.779 to 1.042 and category three's from 0.923 to 2.045 (refer Tables 12a and 12b). As lack of liquidity is one of the immediate urgent short-term 'enemies' a distress firm has to fight and efficiency measures are faster in yielding short-term relief and results (Chowdhury & Lang, 1996; Hambrick & Schechter, 1983), the realisation of slack resource like idle inventory is one of the logical choices. The non-significant MRA result for this inventory change variable is in agreement with Chowdhury and Lang's (1996) test results.

Dividend

The predictor variable dividend, DIV, has not been tested statistically significant, $p=0.263$, in the MRA model. The beta coefficient is 0.09. The DIV variable measures the change in dividend between DY and DY2 (two years or second statutory reporting period post-distress). The positive coefficient is in the correct

direction, as expected, as dividend is normally paid out of profits/retained earnings. Hence, it has a positive relationship with the profitability variable ROTA. Ordinarily, under the *Corporations Act* it is not legal to be paid out of share capital.⁴² The non-significance result is due to the fact that dividend is normally met from retained earnings and may not necessarily be out of current profits. Therefore there is a 'lagged' response to the sensitivity of dividend to current profits. It was found that sample firms in the pre-distress year may have committed themselves to the payment of dividend in the prior profit pre-distress year. However, further testing of intensity of efforts does provide support for the view expressed by extant literature on dividend, as discussed below.

The extant literature suggests that distress firms move to quickly restructure their financial affairs, which includes dividend cuts or reducing dividend to preserve cash flow (DeAngelo & DeAngelo, 1990; Ofek, 1993; Sudarsanam & Lai, 2001). DeAngelo and DeAngelo (1990) found support for the agency view of dividend policy that debt covenants influence the dividend policy of large public listed US firms. However, they also found dividend policy has a 'strategic' dimension to it. Even when debt covenant is not a binding issue, firms voluntarily cut dividends to lobby government or 'enhance the firm's bargaining position with organised labour' (DeAngelo & DeAngelo, 1990:1430) and dividend cuts are significantly more often used than dividend omission. They suggest that managerial reluctance to omit dividends is to preserve the firm's public image with shareholders, especially from the view of an unbroken history of firm dividend payment. Further, managers' reluctance to use total dividend omission is to preserve their own reputations, as people might think that their policies and strategies had resulted in poor cash flow. Hence, dividend may convey that

⁴² Following recent amendment to current legislation that took effect from June 28 2010, a 'balance sheet' test is now required. Basically, the test requires that a company cannot pay a dividend unless its assets exceed its liabilities immediately before the dividend is paid. The current legal debate centres on the unintended 'possibility' that dividend may inadvertently be paid out of capital. (Whitbourn, M. 2010. Dividend law reform urged., *The Australian Financial Review*, 14 september 2010. 3: Fairfax.)

message to the market at large. Kaplan and Reishus (1990) found that the top executives of firms that reduce their dividends are 50% less likely to receive outside directorships than top executives of companies that did not reduce their dividend. Kalay (1980) could not find enough evidence to refute the information content of dividend cuts and that forced dividend cuts via binding dividend restrictions were in the minority, that is, they found in 5% of their sample firms. This tends to support the DeAngelo proposition discussed above.

Although the MRA model did not result in a significant p value for the dividend variable on ROTA, the intensity of efforts test shows that category one firms (recovery) cut dividend marginally. Category one's dividend change intensity between DY and DY2 are, (refer Table 13): DY 0.002 (0.2%), DY1 0.001(0.1%) and DY2 0.017 (1.7%). On the other hand, category three firms (non-recovery) effected drastic cuts: DY 0.010 (1%), DY1 0.003 (0.3%) and DY3 0.003 (0.3%). The difference between category one and three firms in DY2 is tested statistically significant at $p < 0.01$ ($p = 0.004$, refer table14b panel three). The findings support extant literature on dividend policy that distress firms cut dividend to preserve cash flow. However, due to the lack of (sensitive) information in published financial statements, it is not possible to determine whether dividend policy of Australian firms is strategically motivated, although anecdotally listed firms are concerned about shareholders' negative perception and market sentiment on share price. This may explain why category one firms (turnaround) did not cut dividend as drastically as category three (non-turnarounds).

Divestiture

The predictor variable divestiture, DIVEST, did not yield a significant p value in the MRA model with $p = 0.393$. The beta co-efficient has a negative value of 0.070 on the dependent variable ROTA. In the extant turnaround literature

divestments of operating divisions, businesses or substantial operating assets are considered as 'domain changing' actions (Barker & Duhaime, 1997:25), strategic organisational structure change (Bowman & Singh, 1993), as 'doing different things' as opposed to efficiency improvement strategies, which involve 'doing things differently' (Hambrick & Schechter, 1983:232). Grinyer and McKiernan's study of 25 UK sharp-bending companies from stagnation or decline to recovery, found strategic changes were less frequent than operational efficiency improvements. Also they found most of the 'strategic' changes were more of a 'strategic readaptation rather than fundamental change of business' (Grinyer & McKiernan, 1990:139). They found that when in decline the sample companies retracted back to their well understood core business by divesting themselves of less understood, unprofitable or peripheral businesses 'by means of closure (in 50 percent of the companies), sale (45 percent) or harvesting (5 percent) of weaker businesses' (Grinyer & McKiernan, 1990:140). Grinyer and McKiernan (1990:144) also note that core business can be shrunk or part of it divested away, especially if a company is 'completely weak in a declining or mature industry'. Although infrequent, this research found one sample firm completely got out of its core business to embark on a completely new business of financial services. Further this research found that 61% of sampled firms divested unprofitable or non-core peripheral businesses in their efforts to turnaround. Hence, it lends support to Grinyer and McKiernan's (1990) study mentioned above.

The negative relationship with dependent variable ROTA is somewhat surprising. Two likely explanations can be offered here. The realisation of distressed assets is often below their book value or replacement value. Anecdotally, it is often difficult to sell a loss-making business at a premium—unless the buyer is buying it for a strategic reason, such as buying out a competitor—forward or backward integration to secure supplies or for prospective synergy with the buyer's existing business. Asset specificity issues as discussed in the above Asset Sales section may also account for the

depressed realisation price. Any loss on sale translates directly to the bottom line profitability of the vendor firm. Secondly, the gestation payback period of strategic decisions is often longer than efficiency improvement strategies (Chowdhury & Lang, 1996; Hambrick & Schechter, 1983; Hofer, 1980; Robbins & Pearce, 1992).

Economy –GDP change

The control environmental variable, gross domestic product change, GDPCHG, did not yield a significant p value in the MRA model with $p = 0.998$. The beta coefficient is 0.000 (effect of rounding to three decimal places) which means there is miniscule effect on dependent variable ROTA. Hence, hypothesis H4—the effect of the economy on successful turnaround—is not supported. GDPCHG is designed to gauge the effect of the change in GDP (gross domestic product) between the distress year and two years since distress on ROTA. Anecdotally, one would expect the state of the economy to affect the financial performance of firms. That is if the economy is in decline there will be a rise of company failures, as evidenced by the recent global financial crisis. Altman (1971) includes change in GDP as a variable in his model in predicting company failure rates. However, Sudarsanam and Lai (2001) found in their study of UK companies the effect of the economy, proxied by the growth in GDP rates in the two years after distress, did not yield a significant contribution to their sample firms' recovery. Bibeault (1982) found improved economic conditions account for 16% of turnarounds. The above highlights the pluralism of empirical results to date regarding the effect of the economy on firm performance and recovery. The voluntaristic perspective of management, as discussed earlier in Chapter 2, posits that the fate of an organisation lies with internal management rather than being determined by external environmental factors. In this regard the basic rationale is premised on the belief that the actions and the decisions of management can effectively counteract to minimise the effect of external factors

(e.g. macroeconomic factors). The non-significant economy effect on recovery actions of sample firms tends to support this viewpoint and is in line with Sundarsanam and Lai's UK study result (2001:196).

Industry effect

The control industry variable, industry median return on total assets, INDROTA, is found not to be a significant predictor of ROTA with $p= 0.581$. Hence, hypothesis H2 is not supported. The beta coefficient is negative 0.044. There is debate in the literature as to whether the structure of industry (e.g. growth, decline, maturity) or firm specific factors (e.g. size, internal factors—behavioural, sociological, management decisions, managerial capabilities and calibre) are the determinants of firm performance (Brush et al., 1999; Hansen & Wernerfelt, 1989; Hawawini, Subramanian, & Verdin, 2003; Mauri & Michaels, 1998; McGahan & Porter, 1997; Rumelt, 1991; Schmalensee, 1985). Essentially, it is about the heterogeneity of firms versus the homogeneity proposition. The heterogeneity proposition supported by the RBV, for example, Penrose (1959) and Barney (1991), of strategic management suggests that firm factors are determinants of firm performance, whilst the homogeneity proposition supported by industrial organisation economics, for example, Porter (1980) and Mason (1939), suggests that industry factors are more influential on firm performance. Hawawini, Subramanian and Verdin (2003) note that before the 1970s, industrial organisation economics provided the main theoretical basis underlying the majority of industry versus firm effect research. The inadequacy of industrial organisation economics to explain intra-industry firm performance variation led to growing research in strategic management since the 1980s focussing on the firm as the unit of analysis in explaining financial performance differentials. However, results to date are not unequivocal as described below.

Rumelt (1991) found business-unit specific factors are more important determinants on firm performance than industry and corporate membership. Hansen and Wernerfelt (1984) found that although both economic factors and firm specific factors are important independent performance determinants, firm organisational factors are twice as influential on firm profit variation as industry level effects. However, Wernerfelt and Montgomery (1988) using Tobin's q to measure profitability and US two digit SIC data to control for level of diversification, found industry effects account for 12 to 19% of firm profit variation, whereas firm effects account for 2 to 4%. On the other hand, McGhan and Porter (1997) found business-specific effects account for 32% of variation in firm profitability as compared to industry effect of 2%. Further, they found that the importance of effects varies from industry sector to sector (e.g. in manufacturing sector, industry effects are smaller; in entertainment, services, wholesale/retail trade and transportation, industry effects are larger). Brush et al.(1999) found industries and corporations both influence business unit profitability but corporations effects are more influential.

Using economic valued-based and market based profitability measures as distinct from accounting based ratios (used by most industry-firm effect researchers) and adjusting for outliers or exceptional firms' performance (i.e. star/leader performance and losers/laggard performers), Hawawini, Subramanian and Verdin (2003) found these exception performers accentuated the firm effect. For the non-star performer or losers, industry effects are more important in explaining performance than firm specific effects, whilst for the leaders, firm effects are more influential on firm performance. Flowing on from this, Hawawini et al. (2003:14) proposes that the possible explanation for this phenomenon is that 'superior (or poor) management leads to superior (or poor) firm performance irrespective of industry structure' and that 'industry structure matters only for firms that do not manage to be leader or loser, i.e. for firms with average managerial capabilities and performance'.

Other researchers implicitly assume membership of industry matters by subtracting industry performance parameters, for example, industry median EBITDA (earnings before tax, depreciation and amortisation) from exogenous and/or endogenous variables to arrive at firm effect (Denis & Kruse, 2000; Yawson, 2004). This pluralism of empirical results reflects the economists' (e.g. industrial organisation economics) view of external factors being more influential versus strategic management scholars' viewpoint that the firm is not a 'black box' and firm specific views are important determinants of firm profitability. There is current debate even among strategic management scholars (McGahan & Porter, 1997; Rueli & Wiggins, 2003; McGahan & Porter, 2005; Rueli & Wiggins, 2005).

Given the current contradictory empirical results as discussed above, it is of no surprise that this research did not find significant industry effect on ROTA. This lack of significant effect may be due to adoption of the ASX GIC classification convention in the MRA model. The two digit ASX GICS classification (Global Industry Classification Standard) based on the industry sector classification developed by Standard and Poor's and MSCI Barra, may be too broad to pick up any significant industry effect.⁴³ For example, Energy sector includes energy equipment and services as well as oil, gas and consumable fuels. However, the GICS classification has been used by other Australian researchers (Chen et al., 2009; Yawson, 2004) and practitioner analysts for industry sector classification and differentiation.

6.4.4 Hypothesis H6: intensity and timing

Sudarsanam and Lai (2001) highlighted the importance of intensity and timing of restructuring strategies and efforts in achieving successful turnarounds.

⁴³ The ASX adopted the GICS industry sector classification from 1 July 2002 which superseded the traditional ASX 24 industry group classification convention.

'Intensity' refers to the concentration of dedicated efforts and resources and 'timing' refers to the implementation and enactment of strategies at the right time during the distress–turnaround period.

Model #3 'intensity and timing' is designed to test hypothesis H6. Intensity of activities or efforts include asset sales, inventory change, dividend change, long-term debt change, equity issue/placement, financial assets/investment sales, CEO change, divestitures and new industry or geographical segment.

Asset sales

For asset sales, results of MWU test indicate that intensity and timing for this activity is not statistically significant between all three categories of firms. This is because all the three categories carried out asset sales in an effort to generate extra cash to alleviate 'cash burn'. The test results indicate that all firms carried out asset sales with intensity in the first year DY1 following distress. The mean values for this variable in DY are: category one 0.012, category two 0.040, category three 0.052 (refer Table 13). In DY1 are: category one 0.081, category two 0.046 and category three 0.085. In DY2 are: category one 0.012, category two 0.034 and category three 0.062. As indicated, over the turnaround period by DY2, category one's intensity remains constant (0.012), category two has a reduction in intensity of 15% (i.e. from 0.040 DY to 0.034 DY2) and category three has an increase of 19% (i.e. 0.052 DY to 0.062 DY2). Recovery firms are found to ease off asset sales sooner than non-recovery or slow to recover ones, the asset sale intensity of which continued on to year two post-distress (DY2).

Inventory change

Efficiency improvement efforts take the form of better management and realisation of inventory. Surprisingly, the mean values of inventory change for category one (DY 0.165; DY1 0.171 and DY2 0.188) and two firms (DY 0.095;

DY1 0.080 and DY2 0.092) did not show a convincing downward trend between distress and post-distress years (refer Table 13). Category one increased their inventory level instead. Category two did show a decrease at the end of year one post-distress, but built up their inventory again in the second year post-distress. On the other hand, category three firms on average decreased their inventory by about 18% (i.e. 0.177 to 0.146) between the distress year and end of year two post-distress (i.e. DY 0.177; DY1 0.137 and DY2 0.146; refer Table 13). This implies recovery firms do not totally rely on reducing inventory to turnaround but instead build up inventory as they recover to meet increase in sales. Non-recovered firms tend to rely more on the 'inventory' strategy which involves increasing the turnover of inventory via sales to bring in much needed cash flow. Increasing sales of inventory, thus lowering inventory level, can be through discounting of selling price. Timing of such effort and its intensity appears to be in the distress and one year post-distress time frame.

Dividend change

On average, sample firms reduced their dividend drastically straight away in the year following distress. Category one reduced by 50%, category two by 25% and category three by 70%, refer Table 13. Category one and two firms on average restored and increased their dividend intensity by the end of two year post-distress, whilst category three still maintained its reduced intensity of 70% of the distress year's even to the end of the second year post-distress. The difference in the mean value for dividend change intensity between category one and three at the end of two years post-distress is significant at the $p < 0.01$ level ($p = 0.004$)—refer Table 14b panel three. This implies that recovered firms may be concerned in maintaining their market image and shareholders' relationship. Dividend cut/omission was found not to be an effective recovery strategy (Sudarsanam & Lai, 2001:196). They found non-recovered firms resorted to dividend cut/omission with great intensity. This research supports this

proposition as in the case of category three firms. Also the MRA model #1 did not yield a significant result on the dependent variable ROTA.

Long-term debt change

The intensity test shows category one firms are more successful in reducing their debt level over the turnaround period, that is, a 52% decrease between the distress year's mean value of 0.495 to 0.240 by the end of year two post-distress (refer Table 13). They started the reduction early in the first year following distress by reducing the debt level by 25% from the distress year's, that is, 0.495 to 0.372, refer Table 13. For categories two and three, the debt reduction is far less drastic, with debt level remaining fairly constant over the turnaround period. Category two's debt level stayed fairly constant at DY 0.322; DY1 0.328 and DY2 0.328, (refer Table 13). In fact category three increased its average debt level by about 13% (DY 0.305 to DY2 0.344, refer Table 13) by the end of the second year post-distress, after a slight decrease in the following year after distress of 10% (0.305 to 0.273, refer Table 13). The earlier reduction in debt level and its intensity tends to suggest that it is an effective turnaround strategy, although the MWU test did not yield a significant result. However, the MRA shows leverage and debt cover having a significant effect on ROTA.

Equity issue/placement

Results of the intensity and timing test for this variable indicate no statistical significance among all the three categories of firms. The non-significant results obtained here for all three categories of firms, that is, recovery and non-recovery firms, are in agreement with the intensity results obtained by Sudarsanam and Lai (2001)

Except for category two firms, category one and category three show increasing intensity for this activity over the turnaround period. We have category one's intensity mean value: 0.079 in DY, 0.084 in DY1, 0.123 in DY2; category two's 0.023 in DY, 0.018 in DY1, 0.009 in DY2; category three's 0.053 in DY, 0.111 in DY1 and 0.103 in DY2, refer Table 13. Category two firms show decreasing intensity over the same period for this equity issue/placement activity. The same intensity trend displayed by recovery (category one) and non-recovery firms (category three) for this activity may have accounted for the non-significant MWU test result. The MRA results show the predictor variable SHAREPLC having a mild significant effect on ROTA. It therefore appears that equity issue/placement is not an effective discriminator in turnarounds.

Financial assets/ investment sales

Proceeds from sale of financial assets (e.g. shares) often help to alleviate cash flow pressure. Category one recovery firms embarked on intense sale of investments during the turnaround period as evidenced by increase in the mean value of intensity from 0.002 DY to 0.121 DY2, a large increase of 5950% (refer Table 13). Although all three categories carried out investments sale, category two and three's intensity decreased by the end of the second year post-distress, presumably because they ran out of free investment assets to sell. The intensity of sale of financial assets carried out by category one firms supports Robbins and Pearce's (1994) retrenchment of assets proposition. However, the MWU test did not yield a significant p value suggesting that this activity may not be an effective recovery strategy, but rather a short-term 'alleviator' of distress cash flow.

CEO change

The MWU test results indicate no statistical significance for the intensity/frequency of CEO change. Hofer (1980) is of the opinion that change in

TMT is necessary for successful turnarounds. Closer examination of the data in Table 13 revealed that between 24% and 39% of sample firms changed their CEOs in their efforts to turnaround. About 31% (0.308) of category one firms changed their CEO or MD during the distress year and 39% (0.385) in the following year post-distress, but the number of CEO changes decreased to 23% (0.231) by the end of two years post-distress. Category two's is lower at 24% (0.235) for the distress year and one year post-distress but decreased to 12% (0.118) by the end of two years post-distress. Category three's stays fairly constant at around 24 to 28% (0.276 in DY, 0.241 in DY1 and 0.276 in DY2) for the whole of the turnaround period. This indicates recovered firms decreased the frequency of CEO change as they approached recovery. The results tend to support Hofer's proposition, but the difference in mean values was tested not significant for all three categories. The MRA did not give a significant result for this predictor variable. This implies CEO change may not be an effective stand-alone strategy and may work in 'synergy' with other predictor variables (Yawson, 2004) .

Divestitures

The MWU test results for intensity and timing of this activity indicate no statistical significance in the difference in mean values for all three categories of sample firms. The MRA test results also do not show a significant effect on ROTA. In terms of intensity, category one firms maintained the intensity in this activity throughout the turnaround period as compared to the other two categories. We have category one intensity mean value 0.231 in DY, 0.385 in DY1 and 0.385 in DY2; category two has 0.235 in DY, 0.235 in DY1 and 0.176 in DY2; and category three has 0.234 in DY, 0.310 in DY1 and 0.293 in DY2 (refer Table 13). As indicated, categories two and three decreased their intensity by the end of DY2, whilst category one still maintained the intensity in divestiture activity right through DY2. The non-significant results for this activity indicate

that it is not a discriminating turnaround strategy, both in terms of type and intensity.

New industry or geographical segment

The MWU test results for intensity and timing of this activity indicate a mild statistical significance in the difference in mean values between category one and category three firms at the end of DY1, that is, $z = -1.859$, $p = 0.063$ ($p < 0.1$) (refer Table 14b panel two). Category one's mean value of intensity in DY1 is a negative 0.538, whilst category three's is positive 0.052 (refer Table 13). That means while category one is shrinking its industry/geographical domain, category three is doing the opposite. It is also noted that category one started the shrinking process much earlier than category three, that is, category one's mean value in DY is negative 0.231 and category three's is positive 0.052 (refer Table 13). It is only in DY2 that category three's mean value turned negative 0.155. Results therefore indicate that firms must retract from unprofitable geographical areas or industry as soon as possible. The delay in doing so appears to be a discriminator between failure and recovery.

New/increase or reduction in plant and equipment expenditure intensity

The MWU test results for intensity and timing of this activity indicate a mild statistical significance in the difference in mean values between category one and category two firms at the end of DY2, that is, $z = -1.779$, $p = 0.075$ ($p < 0.1$) (refer Table 14a panel three). Category one shows *decreasing* intensity in this activity over the turnaround period DY to DY2 with mean score of 0.354 DY, 0.275 DY1 and 0.290 DY2 (refer Table 13). Category two shows *increasing* intensity with mean score of 0.460 DY, 0.505 DY1 and 0.549 DY2 over the same comparable periods (refer Table 13). Category three firms' intensity decreased

slightly at 0.336 for DY to 0.308 at the end of DY2 with more decrease in the interim to 0.242 DY2 (refer Table 13). The difference between category one and two is that category one decreased the intensity early in DY1, whilst category two increased the intensity instead. This accounted for the mild significance of $p=0.075$ ($p<0.1$) between the two in DY2 (refer Table 14a panel three).

The decreasing intensity of this activity by category one firms supports Robbins and Pearce's (1994) retrenchment proposition that retrenchment of costs and assets are necessary irrespective of the cause of the decline. The results of this research also tend to support the results of Arogyaswamy and Yasai-Ardekani's (1997) study of 89 turnarounds and 115 non-turnarounds US manufacturing firms between 1976 and 1986. They found that cut-backs alone are not sufficient as a means to turnaround. They found that a large portion (73.2%) of the non-turnarounds did employ cutback strategies, but the discriminating factor between turnarounds and non-turnarounds was that the former also enacted efficiency improvement strategies, which included investment in *appropriate* technology—especially for manufacturing firms—and the ability to properly manage that technology. They emphasise that cutbacks 'when inappropriate or poorly managed may actually worsen organisation performance' and that 'cutbacks should not be viewed as the panacea for all declining organisations' (Arogyaswamy & Yasai-Ardekani, 1997:8). Improvements in efficiency need not be automated procedures and may include better management and realisation of inventories, better use of suppliers' credit days, improved trade receivables collection days, consolidation of product lines, shortened customer delivery times and human resource training, to name a few examples. They found that '26.4% of turnarounds and 14% of non-turnarounds improved efficiency without resorting to cutbacks.' (Arogyaswamy & Yasai-Ardekani, 1997:8). Further, cutbacks, when not properly managed or poorly choosing areas to cut back may worsen decline. Their final proviso seems to echo Schendel et al.'s (1976) proposition that the choice of strategy depends on the cause of the decline—for example, whether it is caused by internal or external factors and whether it is

caused by poor internal controls or efficiency problems—which may not need investment in new technology but rather efficiency improvement strategies.

Applying Arogyaswamy and Yasai-Ardekani's propositions, discussed above, to the results of this research we have—per the retrenchment layoff test results of model #4 in section 5.5, Table 15—the median staff lay-off values for category one, two and three firms in DY1 are 0.897, 0.891 and 0.876 and in DY2 are 0.934, 0.862 and 0.835 respectively. That is, all categories enacted staff cutback strategy. The test results of intensity and timing test for variable 'inventory change' in section 5.4, Table 14a panel one, are significant at the $p < 0.05$ level ($z = -2.009$, $p = 0.045$) for category one versus two in DY and mildly significant at the $p < 0.1$ level ($z = -1.801$, $p = 0.072$) in DY1 and DY2 ($z = -1.717$, $p = 0.086$), refer to Table 14a panels two and three. This indicates that the cutback and efficiency improvements in inventory management are discriminating turnaround factors, thus providing support to the Arogyaswamy and Yasai-Ardekani's cutback plus efficiency improvement proposition.

Summary of intensity and timing test.

Overall, the intensity and timing tests results indicate that intensity and timing of turnaround strategies are important determinants of turnaround, thus hypothesis H6 is supported. In the words of Sudarsanam and Lai (2001:194) effective turnaround strategies depend 'not only doing the right things but also doing them right'. Similarly, M Teng (2010:60) opines that when downsizing success depends very much on how one does it rather than in what one does.

6.4.5 Hypothesis H7: Employee Lay-off

The extent of employee lay-off is significant in affecting the likelihood of successful turnaround.

This predictor variable, employee lay-off, LAY-OFF, attempts to capture the effect of employee retrenchment on the earnings dependent variable, ROTA in the turnaround process. This variable is tested statistically *mildly* significant at the $p < 0.1$ level ($p = 0.085$) with a positive beta coefficient of 0.142, signifying that more employee retrenchment will lead to higher ROTA. Retrenchment is often considered by turnaround researchers as a short-term efficiency oriented turnaround strategy necessary and critical to any successful financial performance turnaround (Arogyaswamy & Yasai-Ardekani, 1997; Hambrick & Schechter, 1983; Robbins & Pearce, 1992). However, the mildly significant employee retrenchment result may indicate that the efficiency cut-back strategy alone may not be sufficient to turn a firm around. There may well be other factors at play. Arogyaswamy and Yasai-Ardekani's (1997) study of 204 US manufacturing firms over an eight-year period found that some firms turned around even without implementing cut-backs. Their results indicate that cut-backs or downsizing must also be accompanied by implementation of efficiency improvement strategies. They made the point that many researchers often treat cut-backs as being synonymous with efficiency, or think that they will lead to improvements in efficiency. This may not necessarily be the case. Their results show that a larger percentage (82.4%) of turnaround firms versus 48.8% of non-turnarounds had improved efficiency. Improvement in efficiency strategies or measures includes rationalising production systems to concentrate on high yielding profitable products, improved inventory control and turnover, better managed credit days (for both accounts receivable and payables), better staff training, increased plant and equipment maintenance, better cost analysis and increase in investment in appropriate technology (e.g. pertinent to manufacturing organisations), to name a few examples.

In this research, the results of intensity of activity test show that inventory change is statistically significant and mildly significant at the 0.05 and 0.1 level between category one and category two firms in distress year DY and post-

distress years DY1 and DY2, respectively, thus lending support that cut-back (e.g. retrenchment) *together* with efficiency improvement efforts are determinant factors in achieving financial performance turnaround. Cut-back alone may worsen decline (Arogyaswamy & Yasai-Ardekani, 1997).

The Mann-Whitney U (MWU) Z-test results in model #4 'employee retrenchment' in section 5.5 did not yield statistical significance when comparing the *extent* of employee retrenchment carried out by category one, two and three member firms. Hence, hypothesis H7 is not supported. Their p values are relatively large (i.e. 0.929, 0.655, 0.724 and 0.434). One of the problems of small p value is that sometimes it does not 'always reflect practical significance of a phenomenon' (Chowdhury & Lang, 1993:14; Cryer & Miller, 1990). However, in practical terms, this research found 'that at least 50% of the firms in each category did retrench their staff by about 10 to 16% by the end of two years post-distress' (refer section 5.5). The reason for the non-statistically significant result obtained by the MWU test appears to be that all three categories of firms retrenched staff by roughly the same magnitude; hence the MWU test did not yield a small p value. The intensity results tend to lend support to Robbins and Pearce's (1994) retrenchment proposition. However, as stated earlier in Chapter 2, empirical evidence, especially from human resource management literature has not been convincing in establishing the long-term beneficial effect of downsizing on organisational performance. Cascio et al. (1997) found that firms that combined staff lay-off and asset restructuring achieved higher return on assets and share price and dividend appreciation than their peers in the same industry. This tends to indicate staff lay-off per se may not be sufficient to turn firm financial performance around. The result of the MRA model of a mildly significant p value for the Lay-off variable tends to support the proposition that retrenchment *alone* is not sufficient but has to work in junction with other turnaround strategies.

6.4.6 Hypothesis H8: severity of decline

The MWU test results of model #5 in section 5.6 of Chapter 5, do not show statistical significance of mean value for the 'severity' variable for category one (recovery) versus category two (partial recovery) firms ($z = -1.151$, $p = 0.250 > 0.05$) and category one versus category three (non-recovery) firms ($z = -1.293$, $p = 0.196 > 0.05$)—refer Table 16a and 16b. Category one firms, for recollection purpose, are those firms that had successfully recovered, based on the three-fold criteria of improvements in profitability, liquidity and leverage over a defined threshold in Chapter 3; category two are those that had satisfied the profitability criterion only and category three are those that did not satisfy the profitability criterion. Hence, on the surface it appears hypothesis H8 is not supported, which is somewhat surprising, but see further analysis below.

Hofer (1980) is one of the first to introduce the proposition of severity of decline as influencing the *likelihood* and choice of appropriate strategy for recovery. He is of the opinion that distress firms operating just below net income break-even profitability or their 'sales are about 60 to 80 percent of break-even' and they have 'high direct labour costs, high fixed expenses, or limited financial resources, then cost-cutting strategies are usually preferable' and cost cutting actions are quicker in pay back than revenue generating or asset reduction strategies (Hofer, 1980:26). If decline is severe, for example, 'current sales are less than a third of its breakeven, then the only option is an asset reduction strategy' (Hofer, 1980:27).

The mean and median values of percentage decline in EBIT for all three categories were severe, being more than 10% over EBIT of the year immediately before distress. Despite the failure of the MWU test to yield significant p value, as noted above, an examination of the mean and median values between category one and category three firms as per Table 16 panel 16b shows the following. Category one's mean and median values of the

severity of decline variable are: -5.019 mean, -1.349 median versus category three's -21.165 mean; -2.336 median. Based on these numbers, category three's mean and median are much greater than category one's. This would prima facie provide partial support for hypothesis H8. This contradictory result may be due to the small sample size of 13 in the category one group, whilst category three has 58 (refer to Table 11a and 11c respectively). The small sample size of 13 in the category one group versus category three's 58 may inadvertently increase the risk of a type one error, that is, an error of rejecting the null hypothesis when it is true (Hair et al., 2010:8 -10; Zikmund, 2003:504 & 542). Hence, test result for H8 is stated as partially supported. However, there is empirical support for 'severity of decline' as a predictor of recovery (Francis & Desai, 2005; Smith & Graves, 2005; Sudarsanam & Lai, 2001). Despite this empirical support, the 'severity of decline' question is not as clear cut. Chowdhury and Lang's (1993) study of US small public listed firms of less than 500 employees revealed that firms that had experienced 'crisis' decline, defined as sharp drop in ROI (rate of return on investment) in fact are more successful in achieving turnaround than those that had experienced gradual performance decline pre-turnaround.

One of the main reasons for the above mixed results relates to the definition and measurement of the construct variable 'severity of decline'. There appears no standard definition of decline and severity, as alluded to in the literature review of Chapter 2, or its related method of measurement or 'extent' of decline. In the above studies, 'severity of decline' is measured in a variety of ways. For example, Chowdhury and Lang (1993b) plotted the sample firms' ROI (return on investment) for the period 1984 to 1985 and those US sample firms that were in the top quartile with greatest negative changes in ROI were considered to have suffered 'crisis' decline with the remainder as 'decline' firms. In Smith and Graves' (2005) study using UK firms, they defined 'severity of decline' as *change* in Z-scores between each of the two consecutive years of financial distress based on Taffler's (1983) Z-score model. Whilst Sudarsanam and Lai's (2001)

study of UK firms measure 'severity of decline' as *per* the Z-score, based on Taffler's model, in the distress year. Francis and Desai's (2005) study of US firms measures 'severity of decline' by using Altman's Z-score (Altman, 1968) but added the construct 'urgency of decline' as equal to the product of 'severity of decline' and 'suddenness of decline'. 'Suddenness of decline' is measured 'in terms of the number of years it took for a firm to go from a healthy financial position measured at time one, to the lowest point in its decline cycle measured at time two' (Francis & Desai, 2005:1211). Thus, the different 'shades' of 'severity of decline' may account for the different test results obtained.

6.4.7 Hypothesis H9: free assets

The MWU test results of model #6 in section 5.7 of Chapter 5 do not show statistical significance of mean value for the 'free assets' variable for category one versus category two firms ($z = -1.362$, $p = 0.173 > 0.05$) and category one versus category three firms ($z = -0.669$, $p = 0.503 > 0.05$)—refer Table 17a and 17b. That is, hypothesis H9 is not supported. This is surprising, as logically one would expect that free unencumbered assets, as slack resources, can act as collateral to secure funding from financial institutions. Availability of slack resources should increase the likelihood of recovery. Closer examination of the mean and median values for this variable revealed no material difference between the three categories. Per Table 17a and Table 17b we have: category one's mean 0.815, median 0.889; category two's mean 0.876, median 0.960 and category three's mean 0.850, median 0.890. The mean values are in the 80% to 90% range, although the median value for category two is higher at 96%. The above comparable values tend to support the non-significant results of the MWU test.

Empirical tests results to date of 'free assets' as a predictor of successful turnaround have not been unequivocal. The 'free assets' variable was tested not

statistically significant between recovered and failed firms in a UK study by Smith and Graves (2005). There was no reason given, although they did observe that recovered firms have more free assets. Other studies showing free assets as a discriminator between firms that failed/liquidate and those that reorganised are Casey, McGee and Stickney (1986); Routledge and Gadenne (2000) and Campbell (1996). However it should be noted that these studies are from the liquidation-reorganisation point of view and the counter argument is that they are from an 'ex post'/different perspective in that firms that successfully reorganise will logically be those with more free assets. From a informal turnaround perspective, as opposed to a formal reorganisation Chapter 11 (US) and Voluntary Administration (Australia) perspective, the above literature empirical results are contrary to Robbins and Pearce's (1992, 1994) proposition that retrenchments of assets and costs are important determinants of successful turnaround, at least during the initial stage of the turnaround efforts. Hence, implicit in Robbins and Pearce's retrenchment proposition is that there may not be a lot of free assets available in distress firms, as these are sold off to finance enactment of turnaround strategies towards recovery. The non-significant test result of this research for 'free assets' as a discriminator of successful turnaround supports the findings of Smith and Graves (2005). As indicated above there was no material difference in the level of 'free assets' among the three categories of sample firms.

6.5 Theoretical framework—causal contingencies

Resource based view ('RBV')

Pandit (2000) suggests to test the proposition of using the RBV as a theoretical framework for turnaround research. Further, Mahoney and Pandian (1992: 373) are of the opinion that the RBV shares a 'good' conversation with strategic management and organisational economics and has the potential to provide 'an

illuminating generalisable theory of the growth of the firm'. In accordance with research objective in section 1.3(1) and research question in section 1.4(1), the next section tests and discusses the applicability of the RBV in the context of this research.

The RBV emphasises the heterogeneity of firms by positing that firms derive sustainable competitive advantage by possessing resources which are rare, valuable, inimitable and non-substitutable. However, the possession of resources by itself does not confer competitive advantage but, rather, the effective utilization and management of the idiosyncratic resources is what creates that competitive advantage resulting in earning of superior returns. Firms pursue strategy in their 'continuing search for rent' (Bowman, 1974:47), for value creation (Morrow, Sirmon, Hitt, & Holcomb, 2007) and for growth. Morrow et al (2007:272) state that value creation is through effective resource management which involves 'combining existing resources and capabilities, or by acquiring or accessing new resources externally that are then bundled with existing resources into new capabilities'. Optimal growth is when there is a balance between exploitation of existing resources and renewal or development of new ones (Penrose, 1959; Rubin, 1973; Wernerfelt, 1984). In their zeal and quest to earn economic rent there is a general tendency for firms to over exploit their resources without adequate and continuing replenishment of the run down resources (Pandit, 2000). This disequilibrium in the long run often leads to financial distress which, if left unattended, will spiral into liquidation and demise. In an attempt to find out where firm resources come from and how resource variations emerge, evolutionary search literature (Ahuja & Katila, 2004; Helfat, 1994; Katila, 2002; Katila & Ahuja, 2002; Rosenkopf & Nerkar, 2001) posits that firms search the environment to replenish depleted resources or to find new ones so as to derive advantage over competitors. The search process is often evolutionary and through trial and error. Trigger events for search happen when firms exhaust their current technological resources, area or know-how or encounter limits for expansion in their local or national market (Ahuja & Katila,

2004). These events trigger firms to embark on search paths for science (e.g. for new technology and knowledge-based resources) or new geographical areas (e.g. for new product markets or technology). Over expansion or excessive expenditure in the search, development or acquisition of new resources may bring about financial distress. This research found proof of such activities when a sample firm relocated/expanded its manufacturing activity to China in search of lower cost of production as part of its strategic efforts to turnaround. The predictor variable NEW BUSINESS in the MRA test in section 5.2.2 although yielded a mild statistical significance ($p=0.068$) on ROTA is further proof of such a search activity.

The opportunistic actions of the firm as the manifestation of the opportunistic view, discussed in Chapter 2, may result in financial distress. Firms often scout the environment for investment opportunities to renew, replace, combine or add on to their existing portfolio of resources. The resource management processes 'convey significant risk' (Morrow et al., 2007:272). Argenti (1976) found that one of the causes of firm failure is due to over commitment of firm resources relative to firm size and available financial resources. Risky projects if embarked upon without due evaluation of risk involved often consume more resources than less risky ones. Over commitment often leads to financial distress. In contrast to classical decision theory⁴⁴, Miller and Chen (2004) found that managers' risk preference varies according to contextual factors. Poorly performing firms in loss situations or near bankruptcy were found to be willing to take higher risk than firms whose performance improved relative their performance aspiration level. Ketchen and Palmer's (1999) study of a sample of regional US hospitals found poorly performing organisations will make strategic changes, for example in regard to the product and services they offer rather than rely on their past

⁴⁴ Classical decision theory posits that the decision maker's choice of action is mainly based on the mean (expected value) and variance (risk) of the probability distribution over possible outcomes attached to each possible action. March, J. G. & Shapira, Z. 1987. Managerial perspectives on risk and risk-taking. *Management Science*, 33(11): 1404-1418.

actions to reverse their poor performance as posited by the threat-rigidity perspective. This research found support for such a high risk taking activity and complete strategic change. A sampled firm changed its name and completely changed its portfolio of resources by selling all its underperforming fluid handling, foundry and machining operations to finance and establish a stockbroking business as its principal activity in Perth, Western Australia.

The above results provide support to the proposition and findings by Morrow et al (Morrow et al., 2007:281; Sirmon, Hitt, & Ireland, 2007) that by 'recombining existing resources or acquiring and integrating new resources into the firm, firms can turnaround their performance even if taking higher risks'.

In the financial profile analysis of sample firms in section 5.3, distress firms' ability to earn economic rent was eroded as evidenced by the negative ROTAs in DY. For example, the mean values of ROTA of category one in the distress year DY is negative 0.174, category two's is negative 0.193 and category three's is negative 0.103 (refer Table 12a and 12b in section 5.3.1). This was due to severity of decline in EBIT for all three categories in DY when compared to pre-distress EBIT. Mean values for severity of decline in EBIT are category one - 5.019, category two -3.814 and category three -21.165 (refer Tables 16a and 16b). In this regard, failure in earning above-normal rates of return, that is economic rent, from the utilisation of resources via firm strategy sits well with the exposition of RBV and often forms the basis of analysis of competitive advantage.

A criticism of the RBV theory is that it mainly focuses on strategic assets (resources) and processes that create competitive advantage, the so-called positive side of the ledger, with few mention of the negative side of factors which impede, work against or erode the resultant competitive advantage (Arend, 2008; West & Decastro, 2001). West and Decastro (2001:418) are of the opinion that although authors like Wernerfelt (1984) did highlight 'resources as both

strengths and weaknesses tied semi-permanently to firms', in the main RBV theory and research thus far has concentrated on the strength of possessing RBV strategic resources with few mention of the negative effects of factors that work against that strength. That is, as organisational outcome is an interaction of strength and weakness factors (Andrews, 1971), it is important to know the characteristics and implications of negative factors to provide a more balanced view, not to mention an important one. West and Decastro (2001) refer to the negative factors on competitive advantage as 'resource weaknesses', whilst Arend (2004) refers to them as 'strategic liabilities'⁴⁵. Arend's (2008) survey of US turnaround practitioners reveals that differences in RBV strategic factors (strategic assets and strategic liabilities) impact firm turnaround performance outcomes. Specifically, firms should minimise or get rid of their strategic liabilities (SLs) as they negatively impact firm performance by destroying net value as SLs provide the firm its strategic competitive disadvantage (SCD). SLs are rent destroyers as opposed to strategic assets which are rent generators (Arend, 2004). The top five SLs identified by Arend (2008:347) are: bad management, bad strategy, financial problems, bad acquisition execution and fraud, with the top first three 'collectively accounting for over half of the SLs identified in the survey responses'. In practice, one of the often encountered financial problems is the amount of debt (financial leverage) relative to the firm's earning capacity to service recurring interest charges and meet debt covenants. Following this logic, reducing debt levels increases a firm's borrowing capacity which reduces SCD and aids in the recovery-turnaround process.

⁴⁵ See Chapter 2 where strategic assets and strategic liabilities are discussed. However, Arend defers from West and DeCastro as to whether a factor is a strategic asset or liability (resource weakness) in that Arend introduces the concept of context dependency. A strategic asset can be an asset within a given context and also a strategic liability in another. One of the examples provided by him is inventory, which is 'valuable when there is excessive demand, but can be a liability in a glut of supply if the costs of holding it and disposing it are high.' Arend, R. J. 2004. The definition of strategic liabilities and their impact on firm performance. *Journal of Management Studies*, 41(6): 1003-1027.

The analysis of slack financial resources provides support for the applicability of the RBV and its related expanded perspective (as described above) in turnaround research. Slack resources enable a distress firm to draw on to finance recovery strategies. High *unused* debt capacity acts as slack resource and helps firms to better cope with performance decline (Tan & See, 2004). In section 3.3.5, the proxy, LTD/TA (i.e. long-term debt divided by total assets) for slack resources is defined in the context of financial leverage, that is, the more highly geared a firm is the less slack it has, as it has to service higher level of debt and a dilution of its borrowing capacity when compared to a lesser geared firm. Table 12a of financial profile analysis in section 5.3.1 shows category one's mean value of LTD/TA is 0.185 in DY and this has improved to 0.083 in the second year post-distress DY2; a 55% improvement over DY's. On the other hand, category two's mean LTD/TA in DY is 0.124 and this has deteriorated to 0.206 in DY2; a deterioration of 66% over DY's. For the same variable, category three shows slight improvement, that is, 0.150 in DY to 0.136 in DY2; an improvement of only 9%. In this regard, recovery firms (category one firms), have much improved on their slack financial resources (unused borrowing capacity) post distress than non-recovery firms, providing support to Arend's proposition of minimising SLs in turnaround situations helps recovery (category 1 firms) as discussed above.

The liquidity ratio, working capital to total assets, has consistently shown to be significant to firm failure risk in bankruptcy studies (Cybinski, 2001). Although the proxy variable (financial ratio) for liquidity has been variously defined in the bankruptcy studies literature, the relationship between liquidity and failure risk is that as liquidity increases firm failure risk decreases. In table 12a and 12b of section 5.3.1, the liquidity ratio of CA/CL is shown to have increased for all the three categories of distressed firms over the distress and post distress periods. That is category one's mean CA/CL in DY was 1.046 versus 1.450 in post-distress; category 2's in DY was 0.779 versus 1.042 in post distress and category 3's in DY was 0.93 versus 2.045 in post distress. In this regard, firms

realising that liquidity is an important determinant in turnaround situation have adopted measures to increase this strategic asset over the distress and post distress period. This is in line with Arend's (2008) proposition that increasing strategic assets or minimising their erosion helps the turnaround-recovery process.

Stage perspective of turnaround

As discussed in Chapter 2, Bibeault (1982) posits that corporate performance turnaround typically goes through five stages. The *first* stage is the *change in management*. The *second* is the *evaluation stage*, which normally takes a few weeks, whereby the different options and the causes of decline are evaluated. The *third* stage is the *emergency stage* when retrenchment measures consisting of cost cutting and asset reduction are taken to stop the 'cash burn', in order to survive and return to positive cash flow. The *fourth* stage is the *stabilization stage*, emphasizing organizational rebuilding and stabilization. The *fifth* stage is the *return-to normal growth stage*, which is more strategic and long-term in focus, as it deals with market share growth and development. The previous stages deal with the 'here and now' survival issues while the *fifth* stage deals with the 'next and where' long-term sustainability and growth issues.

Robbins and Pearce (1992) also support the multistage perspective of turnaround, in particular the importance and necessity of the retrenchment phase as initial and critical to successful turnarounds. More specifically, they propose a *two* stage process of the *retrenchment* response and the *recovery* response. They are of the view that a firm's prolonged performance decline often depletes a firm's slack/surplus financial resources. Hence, retrenchment strategies should be the precursor strategies to stem the depletion in order to restore financial viability and sustainability. They did not rule out the need for recovery/growth or entrepreneurial strategies, but the emphasis is on retrenchment as the vital and *necessary first stage* of successful turnarounds.

Following from the multistage perspective of turnaround, Arogyaswamy, Barker and Yasai-Ardekani (1995) also propose an integrative two stage model viz: decline-stemming strategies (stage one) and recovery strategies (stage two).

Chowdhury (2002) proposes a four stage model, that of *decline, response initiation, transition and outcome*. These four stages have sometimes been extended to five with the following comparable generic captions: decline and crisis (*decline*) triggers for change (*response initiation*), *recovery strategy formulation*, retrenchment and stabilization (*transition*) and return to growth (*outcome*)—(Balgobin & Pandit, 2001).

This research has adopted a 'content' rather than a 'process' approach in its investigation of corporate performance turnaround. Accordingly, this limitation does not allow it to confirm the multiple stages of turnaround as posited by Bibeault (1982) and Chowdhury (2002). The chairman's report and the directors' report are often not detailed enough to provide a 'walk through' of the various stages a distress firm goes through between distress and turnaround. However, a two stage model can be discerned from the results of this research. It is able to confirm that initially the sample firms carried out retrenchment activities in the form of staff layoff and asset sales. This essentially deals with 'cleaning the deck' to stop or alleviate cash flow pressure in the early distress–turnaround period. However, the extent of staff layoff is not as extensive as expected. About 50% of the sample firms retrenched staff by about 10 to 16% by the end of the two years post-distress (refer Table 15a panel one and 15b panel one). In stage two (DY2), recovery firms category one, increased their staff level to about 90% of distress year's staff numbers (mean 0.905, median 0.934 in DY2, Table 15b panel two versus mean 0.870, median 0.897 in DY1, Table 15b panel one) and at the same time had gradual increase in inventory change (mean 0.165 in DY, 0.171 in DY1 and 0.188 in DY2, Table 13) in anticipation of recovery and EBIT improvement. Recovery firms are those that are more successful in efficiency improvement strategies in addition to carrying out retrenchment, thus providing

support for Arogyaswamy and Yasai-Ardekani's (1997) findings of cutbacks accompanied by efficiency improvements.

This research has demonstrated that the RBV and the two stage model (retrenchment and strategic turnaround)⁴⁶ can provide the theoretical framework to guide empirical research thus rectifying the weakness identified by Pandit (2000).

6.6 Theoretical linkages

This section links the research findings to the various major theoretical propositions and schools of thought identified and discussed in the literature review of Chapter 2.

As discussed in Chapter 2, the two over-arching perspectives in extant management literature in the context of organisational decline are the deterministic perspective and the voluntaristic perspective (Mellahi & Wilkinson, 2004; Rasheed, 2005). The deterministic perspective posits that environmental factors are more influential on organisational outcome than the actions of managers. The voluntaristic perspective takes the opposite viewpoint that managerial decisions and actions determine organisational outcome.

It is generally agreed that the ancestor of the deterministic perspective is the Schumpeterian economics thesis of 'creative destruction' (Mellahi & Wilkinson, 2004). According to Schumpeterian economics, major changes in the economy or external environment lead to organisation failures. These changes weed out the weak firms that failed to adapt to the changed or changing environment, leaving the strong ones that survive and prosper. These environmental changes

⁴⁶ Especially when the researcher adopts a 'content' performance turnaround research paradigm.

can be caused by technological, new regulatory, economic or demographic changes (Anderson & Tushman 2001; Scott, 1998). The advent of Internet trading saw the demise of traditional booksellers who could not compete with the online Internet trading activities of Amazon.com. The present Australian Goods and Services Tax (GST) regime of 10% tax does not apply to imported goods worth less than AUD1000 (Kehoe, 2010; LaFrenz, 2010). Even if this exemption threshold is lowered, there is the administrative problem of how to collect the tax for goods bought over the Internet. The current firming of the exchange rate of the Australian dollar (AUD) against the US dollar (USD) works against the local Australian retailers as Internet purchases of goods are cheaper for Australian consumers when compared to local purchases. As most books are worth less than AUD1000, in practice there is no GST payable on books bought via the Internet. This severely affects the viability of smaller local book sellers and retailers who cannot compete on price. The advent of personal computers led to the demise of mainframe computers. The above are some examples of technological and regulatory/taxation changes having an impact on economic participants.

This research found support for the voluntaristic perspective. The environmental variables of industry effect and economy effect were found to be statistically insignificant in affecting the profitability variable, ROTA. Rather it found that a combination of strategies aimed at sales growth (strategic) lowering of financial leverage (financial), employee lay-off (operational), share placement (financial), board size (strategic), firm-size and new business (strategic) significantly affect ROTA. The relative contribution to ROTA found is that sales growth (44%), firm size (5%), board size (4%) and leverage (3%) in total account for 56% of the variance in ROTA (refer section 5.2.3). This would imply that effects of environmental variables are secondary to the decisions and actions of managers in influencing financial performance profitability outcome. The logical deduction is that the decisions and actions of management can lessen the impact of adverse environmental variables.

At the firm level, firm size was found to be statistically significant and positively related to ROTA. Anecdotally and supported by literature, bigger firms have the advantage over smaller ones in terms of resources (Baum & Oliver, 1996). This provides support for the heterogeneity proposition of firms as posited by the RBV of the firm (Barney, 1991; Penrose, 1959; Wernerfelt, 1984). The discriminating effect of and role played by the heterogeneity of firm resource on firm performance has empirical support, for example, Henderson and Cockburn (1994). Based on the literature of firm evolutionary search (Katila, 2002; Katila & Ahuja, 2002; Rosenkopf & Nerkar, 2001) for resources and their creation, Ahuja and Katila (2004:887) found 'technological exhaustion and expansion beyond national markets' trigger firm management to look to replenish their resources via science search paths for new technology or geography search paths beyond national borders for new product markets and innovations. This further enhances the voluntaristic perspective of management in resource search to increase advantage over competitors.

In terms of the choice of strategies, this research found that those adopted by recovery firms differ from those adopted by non-recovery firms with respect to timing and intensity of turnaround efforts. Similar to Sudarsanam and Lai's (2001) findings, it was found that recovery firms implemented strategic/entrepreneurial turnaround strategies earlier than non-recovery firms in the distress–turnaround period. Non-recovery firms appeared to be dealing with solving problems at the operational level well into the latter part of the turnaround period. This tends to lend support to the strategic school of thought, which opines that strategic reorientation or strategic turnaround efforts are needed to lift the distress firm beyond its present 'playing field' to another level with higher propensity and capacity of revenue-profit generation (Barker & Mone, 1994). Equally important is the intensity and timing of withdrawal from unprofitable business or segments. This research found that recovery firms, on average, withdrew from unprofitable non-performing segments or business

much earlier than non-recovery ones, and the difference in lead time appeared to be at least a year earlier in timing and execution.

Hofer's (1980) proposition that the severity of performance decline influences the *likelihood* and *choice* of appropriate strategy for recovery has been partially supported by the test results of this research for reasons explained in section 6.4.6. To recall, Hofer's proposition is that operational cost-cutting strategies are preferable for distress firms with high direct labour costs, high fixed costs and with limited financial resources operating not far away from their break-even profitability level, whilst asset reduction strategies are preferable for severe decline cases. Further, cost-cutting strategies are quicker in achieving results than revenue or asset reduction strategies (Hofer, 1980:26). This researcher would like to add to Hofer's 'distance from breakeven' proposition by introducing the proviso that the availability of slack resources that a firm has may influence the choice of the strategy chosen, irrespective of the severity of performance decline. Slack resources may afford a distress firm opportunity to enact strategic manoeuvring first. This is because slack resources serve to act as a buffer to finance strategic efforts, thus 'buying enough time' to enable revenue generation or giving asset reduction strategies time to bear fruit rather than cost-cutting as an initial first option. The improvement in the slack resource proxy variable long-term debt as a proportion of total assets, LTD/TA—discussed in section 6.5 and section 6.4.4 hypothesis H6: intensity and timing—new industry or geographical segment enables recovery category one firms to embark on strategic/entrepreneurial turnaround efforts earlier than non-recovery firms. This is despite the fact that all categories of sample firms did suffer severe performance decline as evidenced by the deterioration of mean and median values of percentage decline in EBIT (earnings before interest and tax) of greater than 10% from the pre-distress year's EBIT.

As mentioned in Chapter 2, in the literature review, Schendel, Patton and Rigg's (1976) seminal article introduced the notion of *cause* and appropriate *response*. According to them appropriate response depends on an understanding of

factors that caused the performance decline. Accordingly, decline caused by operational factors is best solved by operation/efficiency improvement strategies and those caused by strategic factors (e.g. strategic misalignment) are best solved by strategic/entrepreneurial actions. This generally accepted proposition stood for more than two decades until it was challenged by Robbins and Pearce's (1992) study of 32 US textile manufacturing firms, whereby they concluded that retrenchment of cost and or assets is necessary, irrespective of the cause of the decline. A further study by Robbins and Pearce (1993) introduced a two-stage model which incorporates the need for strategic change in the recovery phase following retrenchment. Evidence from this research tends to support this two-stage model. In the retrenchment/staff lay-off test of section 5.5, about 50% of the distress firms retrenched about 10 to 16% of their staff by the end of year two post-distress in a effort to achieve profitability by cost-cutting. Further, recovery firms are observed to embark on strategic changes earlier than non-recovery ones as discussed above. This tends to indicate that effective turnaround strategies involve cost-cutting in the initial phrase to stem the decline and 'cash burn' and strategic/entrepreneurial strategies following the cost-cutting/stabilisation of cash flow phase. It is conceivable that cost-cutting and entrepreneurial strategies may concurrently take place rather than waiting for cost-cutting to work and then implementing strategic changes. The important point appears to be that a certain amount of cost cutting is necessary in a distress–turnaround situation. The amount and extent of cutback depends on the amount needed to achieve break-even profitability and is dependent on the amount of sales growth.

This research found financial leverage to be an important determinant in financial performance turnaround. The MRA model #1 test results reported in section 5.2.2 show that financial leverage is statistically significant at the $p < 0.01$ level in influencing the variation in ROTA. Also the intensity and timing test results in section 5.4, model #3—intensity and timing long-term debt change—show that recovery firms reduced their financial leverage earlier and in greater

proportion than non-recovery firms. The results are not in line with the proposition supported by traditional finance theory (except for the tax deductibility proposition⁴⁷ but not for the risk of bankruptcy factor). Modigliani and Miller (1958; 1963) demonstrated that in a 'perfect' environment with costless and symmetric information, investment and financing decisions are independent of the capital structure (proportion of debt to equity). They show that the value of the firm is maximised when it is totally debt financed due to the tax deductibility of interest which increases firm profitability. However, in the real world, infinitely debt relative to affordability and profitability increases the risk of insolvency because of mandatory periodic loan and interest repayments and restrictive debt covenants. Research results in North America regarding debt level in the context of corporate performance turnaround have been contradictory. Thain and Goldthorpe (1989) found distress Canadian listed firms, especially those near to crisis decline, were more likely to pursue debt restructuring strategy. On the other hand, Chowdhury and Lang (1993) found turnaround US firms had higher debt to equity ratios. Routledge and Gadenne's (2000:254) matched pair study of 20 reorganised and 20 liquidated Australian firms in Voluntary Administration found that successfully reorganised firms 'are more profitable, are more highly levered and have higher short-term liquidity'. It should be noted that Routledge and Gadenne's study is a liquidation/reorganisation study. The fact that reorganised firms are generally highly levered may be because of banks' vested self interest in having such firms successfully reorganised rather than have them liquidated, thus resulting in writing off loans as bad debt, which adversely affects banks' profitability. The results of this research regarding financial leverage and recovery firms are more in line with Thain and Goldthorpe's (1989) findings.

As mentioned in Chapter 2, the extant turnaround literature pays skim or passing attention to equity/share placements or issues in the context of

⁴⁷ Since the beta coefficient for the predictor, financial leverage, in the MRA model is positively related to ROTAs.

performance turnaround. This is because firms in decline normally find it difficult to raise capital due to investors' risk-adverse reaction to losing their investment money. However, this research found that equity instruments and shares can be placed out to a parent entity or friendly parties, (e.g. board members). Accordingly, the predictor variable, share placement, SHAREPLC is tested statistically mildly significant ($p < 0.1$ ($p = 0.091$)) with a positive beta coefficient of 0.139 on ROTA in section 5.2.2. This implies that equity/share placement may not be an effective turnaround strategy by itself. Category three (non-recovery) firms were found to show increasing intensity in this activity in the distress–turnaround period. Despite this, funds from share placements often can provide additional slack to fund turnaround strategies or at the least help ease cash flow pressure.

6.7 Summary and conclusion

This research has contributed to Australian corporate performance turnaround research by using Australian data and contextual references. It investigates what Australian managers did to turn around firms which were identified as needing performance turnaround because of financial performance decline and/or firm survival-threatening decline. Based on a survey of extant literature, nine hypotheses were proposed and tested based on a sample of 88 firms listed on the Australian Stock Exchange meeting predefined parameters of performance decline. It found that there is 'no one single road to success'. It found that no one type of strategy—operational, strategic, financial—takes precedence or is more effective by itself than any other. Rather, it is a combination of all three types of strategies (operational, strategic, financial) which, when working together, increases the likelihood of financial performance recovery. The seven predictor variables are: sales growth (strategic), firm size (contextual control), leverage and debt cover (financial), new segment/business (strategic), share placement (financial), board size (strategic) and employee lay-

off (operational). Together they account for 59% of the 61% change in the dependent variable, return on total assets. The non-significant predictor variables are asset sales, CEO change, dividend change, divestitures, general economy effect, industry effect and inventory change.

This research also found that intensity and timing of turnaround strategies are important determinants of successful recovery. Intensity refers to the amount of resources expended on the activity and timing refers to when the strategy is implemented. Sudarsanam and Lai (2001:194) found that it is important that managers 'are not only doing the right things but also doing them right'.

The research test result for the effect of 'severity of decline' on the likelihood of recovery is partially supported for reasons discussed in section 6.4.6 above. Therefore, Hofer's supposition is partially supported here. As noted in the above discussion, there is a plurality of test results relating to his proposition.

This research did not find support for the 'free asset' hypothesis, which states that the more unencumbered/unpledged assets a firm has, the more they increase the likelihood of recovery. Again other empirical results to date are equivocal as discussed in section 6.4.7 above.

The theoretical contributions to extant literature and practical implications for Australian management are discussed in the relevant captioned section below.

6.8 Knowledge/theoretical contributions

This research contributes to corporate performance turnaround literature in the following ways.

This research traces and describes how the studies and research of corporate turnaround strategies have evolved over the last three decades. Based on extant literature it integrates, synthesises and illustrates more lucidly how other disciplines have interacted and influenced the development and study of corporate turnaround strategies, principally those of economics, population ecology and relevant organisational studies, culminating in the two over-arching propositions of deterministic versus voluntaristic perspectives as described in the literature (Mellahi & Wilkinson, 2004). Theoretically, the results of this research support the voluntaristic perspective of management in the context of firm performance decline; that management decisions and actions influence the fate of organisations as opposed to the deterministic view that managers are passive actors subservient to the influence of the environment or industry, which determine the fate of organisations. Economy and industry effects were tested not significant in influencing profitability outcomes but rather, seven predictor variables under the control of management of sales growth, firm size, leverage and debt cover, new segment/business, share placement, board size and employee lay-off, together are significant discriminating strategies in achieving successful performance turnaround.

Firms often scout the environment for investment and entrepreneurial opportunities to increase profitability. This research extends the voluntaristic perspective of management by proposing 'the opportunistic perspective' of management as an additional variant of the voluntaristic perspective of the firm. In times of performance decline and distress, one would logically expect a curtailment of such entrepreneurial activities due to exhaustion of slack resources. This research confirms the observations by some turnaround researchers, for example, D'Aveni (1989) and Rasheed (2005), that distress firms do embark on opportunistic risk taking entrepreneurial activities in their efforts to turnaround. This research found that one sample firm expanded its manufacturing facility to China in search of cheaper manufacturing costs and resources. In another instance a sample firm totally changed its principal activity

into financial services in an attempt to turnaround. Such high risk activities are not expected when a firm is in distress.

During normal times, the opportunistic perspective is observed to work. The manifestation of this is topical in relation to the recent emergence of private equity firms in Australia that scout the environment for opportunity to acquire underperforming firms at a discount and work to turn the under performer around, list the acquired firm via IPO (initial public offering), and make a sizable capital profit (e.g. the Myer departmental store acquisition). This opportunistic perspective of the firm is described and discussed in more detail in Chapter 2 of this research.

To date, most turnaround research emphasises financial turnaround in terms of a single temporal construct of profitability measure (e.g. net after tax profit, earnings before interest and tax, return on investments, return on equity and return on assets, to name a few). This research extends and argues that sustainable financial viability must embrace the three critical areas of financial health: profitability, liquidity and financial leverage (i.e. debt/equity ratio). This is especially important when most firms account on an accrual accounting basis. An inherent danger of accrual accounting practice is that profitability does not automatically equate to liquidity. Hence, this research introduces a more 'holistic' construct of sustainable financial performance and recoverability.

To improve test model construction, this research also introduces an objective 'Australian' bench mark for profitability turnaround. It requires return on total assets, ROTA, of recovered sample firms to be greater than the risk free three-year Australian government bond rate. Using a floor risk free rate of return is in line with the recommendation of various turnaround researchers (Barker & Duhaime, 1997; Bruton et al., 2003; Lohrke et al., 2004; Pandit, 2000). It is believed that this adds robustness and rigour to turnaround model construction by having an objective performance bench mark thus linking to theoretical

justification for the existence of business. Ethical considerations aside, the main purpose of business is to maximise profit (Friedman, 1962).

Theoretically, Pandit's (2000) recommendation of the applicability of using the RBV of the firm as a theoretical framework to guide corporate turnaround research is illustrated and supported by the results of this research. A discussion of this is in section 6.5. The RBV is considered suitable as it 'fits the bill' or shares a good conversation with corporate turnaround research, which deals with the loss of a firm's competitive advantage and sustainability of resources, the over exploitation of its resources leading to performance decline and eventual recoverability through attaining equilibrium between exploitation of existing resources and replenishment and development of new resources. The RBV is general enough because the central tenet that a firm is 'essentially a pool of resources' (Penrose, 1997:36) and the sustainability of heterogeneity of firm resources, which will fit any firm. The non-sustainability of resources and depletion without search for new ones leads to performance decline. Further, this study provides empirical support to the growing literature on evolutionary search in relation to RBV (Ahuja & Katila, 2004; Helfat, 1994; Rosenkopf & Nerkar, 2001). The earlier case given of a sample firm expanding offshore in search of cheaper manufacturing cost and resources is an example of this search activity.

This research also found the variations in behaviour between turnaround and non-turnaround firms in the distress–turnaround period. It established that turnaround firms reacted and implemented recovery procedures and efforts earlier than non-turnaround firms and with greater intensity. It confirmed previous studies by Sudasanam and Lai (2001) that intensity and timing of turnaround efforts are important determinants of successful turnarounds. Thus it adds empirical support to the 'intensity and timing construct'.

This research further extends Hofer's (1980) proposition that the severity of performance decline influences the *likelihood* and *choice* of appropriate strategy. Basically, Hofer's proposition contends that operational cost-cutting strategies are preferable for distress firms operating not far away from break-even profitability, whilst asset reduction strategies are preferable for severe decline cases (i.e. far below break-even profitability). This researcher would like to add to Hofer's 'distance from break-even' proposition by introducing the proviso that the availability of slack resources that a firm has may influence the choice of the strategy chosen irrespective of the severity of performance decline. Slack resources may afford a distress firm opportunity to enact strategic manoeuvring first. This is because slack resources serve to act as a buffer to finance strategic efforts, thus 'buying enough time' to enable revenue generation or allowing asset reduction strategies time to bear fruit, rather than cost-cutting as an initial first option. The improvement in the slack resource proxy variable long-term debt as a proportion of total assets, LTD/TA, discussed in section 6.5 and section 6.4.4 hypothesis H6: intensity and timing—new industry or geographical segment, enables category one (recovery) firms to embark on strategic/entrepreneurial turnaround efforts earlier than non-recovery firms despite severity of decline.

Lastly, this research reaffirms support for the two stage (retrenchment and recovery) turnaround model (Arogyaswamy et al., 1995; Robbins & Pearce, 1992;1993; Pearce & Robbins, 1994) as discussed in section 6.5 above under '*Stage perspective of turnaround*'. Sample category one (recovery) firms were found to take retrenchment actions to initially 'clear the deck', stabilise cash flow and then embarked on strategic/entrepreneurial turnaround strategies.

6.9 Practical implications

The results of this research support the proposition that there is no 'one size fits all' strategy to corporate performance recovery as supported by empirical evidence (Harrigan, 1980a; Teng, 2004, Teng 2010). There is no one strategy

that will do the job, but a combination of strategies working in tandem with each other. This is in line with one of the conclusions made by Harrigan (1980a:22) that 'a number of strategies were used during decline; there was no single road to success'.

This research found that firms, in trying to turn around, adopt an eclectic approach in their strategies to reverse their adverse financial performance. This eclectic approach consists of a combination of initiatives to increase sales, lower financial leverage, lay-off employees, enter into new business or into new geographical segments, equity placements, and change in board size. These predictor variables as a whole significantly $p = 0.000$ ($p < 0.001$) account for about 59% of the variation in dependent variable, ROTA (return on total assets).

In terms of contextual contingencies, the control variable firm size is the only statistical significant discriminating variable in that it has a positive effect on increasing ROTA. This research did not find significant influence exerted by the general economy or industry effect on firm performance. This supports Francis and Desai's (2005:1203) test results that 'overall factors under the control of managers contribute more to successful turnarounds than situational characteristics' and Sudarsanam and Lai's (2001) findings.

This research found that the intensity of efforts and timing are important determinants of performance turnaround. Further, the eclectic approach and intensity of efforts must be directed to improve the three critical areas of financial health, those of profitability, liquidity and financial leverage. This research found strategies to stamp the 'cash burn' and to increase sales must be effected as soon as possible. Firms that recovered appear to have such measures in place by the end of year one post-distress. Although all firms do display intensity of efforts during the distress and turnaround period, this research found that recovery firms 'cleared the decks' earlier by adopting operational restructuring strategies, posited by extant literature to give short-term fast effects (Chowdhury & Lang, 1996; Hambrick & Schechter, 1983; Hofer, 1980, Teng, 2010) and

embarked on forward looking strategic moves, whilst non-recovery firms still relied on operational strategies well into the later turnaround period DY2. This lends support to the findings of Sudarsanam and Lai's (2001) study and the two stage recovery model.

Despite the conventional wisdom of the importance of employee retrenchment as a turnaround operational strategy, at least in the short-term, the test results show that about 50% of the sample firms retrenched approximately 10 to 16% of their staff numbers over the two years post distress. However, the lay-off variable's effect was found to be mildly significant at the $p < 0.10$ level ($p = 0.085$) on the profitability dependent variable, ROTA (return on total assets). Test results also show that employee retrenchment has to be effected in conjunction with the implementation of other efficiency improvement strategies. The extent of the cut is surprisingly not big, that is, 10 to 16% from distress year's employee numbers. This tends to support Barker and Mone's (1994) and corporate turnaround specialist Teng's (2010:115) comments that severe cuts in this area may endanger the long-term viability of the firm as it needs the necessary human capital in the recovery phase.

Specific recommendations for practising managers enacting turnarounds are as follows.

Firstly, this research found improvements in sales is significant to financial performance turnaround. Managers must implement sales growth strategies, as soon as possible. Sales growth was found to be significant at the $p < 0.001$ level. Sales growth is considered by Chowdhury and Lang (1996:177) as an indicator of entrepreneurial strategy. M Teng (2010:60), a turnaround specialist with more than twenty years' experience in corporate turnaround, remarks that a combination of increase in sales and/or margins and cost reductions of fixed and variable overheads can lead to dramatic positive operating results. The stabilisation of cash flow via retrenchment, debt restructuring and share-equity

placement should enable a distress firm to release slack resource to finance sales growth strategies.

Secondly, retrenchment strategies of cost and asset must be implemented as soon as possible in DY and DY1 to stop further decline and to stabilise the cash decline. This research found that employee lay-off, an example of cost retrenchment, may not be effective as a stand-alone strategy and has to be supplemented by other efficiency improvement measures, for example better inventory management and realisation of inventory. Asset retrenchment—for example, asset sales—has not been established by this research as having a significant effect on the profitability variable ROTA, but rather as an 'alleviator' of cash flow, that is, provides the extra cash to fund operational and strategic turnaround efforts. Robbins and Pearce (1992:303) are of the opinion that 'cost and asset retrenchment in concert resulted in the highest average level of turnaround' and that retrenchment was a critical strategic element in attaining turnaround'. Cost retrenchment includes cutting down on discretionary expenses. The extent of retrenchment depends on the amount needed to restore a firm's profitability to its break-even level. There is empirical support that efficiency improvement strategies yield faster pay back than strategic initiatives (Chowdhury & Lang 1996; Hofer 1980; Robbins & Pearce, 1992).

Thirdly, restructuring of debt level and obligation has to be considered. This research found that financial leverage and debt cover are significant determinants of turnaround. Lowering of interest and repayment commitments will alleviate cash flow pressure, which in a decline situation will worsen on a daily basis and procrastination of such remedial actions will worsen the cash flow. The extent of debt reduction depends on reducing interest and principal repayment to an affordability level.

Fourthly, consideration should be given to the possibility of raising additional funds through shares and equity placement. Such a cash-financial strategy

should be explored with friendly parties, for example, members of the board or parent entity. This research found that such a possibility did take place in sample firms although extant literature pays little mention of such an eventuality. This research found equity placement/raising by itself is not a discriminating factor of successful turnaround but the application of the funds raised to reduce debt as soon as possible is a discriminating factor between recovery and non recovery firms.

Fifthly, this research found intensity of efforts and timing are important determinants of financial performance turnaround. The findings support Sudarsanam and Lai's (2001:194) findings that 'recovery managers are not only doing the right things but also doing them right'. Intensity relates to the amount of resources devoted to remedial turnaround actions. This research found recovery firms intensely pursue remedial actions earlier in the distress-turnaround process than non-recovery firms. For example, recovery firms pursued long term debt reduction more intensely in DY 1 and continued into DY2 than non-recovery firms. This debt reduction activity coincides with equity placements/raising. Similarly, recovery firms pulled out of unprofitable segments earlier and with more intensity than non recovery firms.

In summary, this research found improving profitability, liquidity and reduction in financial leverage are significant determinants of successful turnaround.

6.10 Limitations

Like most research this study has its own limitations.

Sample size

First, it relates to the sample attributes. The small sample size of 88 firms limits the generalisability of results obtained. The main reasons for the small sample size are as follows. Firstly, the stringent definition of the '+++-' selection rule adopted by this research for identifying distress firms, although ensuring that the sample firms' performance decline is not just a random occurrence, inherently acts to restrict the sample size. Secondly, the number of listed firms (i.e. population size) on the Australian stock exchange is not as many as in the UK or US situation. Thirdly, performance distress is not a common 'day to day' occurrence in the normal course of a firm's life cycle. Fourthly, 'small sample size and missing data..... are common problems with research in the area of financial distress' (Routledge & Gadenne, 2000:257).

Population frame and Sampling frame

Second, it relates to the sampling frame.

The population frame consists of ASX listed firms as reported in the Aspect Huntley data base (now called Morning Star DataAnalysis data base). The Aspect Huntley data base has been used by researchers for selecting firms in business research (e.g. Yawson (2004)).

According to Zikmund (2003:373) a 'sampling frame is the list of elements from which the sample may be drawn' and that 'the sampling frame is also called the working population because it provides the list that can be worked with operationally'. In this study the sampling frame consists of ASX listed firms, over the period 1995 to 2005, which satisfy the sampling criterion (element) of having experienced three consecutive years of positive earnings before interest and tax ('EBIT') followed immediately by one year negative EBIT. Pictorially, this is represented by the '+++-' sampling element rule. The three consecutive years of

positive EBIT preceding a negative EBIT year is to minimize the chance of the negative EBIT year being a random or chance occurrence rather than the sampled firm had experienced financial stress or distress⁴⁸. Other researchers have used various sampling element of '+-', for example Yawson (2004) and '++-' Sudarsanam and Lai (2001). The '+++-' rule is considered by this researcher as more conservative to minimize a random occurrence as explained above. Where sampled firms experienced more than one series of '+++-' in EBIT between 1995 and 2005, the latter (i.e. more recent) '+++-' years were selected. The reason for this is because of the availability and currency of data for the latter years. Where a sampled firm's distress year (negative EBIT) falls on 2005, and the two subsequent years of recovery or failure extend into 2006 and 2007, the study period was extended to 2007.

The sampling period of 1995 to 2005 was chosen because the following interesting 'macro' economic events happened within a short period of time and each other. The Asian financial crisis 1997, the introduction of the Australian goods and services tax on 1 July 2000, the technology wreck (dot.com) 2002 and the US sub-prime/oil crisis 2007 all happened over this period and its proximity. Such environmental events have an impact on organizations/firms since environmental factors are important determining factors on organizational/firm performance as discussed in the literature review of Chapter 2.

The sampling period and the sample selection criterion of '+++-' inherently introduce the following limitations. Firstly, the +++- rule, although leaning towards conservatism as explained above, may not capture all distressed firms within the sampling period. They may well be captured by some other selection

⁴⁸ In a study of prediction of success or failure of Croatian firms, whereby the Republic of Croatia did not have a bankruptcy court, Lussier and Pfeifer defines failure as not having made a profit for the previous three years. Lussier, R. N. & Pfeifer, S. 2001. A cross-national prediction model for business success. *Journal of Small Business Management*, 39(3): 228-249.

rule of '+-', '++-' or '++++-' rule, to name a few examples. Secondly, using EBIT as the financial performance measure and excluding financial institutions, such as banks and insurance companies, where interest income is a major component, inevitably excludes distressed financial institutions from the study. Thirdly, the sampling period of 11 years may not be sufficient to capture all cases or causes of financial distress experienced by firms.

Despite the above limitations, the researcher believes that because of the limitations of resources and time available in a PhD thesis, the above are 'cost and benefit' compromises that are consciously taken. Further the researcher has to take note of Zikmund's comments that: 'the list that can be worked with operationally'.

Content approach

Third, this research adopts the 'content' rather than the 'process' approach to studying corporate performance turnaround. Balgobin and Pandit (2001) distinguish the two by referring to the 'content' approach as answering the 'what to do' question and the 'process' approach as the 'how to do it' question. The 'process' approach according to them would be more meaningful as it would uncover in detail the various stages in the turnaround process. Unfortunately, information on corporate distress and failures is often not readily or publicly available due to privacy and confidentiality reasons and the ability and opportunities to conduct a 'process' type of research via case study methodology are limited. Also, special permission may be required to be obtained from the subject firm in relation to publication of research results and ethical issues need to be considered. Finally, the length of time taken to conduct a case study or longitudinal study may not be feasible within the time frame and constraint of a PhD research project. It is envisaged that employees working in a firm that experiences performance decline and enacting turnaround will be in a better and more opportune position to conduct a 'process' type turnaround

research. Even in such a situation, stringent ethical and confidentiality warranties are expected to be priori conditions for such research studies.

Published data

Fourth, this study relies on publicly available ASX listed Australian companies' data. As noted by other Australian researchers (Chen et al., 2009:219) such data may not be as exhaustive in content and detail as that available in other jurisdictions, hence some variables may have been less accurately and consistently measured than desired.

This research uses the profitability measure of return on total assets based on book values. Chakravarthy (1986) argues that book value of assets can be subject to manipulation and accounting idiosyncrasies and conventions (e.g. depreciation policies). Using book values may not necessarily reflect the true worth or profitability of a firm. However, it is difficult to obtain replacement value of assets let alone the difficulty of obtaining details relating to the specific type of assets a sample firm owns. Therefore, one has to be cognitive of such limitations versus the impracticality of using replacement values.

Consideration for using share market measures of financial performance was considered but abandoned taking heed of the warning by Hambrick and D'Aveni (1988:10): 'due to their extreme volatility for troubled firms'.

Stages of maturity

Fifth, the stages of maturity of the industry that the sample firms belong to, has not been allowed for in the MRA model. Hambrick and Schecter (1983) found operating and market positions that a firm is in may influence the effectiveness of turnaround strategies. They found in matured business⁴⁹ efficiency oriented

⁴⁹ Matured business is defined as belonging to an industry that has real growth of less than 10% annually, its product is well understood by most potential buyers and competitors are well known

moves but not entrepreneurial ones are more effective in achieving performance turnaround.

Endogeneity

The last limitation relates to the potential issue of endogeneity.

It is logical to assume that managers' choice of strategy is not random but based on the expected outcome and attributes of the strategy, organizational capability and industry condition and context. In short, managerial choice of strategy and related decisions are self select and not random but rather endogenous to their expected performance implications and outcomes (Bascle, 2008:286; Hamilton & Nickerson, 2003:51; Shaver, 1998). The aim of this research is to identify successful strategies enacted by a sample of financially distressed firms to turnaround and achieve performance recovery and profitability. Failure to adjust for the problem caused by endogeneity may bias the coefficient estimates (e.g. in regression analysis) obtained from the statistical analysis in business research, for example in strategic management research.

In the main, the issue of endogeneity relates to the problem in econometric model or statistical analysis, for example in regression model, when the predictor (independent) variables are endogenous (Chenhall & Moers, 2007; Larcker & Rusticus, 2007). In short, the theoretical construct of endogeneity contradicts the economist's assumption of ceteris paribus in empirical research (Van Lent, 2007).

According to Chenhall and Moers (2007:177), although there 'is some variation in the meaning of endogenous and exogenous variables', in general the distinction between the two is based on the origin of the variables as to whether

(Hambrick, D. C. & Schechter, S. M. 1983. Turnaround strategies for mature industrial product business units. *Academy of Management Journal.*, 26(2): 231-248.)

their values are determined either 'inside' or 'outside' the structural equation. 'A variable is endogenous if its value is determined within the context of the model, while an exogenous variable is a variable that affects the values of endogenous variables, but whose values are determined outside the model' (Chenhall & Moers, 2007:177). Endogenous variables are sometimes referred to as dependent variables and exogenous variables, variously, as independent or explanatory or predictor variables.

The aim of theoretical quantitative research 'is to test a causal relationship between explained and explanatory variables'(Chenhall & Moers, 2007:180). How well the regression model predicts that relationship depends on the value of the resultant co-efficients being unbiased and not inconsistent, 'and the residuals are interpreted as summing up the causal variables not included in the model' (Chenhall & Moers, 2007:180).

On a practical level, endogeneity can arise because of omitted variables, result of measurement errors, simultaneity, sample selection errors and autoregression with autocorrelated errors (in time series data). In essence, endogeneity occurs when the exogenous variable in a model is correlated with the residual/error term. It also will arise, in the case of simultaneous causality when the causality runs in both directions, that is if there is a loop causality effect between the exogenous and endogenous variables in a model (Bascle, 2008:291). In all the above cases, endogeneity will result in biased and inconsistent estimators (beta coefficients) within structural equations used to test theoretical propositions and hypotheses. This will lead to diminished confidence in research inferences and resultant conclusions (Chenhall & Moers, 2007; Hamilton & Nickerson, 2003).

In this research of more relevance are the problems of omitted variables, possible measurement errors and sample selection errors and simultaneity

(reverse causality). Autoregression with autocorrelated errors are not of concern as the sample data are not time series data.

Omitted variables

The selection of variables to include in the MR test model and their relationships are based on theoretical guidance, justification and past research as discussed in Chapter two and three. Despite this there will be variables that are considered secondary, but may be important, to the research question and objective, which may add predictive power to the model. These omitted variables (represented summarily by the residual/error term) may be variables whose values are not easily measured or whose data is not easily available. Of concern, is that an endogenous variable modelled as such is in fact also endogenous because of omitted variables (Chenhall & Moers, 2007). Practical guideline constraints in MR model in regard to the minimum number of cases to exogenous (independent) variables and (small) sample size (of 88) also adds to the risk of omitted variables that may be relevant. Of concern is that the omitted variable may have a causality effect with any of the exogenous variable. One such example is that the difficult to measure CEO strong personality may have a causal effect on BOD size. The DIVESTITURES and NEW BUSINESS variables in the MR model may be affected by the firm management's cultural outlook on risk—as risk averters or takers. Also firms in the same industry may influence the strategy of each other with the less successful ones aping the strategy or actions of industry leaders.

Measurement errors

This research uses published data from ASX listed firms. Despite due care being exercised in the formulation of financial ratios to measure certain constructs backed by theoretical justification and literature review, the choice of data to use is constrained by their continuity and availability in published

financial reports. For example, the INDUSTRY control variable in the MR model uses ASX GICS sector categorisation of industry. This relies on correct and accurate reporting not to mention the broad industry inclusion of the GISC classification system.

Sample selection error

This is discussed in the 'Sampling Frame paragraph', above.

Simultaneity

The endogenous variable in the MR model is ROTA, a profitability construct. There could be potential loop causality between this variable with some of the right-hand side endogenous variables. For example, NEW BUSINESS and DIVESTITURES also can arguably be dependent on the availability of firm profits to finance them.

The two common text book econometric solutions to correct for the endogeneity problem are the instrumental variable ('IV') estimation and the two stage Heckman correction (Bascle, 2008; Hamilton & Nickerson, 2003; Heckman, 1979). The IV method essentially involves using a proxy (instrumental variable) that is not 'endogenous' in that it is highly correlated with the explanatory (exogenous) variable but *uncorrelated* with the omitted variables (structural error term) (Chenhall & Moers, 2007; Van Lent, 2007). The IV estimations are the most common way to deal with potential measurement error and when the underlying model is linear (Bascle, 2008; Schennach, 2007:202). The choice of the instrumental variable is dependent on the researcher's theoretical justification and judgment. There are a few IV methods but the most common is the two-stage least squares estimation ('2SLS'). The first stage is called the 'reduced form equation' with the objective of isolating the variation in the endogenous variable, say X_i that is not correlated with the error term, say μ_i . The

resulting fitted value of X_i , say \hat{X}_i , is then used in the second stage that is the structural equation, instead of the structural exogenous variable X_i . In the second stage, the endogenous variable, say Y_i of the structural equation, is regressed on the exogenous variables and the resulting predicted values of \hat{X}_i (Bascle, 2008). There must be 'at least as many instruments as endogenous regressors' (Bascle, 2008:294). The resulting coefficients, say $\beta_1 \dots \beta_n$ are the 2SLS estimators. According to Chenhall and Moers (2007:187) the IV estimator is 'consistent' but generally never 'unbiased'. There are a few statistical tests to check the instruments' strength, which is whether the instruments are 'strong, weak or irrelevant' fit (in terms of correlation) between the endogenous regressor and the instruments.⁵⁰

The Heckman correction is a two-step procedure which uses two equations to address the endogeneity problem. The first step known as the 'selection equation' is using a probit model to compute the correction factor called the 'inverse Mills ratio'. The second called the 'outcome equation' is to use this ratio as a correction factor (an additional explanatory variable) in the regression of interest (e.g. the MR operational model), in order to obtain unbiased estimators and evidence and significance of self-selection bias (Bascle, 2008:292). Bascle (2008:292) is of the opinion that the Heckman correction pertains better to the problem of omitted variables bias whilst the IV method for other types of endogeneity.

In addition to the two methods discussed above, the Hausman test is commonly used to check for the endogeneity of a variable. In the main, it compares the IV estimates to the ordinary least square ('OLS') estimates. If the two are substantially different and significant, then there may be an endogeneity problem. However, the test does not directly deal with the possible correlation between the exogenous (explanatory) variable and the residuals. It only

⁵⁰ See Bascle, G. 2008. Controlling for endogeneity with instrumental variables in strategic management. *Strategic Organization*, 6: 285-327. for a discussion of some of the available tests.

indicates that endogeneity is only one of the many possibilities that the test will reject the null hypothesis.

Endogeneity is a theoretical concept in relation to finite sample. The current text book solutions as discussed above are based on a certain specifications and the subjective judgment of the researcher. The Heckman two stage correction is dependent on meeting the assumption that the error terms have a bivariate normal distribution in the selection equation and the outcome equation in order for the estimates to be stable and unbiased (Bascle, 2008:292; Heckman, 1979). It is not advisable to use on small sample size of less than 200 because it is unstable (Bascle, 2008:293). Although the IV method offers more flexibility, the choice of the proxy variable (IV) depends on the subjective judgment of the researcher or analyst.

Chenhall and Moers (2007:174) argue that 'there is not a single empirical paper that does not have endogeneity issues', and that 'the potential for endogeneity exists in virtually all studies involving accounting, finance and economic variables' (Chenhall & Moers, 2007:177). Despite this, there is little attention given in strategic management research to the endogeneity issue even though corrective implementable econometric techniques have been available for quite awhile now. Hamilton and Nickerson (2003:53) found that out of 426 empirical papers (from a total of 601 papers) published in the Strategic Management Journal between January 1990 and December 2001, only 27 of them econometrically correct for potential endogeneity concerns. More specifically, a total of 169 of the 196 performance related papers, that is 86%, do not control for endogeneity. To the best of this researcher's knowledge few turnaround and related research papers correct for potential endogeneity problem also. Of those which do, they are generally more current research studies (e.g. Morrow, Sirmon, Hitt, & Holcomb, 2007). In the Morrow et al.,(2007) study they use the more appealing Heckman correction but no mention of whether the underlying bivariate normal distribution requirement regarding the error terms as discussed above is satisfied.

In this thesis, the researcher did not correct for potential endogeneity problems. Van Lent (2007:198) believes that 'in practice there is little that can be done about endogeneity'. This is because in empirical research, valid instrumental variables are difficult, if not impossible, to obtain (Chenhall & Moers, 2007; Ittner & Larcker, 2001; Larcker, 2003). Although Hamilton and Nickerson (2003:67) draw attention to the endogeneity problem in strategic management research and suggests ways to address the problem, they also warn that 'it is difficult in many strategy data sets to find instrumental variables that affect strategy choice but not performance'. According to them in the absence of suitable IVs, 'the best the researcher may be able to do is to account for as much of the observable differences between firms adopting' different strategies and at the same time 'should acknowledge the potential for bias induced by unobserved factors' (Hamilton & Nickerson, 2003:67,68). Van Lent (2007:199) further opines that although endogeneity is a concern in empirical research, essentially it is 'an econometric definition of the problem'. This is because, although most econometric textbooks define endogeneity as non-zero correlation between the exogenous variable and the structural error term and bring to attention the non fulfilment of the orthogonality condition⁵¹, knowing such bias exists still does not answer the question of 'what is the source of the bias, what is the substantive meaning of the correlation between the error term and the independent variables, and when is it innocuous to assume orthogonality?' (Van Lent, 2007:199). Also as discussed above, selection of IVs is based on the judgment of the researcher who can never be absolutely sure that they have no causality with the residuals, especially in finite sample. The Heckman correction is sensitive to bivariate distributional specifications of the residuals, which may not always be the case. Further, the Heckman correction is unstable for small

⁵¹ The orthogonality condition, also known as the exogeneity condition, implies that the instruments has a zero correlation with the structural error term. Bascle, G. 2008. Controlling for endogeneity with instrumental variables in strategic management. *Strategic Organization*, 6: 285-327.

sample size, less than 200. By not adjusting for potential endogeneity issue the results of this research should facilitate comparison with the majority of the extant turnaround research, which did not address this issue. The influence of endogeneity will be an interesting topic for further research.

6.11 Future research directions

This research is about how firms listed on the ASX respond to financial performance decline. Although there is no reason why findings of how publicly listed firms' response to performance decline could not be translated directly to the private company domain, there could well be contextual, corporate governance or 'externalities' differences. Listed firms are 'reporting entities' under the *Corporations Act* and are subject to more stringent disclosure requirement and public scrutiny. Hence, their response to performance decline may well be different to that of private firms, for example, in terms of strategy choice and behavioural factors. The researcher is well aware of the difficulty of obtaining data relating to performance decline of private firms due to confidentiality reasons. However, it is envisaged that this can be overcome with a stringent confidentiality and disclosure agreement between the researcher and the subject organisation. The hypotheses of this research could be replicated in a private company corporate performance turnaround study.

One of the reasons for the plurality of empirical results to date is the lack of standardisation in regards to the measurement of constructs in corporate turnaround research. For example, the proxy variables for measuring the profitability construct include return on investments, net profit after tax, return on equity, EBIT and return on assets, to name a few. Unless measurement and definitions of construct are standardised, this will be a perpetual problem. It is therefore recommended that definitions for measuring decline, recovery and predictor variables be agreed upon. This can be standardisation of constructs

and their corresponding measurement method for each type of industry—for example, service, manufacturing, construction, property, utilities, mining, to name a few. This will help reduce the plurality of corporate performance turnaround results and make comparison of results more meaningful and easier.

As mentioned in Chapter 1, there is little Australian corporate turnaround research. Most of the Australian corporate turnaround studies to date deal with the commercial/private non-public government sector. As the public government sector has different governance and compliance regimes and as organisational performance decline is not the sole domain of private/commercial institutions, it would be interesting to extend the turnaround research to such organisations. Examples of such organisations are local council, hospitals, universities and non-profit organisations.

Corporate performance turnaround (CPT) research is a wide topic involving a host of disciplines like economics, management study, strategic management, accounting, organisational ecology, behavioural organisational study and financial management study. As there is a paucity of turnaround research using Australian source data, most of the predictor variables identified by extant turnaround literature review in Chapter 2 can provide 'rich pickings' for Australian researchers to test them in the Australian context. For example, future research can examine the effect of Australian board characteristics and structure (outside/independent versus inside/executive directors, predominance of certain professions, e.g. finance versus non-finance) on the likelihood of performance turnaround, thus validating the resource dependency perspective relating to BOD. Similarly, are there any significant differences in the board characteristics between recovered and non-recovered Australian firms? Are dividend policies of Australian firms in the turnaround context strategically motivated to assist the turnaround process? These are some of the 'offshoot' questions and topics emanating from the wide topic of CPT.

The resource industry is a major contributor to the Australian economy. As it is an important sector of the economy, volatility in earnings and performance decline will have great impact on the Australian economy and general employment. A recommended area of future turnaround research is to compare turnaround strategies enacted by distressed mining firms with that of other industry (e.g. manufacturing) to ascertain the relative effectiveness of operational, strategic and financial turnaround strategies. Do industry factors in Australia matter in turnaround?

Following on from the above paragraph, it is noted that this research has examined the various type of turnaround strategies of operational, strategic and financial ones identified by extant literature. Cognizant of environmental factors (e.g. industry and economy effect) affecting performance turnaround as identified by extant literature, although test results to date are not unequivocal, this research has attempted to control such factors by using the broad industry and economy indicators. The use of the two digit industry ASX GICS classification and the movement in GDP may be 'too broad' and insensitive to achieve the stated objective. This may explain why this research did not find significant influence for these environmental variables. It is envisaged that future research should consider using other more 'micro' environmental proxies.

Comparative studies of different countries incorporating cultural aspects of turnaround should provide fertile grounds for future research. For example, the question of whether results of Anglo-American turnaround research are directly applicable and transferable to the Asian context is questionable. Asian firms are often controlled by extended family members. The ability to turnover a CEO, TMT or board member may be restricted by cultural factors. Exploring the cultural aspects of corporate distress and turnaround should provide 'fertile grounds and rich pickings' for future research. Turnaround research in the Asian context has in recent years gathered momentum (e.g. Ahlstrom & Bruton, 2004; Sim, 2009; Tan & See, 2004). Comparative turnaround research of firms in

different countries—for example, Fisher, Lee and Johns (2004)—will enrich turnaround theory and practice, especially in this globalised cross cultural world and cross boundary economy. Australian researchers should take heed and advantage of this area of growing interest especially when Australia's trading partners are increasingly from the growing Asian economies (Hofstede & Bond, 1988). The use of Hofstede's (1980) cultural theory in turnaround research is interesting and should provide fertile grounds for future comparative cross cultural turnaround research .

Comparative studies of turnaround of Australian small businesses versus turnaround in big Australian firms can provide fertile research for future studies. Rasheed (2005) and Chowdhury and Lang (1996) found US small businesses respond differently to big businesses in performance turnarounds.

The recent global financial crisis saw government around the world institute and implement fiscal stimulus to 'refire' the economy, with the objective of avoiding a recession with dire consequences on firm failure rates and general employment. Future research can examine the effect of the role and effect of government and government instrumentalities on firm performance turnarounds.

6.12 Conclusion

The summary of findings, their relevance to practitioners and theoretical contributions, limitations and directions for future performance research have been discussed in the preceding sections.

In conclusion, it is hoped that this research does *more* than what the French novelist, Marcel Proust (1871-1922) says:

'The real act of discovery consists not in finding new lands but in seeing with new eyes'

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