Acquisition process factors that influence the performance of Australian publicly listed acquirers

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Declaration

I certify that this thesis is my own original work. It does not contain any material previously published or written by another person where due reference is not made in the text.

Sorin Ovidiu Daniliuc
I am grateful to many people for assistance with finishing this thesis. It certainly was not easy to combine theoretical insights and empirical evidence in the work, and there are numerous contributors to whom I am indebted for assistance in this regard.

I would like to express my gratitude to my supervisory panel for their assistance and patience with respect to the preparation of this thesis. In particular, I am deeply indebted to Dr. Greg Shailer and Dr. Chris Bilson for their advice and direction. Proofreading assistance was provided by professional editor Dr. Myra Whitney and Dr. Gail Craswell.

I also thank my parents, brother and sister-in-law for their encouragement and support for my studies. I am also grateful for the friendship of Ms. Yovina Sontani, who has warmly encouraged during the tough times. Overall, I would like to thank all my friends for their support and understanding.
Abstract

This thesis reports a study of mergers and acquisitions (M&A) of publicly listed companies in Australia over the period 1992 to 2001. The focus of the research is the identification of the key factors that define preconditions and pathways of M&As and affect the post-acquisition performance of the combined entity.

The theoretical framework used portrays the M&A process as a means of achieving shareholder objectives and managerial personal objectives. The M&A phases (pre-deal, selection of the target, method of payment and post-acquisition management) were placed in an agency context. The theoretical framework also considers the interactions between phases and their moderated influence on performance.

Propositions were developed to predict direct and moderated relationships between the various factors identified in the process phases and post-acquisition performance, measured as accounting and market returns, adjusted for prior performance and post-acquisition industry performance and combined size. The propositions were tested using a sequence of univariate and multiple regressions and contingency analyses.

The results of the regression analyses showed that adjusted long-term post-acquisition performance is influenced by board size, the timing of the acquisition in relation to the merger wave, industry relatedness between acquirer and target, relative size and method of payment. The size of the board of directors was found to have a non-linear relationship with post-acquisition adjusted returns on assets but no significant relationship with the adjusted market returns. The timing of the acquisition in relation to the merger wave had a negative relationship only with the post-acquisition market returns. Unrelated acquisitions performed worse than related acquisitions in terms of adjusted returns on assets. Relative size and the percentage of cash used to pay for the acquisition presented positive relationships with performance regardless of which performance measure was used.
The results of the contingency analyses supported the existence of a combined influence on post-acquisition accounting performance for: blockholder ownership and relatedness; ownership structure, financial leverage or free cash flow and method of payment; relative size or relatedness and method of payment; ownership structure, relative size and method of payment; method of payment and integration level; and relatedness, method of payment and integration level. The significant combined influences on post-acquisition market performance were found to be: free cash flow and method of payment; blockholder ownership, relative size and method of payment; method of payment and integration level; and relatedness, method of payment and integration level.

In conclusion, the results showed that the phases of the acquisition process influenced the performance both directly and in combination. The weak results for the market performance measure suggest that the market may predict some of the effects and most probably includes them in the assessment of the value of the acquirer before the execution of the deal.

The identification of process factors that may influence the performance of M&As helps acquiring firms make decisions on the management of the acquisition process. The results of this research will allow practitioners to assess the impact of the process factors on long-term acquisition performance and to avoid some of the less successful acquisition strategies. Further research could usefully consider the moderating influences of M&A process phases on post-acquisition performance, thus developing the framework used in this thesis.
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Chapter 1. Introduction

This thesis investigates the extent to which process factors influenced the post-acquisition performance of Australian publicly listed mergers and acquisitions during the period from 1992 to 2001. The acquisition process is considered here in terms of four distinct phases and their direct and moderated influence on post-acquisition performance is scrutinised. Two measures of post-acquisition performance are used: accounting returns on assets and market returns, both of which are adjusted for prior performance, industry performance and size.

This chapter introduces the study by analysing the context of the study and the limitations of the previous research in this context. The research question is formulated along with the research objectives and intended contributions. Based on those, the theoretical framework is developed and the methods used are briefly explained. The chapter concludes with a description of the structure of this thesis.

1.1. Mergers and acquisitions

Mergers and acquisitions (M&As) have been a part of the operational strategies of many organisations and have proven to be a significant and popular means of achieving corporate diversity, growth and rationalisation (Cartwright & Cooper 1992; Williamson 1996; Cartwright & Schoenberg 2006). Acquisitions can be used to penetrate new markets and geographic regions, and gain tangible resources, technical or management expertise and knowledge. They also present the possibility of investing disposable financial resources in promising industries and companies (Bower 2001; Hitt, Harrison & Ireland 2001). Mergers and acquisitions mirror the rationales of multiple groups of corporate stakeholders—for example, management, shareholders and institutions providing M&A-related financial and other professional services as well as lawyers and courts of justice (Parvinen 2003).

The importance of acquisition activities for today’s business environment may be seen in their volume and dynamics. According to Thomson Financial Securities data,
34,494 M&A deals were performed in the United States (US) and 12,729 deals in Europe during the period 1983-1989.\textsuperscript{1} By contrast, there were 119,035 and 116,925 such transactions in the US and Europe respectively from 1995 to 2000. The levels are also impressive in monetary terms. For example, the value of M&As in the US and Europe from 1983 to 1989 totalled $US5 trillion while the combined total of the M&As from 1995 to 2000 was almost $US20 trillion. Worldwide in 2000, the value of M&As was approximately $US3.3 trillion. While M&A activity declined worldwide in 2001 and 2002, it increased again, with 2005 having the highest volume of deals since 2000. In this year, almost $US2.7 trillion was spent on 32,568 deals.

According to Thomson Financial, there were 1,857 announced M&As valued at $US55.2 billion involving either an Australian target or acquirer or Australian ultimate parent target or acquirer in 2005 (the total market capitalisation of Australian public listed companies in December 2005 was $US804.2 billion).\textsuperscript{2} This represented a drop of 30.6 per cent from the $US79.6 billion worth of announced deals in 2004 (the total market capitalisation of Australian public listed companies in December 2004 was $US708.6 billion). However, the number of transactions rose 0.4 per cent compared to the 1,849 deal tally of 2004. In terms of completed deals, 1,283 transactions valued at $US55.2 billion were executed, compared to 1,266 deals worth of $US72.4 billion in 2004. Even though the current figures show a slight decline in M&As, the values and the number of the deals indicate the significance of this activity.

1.2. Previous research on mergers and acquisitions

Research on M&As has received increased attention in the last three decades. This has been encouraged by the development of a number of interesting academic and theoretical research avenues. This development has primarily been in terms of the financial, strategic, behavioural, operational and cross-cultural aspects of M&As (Cartwright & Schoenberg 2006). Much of this research seeks to understand whether M&As are economically successful by examining post-acquisition performance (e.g.

\textsuperscript{1} The data are extracted from the Thomson Financial reviews and press releases available at http://www.thomson.com/financial/investbank/fi_investbank_league_tablearchive_mergers.jsp (Last accessed on 20 September 2006).

\textsuperscript{2} Total market capitalisation for ASX firms is available from the Reserve Bank of Australia’s website at http://www.rba.gov.au/Statistics/AlphaListing/alpha_listing_s.html (Last accessed on 20 April 2007). (see “Share Market” worksheet F07hist.xls). The exchange rate AUD/USD is also available from this website (see “Exchange Rates” worksheet F11hist.xls): 0.7790 for 2004 and 0.7337 for 2005.
Bradley, Desai & Kim 1988; Ravenscraft & Scherer 1988; Martin & McConnell 1991;
Chatterjee 1992; Datta, Pinches & Narayanan 1992; Cannella & Hambrick 1993;
Cartwright & Cooper 1993; Loughran & Vijh 1997; Peltier 2004; Gregory 2005;
Moeller, Schlingemann & Stulz 2005; Rosen 2006; Sudarsanam & Mahate 2006).\(^3\)

1.2.1. Post-acquisition performance

The performance of a company and its investment projects may be considered in
relation to the goals or expectations of its stakeholders. Shareholders expect the
company to generate a return on investment; managers expect it to be a vehicle for the
fulfilment of their personal objectives; employees expect compensation for their efforts;
suppliers expect a good collaboration with their customer; customers expect the
business to be a good supplier; and governments expect the company to make a positive
contribution to the quality of life.

Despite these differing viewpoints, many economists and business academics
subscribe to the view that the primary goal of a company is to maximise returns to the
owners. From an economic point of view, performance is about meeting the
requirements of the entrepreneurs or shareholders, who have ownership rights to a share
of the value created by the company (Scouller 2001). Using this criterion, an acquisition
is successful if it increases the wealth of the companies’ owners (Agrawal & Jaffe 2000;
Cartwright & Schoenberg 2006).

Four research methods have generally been used to measure the success of
M&As. These are based on, respectively, accounting performance (e.g. Ravenscraft &
Scherer 1987; Peltier 2004), stock market returns (e.g. Moeller, Schlingemann & Stulz
2005), case studies (e.g. Lys & Vincent 1995; Kaplan, Mitchell & Wruck 1997) and
survey data (e.g. Larsson & Finkelstein 1999; Saxton & Dollinger 2004). Table 1.1
shows the strengths and weaknesses of these methods as identified by Cording,
Christmann and Bourgeois (2002). The first two methods are the most common and
they are discussed over the next few paragraphs.

Accounting studies concentrate on the efficiency aspects by comparing the ratios
of profits or sales and other indicators pre- and post-acquisition. The major problems
identified with this approach are that the accounting data can be easily manipulated by

\(^3\) For a review of Australian research on mergers and acquisitions, see Da Silva Rosa and Walter (2004).
The paper surveys the Australian literature since the 1980s and suggests directions for future research in
the Australian context.
the firm, the data are often not adjusted for a firm’s risk and are difficult to interpret when companies participate in various industries (Chakravarthy 1986; Rappaport 1986; Ramanujam & Varadarajan 1989; Datta, Rajagopalan & Rasheed 1991; Hoskisson et al. 1993).

The studies using accounting measures do not reveal a consensual view on the effect of acquisitions. Generally, studies showing losses employ earnings based measures while studies showing gains use cash flow based performance measures. With the exception of Ravenscraft and Scherer (1987), none of the studies employed cash and earnings based performance measures together. It is possible that the results observed are an artefact of the measurement of operating performance. This may be so because the accounting method adopted for merger related transactions could influence earnings.4

Table 1.1 Methods for measuring mergers and acquisitions success

<table>
<thead>
<tr>
<th>Method</th>
<th>Accounting performance</th>
<th>Stock market returns</th>
<th>Case studies</th>
<th>Survey data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic approach</td>
<td>Return on equity (ROE), return on sales (ROS) and return of assets (ROA) over a multi-year period used to measure improvements in financial performance.</td>
<td>Capital Asset Pricing Model (CAPM) used to calculate “abnormal returns” after the acquisition announcement.</td>
<td>In-depth analysis of a few acquisitive firms to determine if acquisition objectives are met.</td>
<td>Managers involved in M&amp;A are asked to rate the success of the acquisition.</td>
</tr>
<tr>
<td>Strengths</td>
<td>Permits a multi-year perspective reflecting the belief that it may take several years before acquisition benefits are realised; Data publicly available; Large sample size.</td>
<td>Efficient market hypothesis; Unbiased rational expectations of future cash flows; Unrelated factors eliminated; Data publicly available; Large sample size.</td>
<td>A robust and fine-grained understanding of the drivers of M&amp;A success or failure.</td>
<td>Recognises the complexity and multidimensional nature of measuring M&amp;A success.</td>
</tr>
<tr>
<td>Weaknesses</td>
<td>Reflects the past, not the future; No adjustment for changing risk profiles; Factors other than the M&amp;A may be driving the numbers.</td>
<td>Assumption that market participants are able to quickly and accurately calculate the cash flow impact of acquisitions.</td>
<td>Small number of cases; Inability to generalise to other situations; Possible researcher bias.</td>
<td>Self-reporting biases.</td>
</tr>
</tbody>
</table>

Source: Adapted from Cording, Christmann and Bourgeois (2002).

4 The choice between the purchase and pooling methods of accounting for acquisitions may affect asset values and reported income (Copeland & Woidak 1969; Anderson & Louderback 1975). However, Australian takeover legislation does not provide a choice between these two accounting methods, favouring only the purchase method (Dunstan, Percy & Walker 1993; Australian Accounting Standards Board 2004), so in this case it is not necessary to study earnings and cash based performance measures together.
Market based performance measures are not subject to the biases of accounting based measures but have to be interpreted in the light of the assumptions of the underlying capital market model (Lang & Stulz 1994). The researchers using market based performance measures view the announcement of an acquisition as an event and evaluate the stock prices over a period of time to determine the performance of the acquisition. Most of these researchers use stock prices data mainly from the announcement period to ensure that non-M&A related factors are not influencing the stock behaviour (Dodd & Ruback 1977; Kummer & Hoffmeister 1978; Dodd 1980; Asquith 1983; Bradley, Desai & Kim 1983; Jensen & Ruback 1983; Malatesta 1983). They maintain that, because of the efficient market hypothesis, it is not necessary to look at the long-term market returns. The results of short-term price reaction studies are interpreted as information about market expectations regarding the long-term impact of the M&A transaction. However, several recent long-term event studies measuring negative abnormal returns over the three to five years following merger cast doubt on the interpretation of the findings from traditional short window event studies. Long-term event studies show that investors systematically fail to assess the true impact of corporate announcements. Examination of the long-term share price effects of M&As is therefore necessary to determine if the gains from M&As are permanent (Franks, Harris & Timan 1991; Agrawal, Jaffe & Maldelker 1992; Madura & Wiant 1994; Loughran & Vijn 1997; Rau & Vermaelen 1998; Mitchell & Stafford 2000; Gregory 2005; Rosen 2006; Sudarsanam & Mahate 2006).

The results of market based and accounting based studies are not always consistent. The weak relation between stock returns and operating performance subsequent to acquisitions may be explained by the fact that investors systematically develop erroneous expectations of future performance (Heron & Lie 2002). For example, the stock return patterns may reflect investor perceptions of future growth opportunities rather than changes in short-term operating performance.

While multiple measures have been encouraged (e.g. Lubatkin 1983; Hoskisson & Hitt 1990; Hoskisson et al. 1993) to understand the differences in accounting and stock market measures, the majority of studies focused on only one type of performance.

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5 For a literature review that discusses long-term event studies, see Andrade, Mitchell and Stafford (2001).
6 Fryxell and Barton (1990) presented an empirical analysis of the extent to which the measurement structure of accounting and market-based indicators converges on a financial performance construct by time period and by diversification strategy. The relationship of these two types of financial performance measures changes in periods of stability versus instability and for related diversifiers versus unrelated diversifiers.
measure. Given that different performance measures have resulted in different findings, the apparent efficacy of a corporate acquisition is, at least partially, a function of how its performance was calculated (Cording, Christmann & Bourgeois 2002). However, many of the measures that were employed in the analysis of M&A success indicated that M&A activity was unsuccessful (Lajoux 1998; Habeck, Kröger & Träm 2000; Selden & Colvin 2003). A comprehensive review of the M&A literature performed by Agrawal and Jaffe (2000) suggests that, in aggregate, the abnormal returns accruing to acquiring firms in the years following an acquisition are negative or, at best, not statistically different from zero. Tichy (2001) concluded that the results of operating performance studies also suggest that acquisitions are not increasing the performance on average.

1.2.2. Influences on post-acquisition performance

Notwithstanding the aggregate performance implications of M&A activity, it is important that academics understand the factors explaining the performance in order to offer suggestions on how to improve the outcome. The studies reviewed by Agrawal and Jaffe (2000) and Tichy (2001) highlight the wide variation in acquisition performance at the firm level. The desire to understand the antecedents of this variance lies at the heart of much M&A research (Cartwright & Schoenberg 2006). Several approaches, rooted in different research streams, have been used in recent years (Zollo & Singh 2004). These research approaches can be classified according to two major schools of thought regarding the performance of M&A: the context school and the process school (Reus 2004).

1.2.2.1. The context school of M&A research

The context school is concerned with the link between performance and the strategic attributes of the combining firms. It is based on the argument that critical strategic contingencies that characterise acquisitions determine the success of newly combined firms (Lubatkin 1983).

Studies in the context school have examined acquisition performance variance explained by contingencies, in particular, the “strategic fit” between combining firms and the prior performance and experience of acquiring firms (e.g. Levine & Aaronovitch 1981; Lubatkin 1983). Jemison and Sitkin (1986, p. 146) defined ‘strategic fit’ as the degree to which the target firm complements the acquirer’s strategy and thus
makes identifiable contributions to the goals of the acquirer. Strategic fit between two firms exists when their businesses have sufficiently related value chains that permit transferring skills and expertise from one business to another and/or combining related activities so as to reduce costs. However, organisation theorists such as Jemison and Sitkin (1986) also argue that an exclusive focus on strategic fit will not provide a suitable account of the success of an acquisition. Rather, managers are advised to include organisational dimensions in the determination of the success potential of an acquisition. In this context, organisational notions are put forward. One example is "organisational fit", which refers to the match between administrative practices, cultural practices and the personnel characteristics of the target and acquirer (Jemison & Sitkin 1986). Organisational fit is considered an important factor for post-acquisition performance by a large number of researchers (e.g. Leighton & Tod 1969; Marks 1982; Sales & Mirvis 1984; Buono & Bowditch 1989; Datta 1991). Jemison and Sitkin (1986) concluded that it is useful to consider acquisitions in terms of both their strategic and organisational fit, which generally do not overlap. The organisational complexity of an acquisition can be quite different from the strategic considerations. Nevertheless, the findings of the context school are mixed and provide no clear and comprehensive evidence of the drivers of post-acquisition performance (Seth 1990; King et al. 2004).

1.2.2.2. The process school of M&A research

As a result of the mixed conclusions from the context school, researchers have focused on dimensions that characterise the process of acquisition implementation. Since the initial proposal by Kitching (1967) that the post-acquisition integration process is one of the most important factors for success, it was identified that value creation from acquisitions is gained from not only the strategic factors that determine the potential for synergies as reflected in capital market expectations at the announcement (Seth 1990; Chatterjee 1992) but also the processes that lead to the realisation of anticipated synergistic benefits (Datta 1991). Some researchers even consider the integration aspect of the process as the most important element of market based post-acquisition performance (e.g. Marks 1982; Shrivastava 1986; Haspeslagh & Jemison 1987, 1991).7

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7 Performance expectations that rely on characteristics of the two firms which are known and quantifiable during pre-acquisition are likely to be included in the price, thereby reducing their subsequent impact on the value generated for the acquirer. One possible source of value creation which is likely to be less
As a consequence, researchers have attempted to explain poor performance by a failure to adequately manage the entire acquisition process, from deciding on the need for acquisition to integrating the acquired businesses (Jemison & Sitkin 1986; Cartwright & Schoenberg 2006). Acquiring companies face a multiplicity of interdependent tasks throughout the acquisition process. These range from the assessment of strategic (Rumelt 1974; Singh & Montgomery 1987; Porter 1987) and organisational (Datta 1991; Haspeslagh & Jemison 1991) fits among the two firms to the technical and psychological hazards of the evaluation and negotiation processes (Mirvis 1985; Dierickx & Koza 1991; Haunschild 1994) to the complexities of planning, coordinating and executing the post-acquisition integration process (Jemison & Sitkin 1986; Shanley 1994).

The process school combines elements of the strategic and organisational behavioural perspectives that frame acquisitions as a series of linked phases, each of which has an impact on the subsequent phases and on the final outcome of the M&A. Studying the acquisition process empirically is overwhelmingly complex and is restricted by a lack of available data at the process level that contains a sufficiently large number of observations. Research on the process of managing acquisitions is still exploratory, and theoretical and empirical regularities are still being established (Zollo & Singh 2004).

Sensitive to this argument is the degree to which the acquirer has the capability to manage the post-acquisition process effectively. The reason for this is the difficulty for the target and the market to identify the existence of this capability, articulate its characteristics and assess the potential impact on the performance (Zollo & Leshchinsky 2000; Zollo & Singh 2004). A crude distinction has been made between pre-acquisition and post-acquisition phases (Jemison & Sitkin 1986). These two parts of the process are based on two different approaches to generating economic rents in strategy theory (Makadok 2001): resource picking, and resource deployment and development. The first, resource picking, involves identifying and securing the critical assets necessary for success in a given market. Acquisitions are undertaken to secure desired resources by picking external bundles of assets in the form of the target firm. This perspective is most consistent with the resource-based view of the firm, in which resources that are rare, valuable and cannot be easily imitated or substituted are desirable for establishing a sustainable competitive advantage (Penrose 1959; Wernerfelt 1984; Barney 1986a; Conner 1991). Also consistent with this perspective, firms may identify and acquire assets (firms) that are undervalued by the market prior to the transaction (Barney 1988). Benefits can accrue when a firm acquires a company with desirable characteristics, such as undervalued assets, or one that is being mismanaged by the existing owners and management (Kitching 1967; Ramanujam & Varadarajan 1989; Hunt 1990). The second source of value, resource deployment and development, is based on deploying the resources that the firm has acquired. The benefits in this case come from the combination of resources between acquirer and target and emphasise the importance of post-acquisition decision making processes and smooth integration of the acquired company (Jemison & Sitkin 1986; Schweiger & DeNisi 1991). The focus is primarily on the challenge of post-acquisition management and on building internal firm processes that allow a firm to better exploit the acquired resources (Mahoney & Pandian 1992; Amit & Schoemaker 1993; Teece, Pisano & Shuen 1997). Both strategy and organisational behaviour scholars highlight that inappropriate decision making, negotiation and integration processes can lead to inferior acquisition outcomes (Cartwright & Schoenberg 2006).
1.3. Research question and contributions

The focus of the present research is the identification of the key factors in the acquisition process that define the preconditions and pathways of M&As and affect the post-acquisition performance of the combined entity in the Australian context. The research question investigated throughout this thesis can be formulated as follows:

What are the performance implications of the acquisition process phases in Australian publicly listed M&As?

The ability to predict post-acquisition performance and the factors influencing it is limited. Researchers addressing M&A topics offer various and sometimes contradicting perspectives (Haspeslagh & Jemison 1991). Multiple evaluation criteria have been adopted and numerous factors apparently influencing the success of an acquisition have been identified and tested ad-hoc. Thus, the basis for M&A process research should be expanded. This thesis integrates common elements from prior work in a comprehensive theoretical framework which is then systematically tested.

1.3.1. Previous research limitations

Most studies have sought evidence regarding a part of the acquisition process, such as the motives or objectives of acquisition, method of payment, post-acquisition integration and the effect on post-acquisition performance.9 Researchers have attempted to identify crucial variables that may be related to the disappointing results of acquisitions, but they have used mainly unidimensional frameworks (Kim 1998 constitutes an exception.) This earlier research described in section 1.2.2 provides an extensive body of knowledge and descriptive theories on how some factors may interact and influence performance. However, without integrating these numerous elements, increasingly detailed research becomes less straightforward and manageable (Cooper 2001; Schoemaker 2001). Research on post-acquisition performance must consider multiple variables and more complex relationships (Hoskisson & Hitt 1990; King et al. 2004). Although previous research has identified many factors that influence post-

acquisition performance, the models used have not controlled for different characteristics of the transaction and the companies involved. Mediated and moderated relationships have been largely unexplored in post-acquisition performance research.

A limitation of the previous research comes from the lack of research on M&A process in an Australian context. Differences in the business environment, regulation culture and firm characteristics between Australia and the US, where the largest part of this research stream has been conducted, may produce particular effects for the firms involved.

Another limitation in the extant research concerns the measurement of the dependent variable of performance. As discussed in section 1.2.1, while multiple measures have been encouraged, the majority of studies have focused on either stock market or accounting measures. Given the ambiguities and difficulties in accurately assessing the impact of acquisitions on these different measures of performance, both measures need to be used and compared.

1.3.2. Objectives of this study

The motivation of this research is the need for a better understanding of the acquisition process and its influence on post-acquisition performance. A thorough understanding of the acquisition process from the acquirer's perspective could be achieved by considering the connections, hierarchies and interplay of the acquisition process factors more explicitly. In the prior research reviewed briefly above, the decision was made to separate the factors so that they each could be examined individually. This detachment can be seen to provide a first step towards developing a model for understanding the acquisition process from the acquirer's perspective. The next step would be to identify the interconnections between elements and to model the actual influence of the acquisition process on performance as an interplay of these elements.

The objectives of this thesis can be expressed as follows:

- To develop a framework that considers the direct and moderated influences of process factors on post-acquisition performance
- To provide evidence of the influence of acquisition process on post-acquisition performance of Australian publicly listed acquirers
To provide a clearer image of the performance after acquisition by comparing accounting and market based performance.

1.3.3. Importance for M&A researchers

This study uses a systematic approach to identify and analyse the relationships among the numerous process factors and acquisition performance in terms of accounting and market based measures. Both direct and indirect effects of each of the factors are scrutinised in order to discover how the main process factors, individually and in combination, drive the performance of acquisitions. This study's results can be considered to set the scene for future theoretical and empirical investigations of post-acquisition performance by providing evidence of direct and moderating influences of various process phases.

Another motivation for this study comes from the lack of research on the acquisition process in Australia. This thesis will provide specific evidence with regard to the performance implications of the acquisition process employed by Australian publicly listed acquirers. Therefore, it may encourage future researchers to further develop the theoretical framework on the acquisition process in an Australian context.

Another contribution of this study comes from using both accounting and stock market measures to assess the post-acquisition performance. This creates a comprehensive picture of the performance implications.

1.3.4. Importance for M&A practitioners and investors

The results of this research will assist practitioners and investors in assessing the impact of the whole acquisition process on long-term performance and should help avoid some of the less successful strategy mixes. Knowing the relative importance of the process factors or phases may facilitate better practitioners' decisions about the acquisition process. Practitioners will be encouraged to focus their attention on phase interactions that influence performance. The results will reveal the kinds of trade-offs that are reasonable to make in order to obtain good results in terms of post-acquisition performance. The results will also be useful for investors assessing possible investment options in firms that undertake acquisitions.
1.4. Developing a theoretical framework

In order to clarify the nature and outcome of M&A phenomena, it is necessary to conduct a systematic investigation of the acquisition process. By incorporating the approaches adopted by the context school and the process school of research in M&A, this thesis identifies the major factors that arise during the different phases of the acquisition process and their influence on post-acquisition performance. These factors are used to construct a general framework, which is a major contribution of the research reported in this thesis. The main elements of this theoretical framework are outlined below because they will determine the structure of the thesis.

1.4.1. Description of the acquisition process

Complex development projects like mergers and acquisitions are characterised by a complicated series of steps or phases (Eisenhardt & Tabrizi 1995). Describing the acquisition process in different phases is a common approach in the literature. The reason for splitting the acquisition process into phases is that the activities during the phases are different and they can independently as well as jointly determine the outcome.

Haspeslagh and Jemison (1991) describe the acquisition process from the decision to conduct an acquisition throughout to integration. They argue that every step in the process is vital for the outcome of the acquisition. To better understand how acquisitions actually work, Haspeslagh and Jemison (1991) suggest that the research should focus on pre-acquisition decision making and post-acquisition integration processes.10 Choosing a target with a particular strategic and organisational fit is the beginning of the M&A process that determines the expected value creation. The potential synergies have to be exploited during the post-acquisition integration, which is the process that translates potential synergistic gains into actual economic value (Galpin & Herndon 2000; Habeck, Kröger & Träm 2000). The integration processes can influence the problems and failures that may occur in trying to secure the expected benefits of the acquisition. The net success of an acquisition may be seen as the trade-off between the potential synergies and the challenge of managing multiple divisions (Fulghieri & Hodrick 2006). On the one hand, the gains from merging increase with

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10 These two aspects correspond to the evolution of the academic research on M&A. The pre-acquisition process was the focus of the context school while the post-acquisition process is the addition brought by the process school.
potential synergies; on the other hand, increasing organisational complexity as a result of integration is presumed to exacerbate internal conflicts. In the presence of synergies, optimal decisions for one division of a merged firm often depend on the other divisions’ circumstances. Rajan, Servaes and Zingales (2000) and Lamont and Polk (2002) show that diversity in resources and investment opportunities across divisions may lead to inefficient decisions. The challenge of managing multiple divisions is related to the observation that identification of the correct integration approach for post-acquisition and the smooth execution of the numerous related tasks is an important managerial challenge. The degree to which the acquiring firm has developed competencies and routines related to the management of the acquisition process and of the post-acquisition integration phase in particular is considered in the literature as a key determinant of the variation in acquirers’ post-acquisition performance (Marks 1982; Shrivastava 1986; Haspeslagh & Jemison 1987, 1991).

1.4.2. Main process phases: pre-deal, selection of the target, payment and post-acquisition management

Jemison and Sitkin (1986) presented a crude distinction in the M&A process between the pre-acquisition and post-acquisition phases. The pre-acquisition processes include the decision to use acquisition to access the desired resources (pre-deal), as well as the search for desirable acquisition candidates and payment. The post-acquisition processes constitute the implementation phase of the acquisition and are largely focused on the method and degree of integration. Thus, four major phases in the acquisition process are identified:

- Pre-deal—the acquiring organisation must be clear about its current strategic position and the role of acquisition in fulfilling its growth objectives;
- Selection of the target—potential acquisition targets are screened and the one that will help fulfil the intended goals is selected;
- Payment—decisions are made about how much to pay and which method of payment to use;
- Post-acquisition management—decisions are taken regarding the level of integration.
The agency risks that arise from managerial self-interest can influence all four main phases of the M&A process. The potential impact of agency risks is likely to be related to the mechanisms used to monitor the behaviour of managers or to align their interests with those of shareholders. On the other hand, other mechanisms (such as free cash flow) may encourage the self-interest behaviour of managers and increase the agency risks. All these mechanisms are examined in this thesis in order to determine the influence of agency risks on post-acquisition performance. This occurs alone and in combination with the process phases.

In the pre-deal phase, two types of value-adding motives are considered to manifest—synergistic and opportunistic. The synergistic motivation manifests itself in the acquirer’s choice between horizontal, vertical and conglomerate acquisitions. The opportunistic motives are attributed to acquisitions that take place during favourable market cycles or those that take advantage of private information about the value of the target obtained through prior shareholdings. The next phase concerns the selection of the target that helps fulfil the acquisition motive. The desired target is seen in terms of the degree of relatedness and the relative size compared to the acquirer.\(^\text{11}\) In the third phase, based on the combination potential and the prospective value that can be created after the acquisition, which in turn is approximated based on existing information, the management decides the method of payment (cash, stock or a combination of both). The last stage, after the acquisition has been approved, is post-acquisition management. During this phase, significant changes usually take place that can be predicted by looking at the integration level. The structure of the theoretical framework developed in this thesis is summarised in Table 1.2.

The decisions made in one phase may influence the decisions made later in the acquisition process and together they determine a particular effect on performance. These potential interactions define the second part of the theoretical framework. This thesis considers the effects of the interaction between process phases and compares them with the direct effects of individual phases.

\(^{11}\) The context school studies extensively this phase (Lubatkin 1983).
1.5. Methods

To test the influence of the acquisition process on the performance of mergers and acquisitions, a sample of 114 one-time Australian listed domestic acquirers was selected from the population of Australian acquirers from 1992 to 2001 as described in Chapter 7.

This thesis uses returns on assets and market returns over three years after acquisitions as proxies for performance. The proper post-acquisition measure of performance must take into account any above average high or low pre-acquisition performance. Otherwise some of the difference between pre- and post-acquisition performance could be due to mean reversions that have been documented in prior studies (e.g. Fama & French 2000). Further, Barber and Lyon (1996) showed that profit returns can be determined by industry or firm specific factors such as size. This study uses a regression model that assesses post-acquisition performance by controlling for the pre-acquisition performance of the acquirer and target as well as post-acquisition size and industry performance. Any post-acquisition performance left unexplained (the residual) may be considered attributable to the acquisition.
According to the theoretical framework, there are four process phases, beginning with the pre-deal phase in which the acquisition motives that determine the firm to pursue acquisition are manifested followed by the selection of the target, the choice of method of payment and the post-acquisition management. Each phase is described by a variable or series of variables. For the initial analysis, the study looks at each individual variable and its effect on post-acquisition abnormal performance.

For agency risks, this study uses a condensing technique to limit the proxies that will be used for further analysis. Given that the research purpose is to identify the influence of different acquisition factors on performance, at this stage of the analysis, agency variables that do not explain the performance variation are excluded. Correlated variables with the same theoretical background are also eliminated.

To account for the joint influence of the process variables on post-acquisition performance, a regression model including all the variables is employed. However, the regression model describes the influence of one variable when all the others are kept constant; the regression model does not test the moderating effects of the interaction between some of these characteristics. The interactions between the variables describing the process are seen, however, as important determinants of post-acquisition performance. Therefore, the study focuses on these interactions and employs a series of contingency analyses to test the moderated influences.

1.6. Thesis structure

The structure of this thesis is based on the theoretical framework presented in Table 1.2. Chapter 2 applies agency theory to M&As and analyses the mechanisms that can reduce or enhance agency risks in M&As and their effects on post-acquisition performance. Chapters 3 to 6 examine the factors that may influence the success in each of the four process phases—pre-deal, selection of the target, payment and post-acquisition management. As such, Chapter 3 investigates the pre-deal phase of the acquisition process, considering two types of non-agency acquisition motives—synergistic and opportunistic. Chapter 4 analyses the second phase, in which the acquirer selects the target that has a particular relatedness to the acquirer’s businesses and a particular size. Chapter 5 deals with the third phase of the acquisition process—deal payment—when the acquirer decides how to pay for the acquisition (using cash,
stock, or a combination of these). Chapter 6 outlines the last phase of the process—post-acquisition management—where the acquirer decides on the level of integration. The acquirer has to consider the contingencies that determine the level of integration needed and their effect on the post-acquisition performance.

Chapter 7 describes the methods used to test the predictions and presents the sampling method and data. Chapter 8 presents the results of the analysis of independent effects of phases on performance, while Chapter 9 presents the results of the multivariate analysis which tests the simultaneous effects and constitutes the major contribution of this thesis. Chapter 10 presents a brief review of the findings, identifies the limitations of the research and outlines the direction of further research efforts in this area.
Chapter 2. Agency risks in mergers and acquisitions

The existing literature on corporate investments and M&As is generally divided into approaches that assume shareholder wealth maximising behaviour by the firm’s management and approaches that incorporate management self-interest (Sirower 1997). The two approaches can be denoted as the stewardship approach and the agency approach (Donaldson & Davis 1991). The stewardship approach implies that acquisitions take place to exploit existing under-valued assets or the synergies between two companies that make the value of the combined firm greater than the sum of the values of individual firms, thus enhancing the welfare of the shareholders (Barney 1988; Sirower 1997; Ranft & Lord 2002). The agency approach views the relation between shareholders and managers as one between a principal and an agent. It considers that, in the case of companies with weak monitoring or incentive alignment mechanisms, managers can pursue self-serving strategies as opposed to strategies that would enhance the welfare of the shareholder as principal (Berle & Means 1932; Baumol 1959; Marris 1964; Jensen & Meckling 1976; Fama 1980; Fama & Jensen 1983; Jensen 1986; Stulz 1990; Wright et al. 2002). This chapter focuses on the agency approach and describes the agency risks that may influence the post-acquisition performance and the mechanisms used to avoid these risks. This discussion is necessary before the description of the process phases because agency risks may influence the decisions that will be taken during the different phases. The stewardship approach will be discussed in Chapter 3.

12 Stewardship theory suggests that the CEO essentially wants to do a good job, to be a good steward of the corporate assets. Thus, stewardship theory holds that there is no inherent, general problem of executive motivation or self-interest behaviour (Barney 1990; Donaldson 1990).

13 A possibility that can apply to both approaches exists where mergers and acquisitions are driven by irrational behaviour like over-optimism—the ‘hubris’ hypothesis (Roll 1986). This determinant is more likely to give rise to inefficient acquisitions. The hubris hypothesis suggests that the acquirer’s managers make mistakes in evaluating target firms and the synergy potential, tend to overestimate their own capabilities in making the merger or acquisition work and undertake acquisitions presuming that their valuations are correct.
2.1. Managerial motives for mergers and acquisitions

The interests of managers and shareholders might not be aligned using managerial contracts (Mueller 1969; Jensen 1986; Shleifer & Vishny 1989; Beatty & Zajac 1994; Wright et al. 1996). The managers may pursue their own interests rather than pursuing shareholder value maximisation (Jensen 1986; Morck, Shleifer & Vishny 1988; Myers 2000; Aggarwal & Samwick 2003b). Management objectives and goals have been studied as a core construct in research on corporate acquisitions (e.g. Reid 1968; Steiner 1975; Jensen & Ruback 1983; Walter & Barney 1990; Agrawal & Knoeber 1996). The managerial models of the firm proposed by Marris (1964) and Baumol (1967) argue that managers pursue growth at the expense of the welfare of shareholders. The managers’ benefits that may arise from the increase in the size and complexity of the company through acquisitions have been stated in terms of:

- personal power; namely, entrenchment (Ahimud & Lev 1981; Shleifer & Vishny 1989; Morck, Shleifer & Vishny 1990; Charreaux 1997; Aggarwal & Samwick 2003b), pride, reputation and improved career prospects (Jensen 1986; Gibbons & Murphy 1992)

- perquisite consumption (Jensen & Meckling 1976; Morck, Shleifer & Vishny 1988; Bertrand & Mullainathan 2001) and increased remuneration (Jensen & Murphy 1990; Bliss & Rosen 2001; Grinstein & Hribar 2004; Girma, Thompson & Wright 2006; Coakley & Iliopoulou 2006; Harford & Li forthcoming)\(^{15}\)

- increased job security (Shleifer & Vishny 1991)\(^{16}\) and employment income risk reduction (Amihud & Lev 1981, 1999; Agrawal &

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\(^{14}\) Aside from self-interest, management’s decisions might not converge with shareholders’ interests because the managers may serve a broad group of stakeholders (Grinblatt & Titman 1998; Jensen 2005). This argument comes from stakeholder theory. Debtholders have especially great influence on the managers because management is dependent on them to attract money for new projects. Management may be forced by debtholders to take less risky projects and depart from the goal of maximising the firm’s value because less risk means less chance of bankruptcy and thus security for debtholders that they will receive their money back (Myers 1977; Stulz 1990; Panino, Poteshman & Weisbach 2005).

\(^{15}\) Bliss and Rosen (2001) showed that the CEO’s compensation and wealth typically increase after large bank mergers even if the acquirer’s stock price declines. Grinstein and Hribar (2004) found that acquiring CEOs who have more power to influence board decisions receive significantly larger M&A bonuses. Harford and Li (forthcoming) found that following a merger, the CEO’s pay becomes insensitive to negative stock performance but the CEO’s wealth rises in step with positive stock performance.

\(^{16}\) Managers may find it crucial to increase their security of the current job because they have invested much of their own human capital in the firm. The possibilities for risk diversification pertaining to their human capital investment are almost nonexistent except if managers work for several companies at the same time (Hill & Snell 1989; Morck, Shleifer & Vishny 1990; Bergh 1995; Wright & Ferris 1997).

It is argued that by increasing the firm size, M&As increase managerial prestige and remuneration (Firth 1991; Avery, Chevalier & Schaefer 1998) or ensure job security (Amihud & Lev 1981) generally by utilising free cash flows for non-positive net present value projects rather than redistributing these cash flows to shareholders (Jensen 1986). Managers may pursue acquisitions in order to extract some financial or psychological benefits associated with power and prestige attached to ‘empire-building’ (Marris 1964; Mueller 1969; Stulz 1990; Aggarwal & Samwick 2006; Ben-Amar & Andre 2006). An agency problem may also manifest when the managers do not choose the project with considerable risk and the highest net present value because they prefer a project with less risk. Hubbard and Palia (1995) and Wright et al. (2002) suggest that managers use M&As to reduce the risks related to their significant human and financial capital invested in the firm. To the extent that shareholders diversify their portfolios to offset the firm specific risk, they are less concerned if a firm takes risks.17

Thus, acquisitions that do not present a potential for value creation may be undertaken to satisfy managerial objectives (Montgomery 1994). This possibility can be denoted as the agency risk of acquisition. The share price reflects such agency risks. To increase the value of the acquirer firm, the agency risks must therefore be reduced while taking into account the costs involved. It is through a combination of contractual arrangements (usually involving compensation and incentives) and monitoring that shareholders are able to promote management activities that are consistent with shareholders’ interests.

17 In a well-functioning capital market, shareholders may construct their portfolio to include the shares of many companies and achieve the required diversification perhaps more easily and at a lower cost than the firm can (Reid 1968; Mueller 1969; Amihud & Lev 1981; Berger & Ofek 1995; Byrd, Hickman & Hunter 1997; Denis, Denis & Sarin 1997). However, some researchers argue that capital market inefficiencies (Dundas & Richardson 1980; Aaker & Jacobson 1987) and shareholder investment constraints (Aaker & Jacobson 1987; Porter 1987) make it either inefficient or impossible for individual investors to achieve portfolio diversification. Nevertheless, if an acquisition does not provide synergistic or risk reduction benefits that are unattainable through individual portfolio construction, the acquisition may only fulfil managers’ personal objectives and not enhance profitability and shareholder wealth (Reid 1968; Mueller 1969; Salter & Weinhold 1979; Jensen & Ruback 1983).
2.2. Monitoring and alignment mechanisms and agency risk

Hambrick and Finkelstein (1987) argue that the degree of managerial discretion determines the impact of managers' self-serving distortions on the strategic choices and outcomes. Various mechanisms for monitoring and interest alignment may limit managerial discretion. These mechanisms can discourage or prevent managers from pursuing goals that are in conflict with those of shareholders by bringing the threat of displacement, damaged reputation or wealth loss (Zwiebel 1996; La Porta et al. 2000). The extent to which value creation is associated with a merger or acquisition may depend on the existence of these mechanisms (Fama 1980; Weisbach 1993). The literature identifies various mechanisms that include: the market for managerial labour, the market for corporate control, the product market, managerial compensation, the board of directors, insider and blockholder ownership, and financial leverage (Gillan 2006).\textsuperscript{18}

If managers' discretionary distortions can be captured by the managerial labour market, the threat of replacement of poorly performing managers is likely to be high. Moreover, managers competing in the managerial labour market possess reputation capital which may not allow them to find employment if they do not perform well in their role as agents. Lehn and Zhao (2006) concluded that chief executive officers (CEOs) who make value-destroying acquisitions are more likely to be replaced. The market for corporate control disciplines poorly performing managers by removing them from their positions (Mitchell & Lehn 1990; Gillan 2006). The managers' suboptimal decisions may cause a decline in the market value of their firm's shares and the firm may become a takeover candidate for bidders who believe they are capable of improving the management (Warner et al. 1988). Mitchell and Lehn (1990) found that the market for corporate control can discourage corporate empire building because firms that make bad acquisitions have a higher likelihood of being acquired subsequently. Research by Gompers, Ishii and Metrick (2003), Bebchuk, Cohen and Ferrell (2004), Bebchuk and Cohen (2005) and Cremers and Nair (2005) found that the market for corporate control affects the profitability of firms. According to Leibenstein (1966) and

\textsuperscript{18} Other mechanisms can contribute to the convergence of interests between managers and shareholders. Such mechanisms may include employees' unions, regulation of capital markets, the implicit control of financial analysts in managing portfolios for institutional investors, journalists who may reveal managers' corruptive practices of improper self-remuneration and pressure exerted by humanitarian or environmental associations that may discourage investment in particular companies. These mechanisms are mainly systemic and not company specific. Therefore, they cannot be tested when considering only a single market.
Hart (1983), managerial behaviour at the expense of shareholders is also constrained by the product market. Porter (1980) also gives some support to the notion that competitive forces constrain managers and Masulis, Wang and Xie (forthcoming) found that acquirers operating in more competitive industries experience higher abnormal returns following acquisition announcements. It is important to note that all these market mechanisms are likely to be related to the industry affiliation of the acquirer. This thesis will control for their influence by separating the effects of primary industry from the effects of the other monitoring mechanisms and characteristics of the acquisition process.

Managerial compensation can also influence the behaviour of managers in pursuing acquisitions. Datta, Iskandar-Datta and Raman (2001) documented a strong positive relationship between acquiring managers’ equity based compensation and merger performance. However, the lack of available data for the period under study due to disclosure limitations in Australia does not allow the examination of this mechanism in the context of this thesis.\(^{19}\)

The last three monitoring or interest alignment mechanisms mentioned above can be analysed in detail in the context of this thesis—that is, boards of directors, ownership structure and financial leverage. They may ensure that the decisions taken by the acquirer’s management with regard to mergers and acquisitions are in the best interests of the shareholders. However, the efficiency of these mechanisms designed to curtail managerial self-interest must be studied in the context of the mechanisms that may encourage self-interest pursuit and, thus, induce agency risk. The most highly researched of these mechanisms is free cash flow (Jensen 1986). Prior research has argued that the existence of free cash flow might increase the managers’ discretion in engaging in value-reducing acquisitions.

The remainder of this chapter examines in detail the potential influence on performance of the monitoring or interest alignment mechanisms together with the agency risks induced by free cash flow.

\(^{19}\) In Australia, since 1998, section 300A of the Corporations Act requires the detailed disclosure of the remuneration of all directors and the top five remunerated executives. However, according to the disclosure requirements imposed on Australian companies before 1998, the annual reports of Australian companies included only the remuneration received by directors. They were not required to disclose the amount of managerial compensation.
2.2.1. Board of directors

The board of directors links shareholders and managers (Fama & Jensen 1983; Monks & Minow 1995) and is one of the most researched monitoring mechanisms (e.g. Weisbach 1988; Zahra & Pearce 1989; Rosentein & Watt 1990; Shivdasani 1993; Mallette, Middlemist & Hopkins 1995; Johnson, Daily & Ellstrand 1996; Dalton et al. 1998; Dahya & McConnell 2005; Huse 2005; Roberts, McNulty & Stiles 2005; Ghosh 2006). Researchers suggest that managerial opportunism can be constrained by the board of directors simply because directors are elected and paid by shareholders to represent their interests in corporate decision making and they can fire the managers who do not perform well (Weisbach 1988; Rosentein & Watt 1990; Shivdasani 1993). In the context of acquisitions, Lehn and Zhao (2006) found that CEOs who make bad acquisitions are more likely to be dismissed by the board of directors.

While differences in terminology and classification persist, there is a general agreement on the three key roles of a board (Zahra & Pearce 1989; Johnson, Daily & Ellstrand 1996; Hillman, Keim & Luce 2001; Ruigrok, Peck & Keller 2006). They are:


20 The monitoring function is what agency theory identifies as the central role of the board. Directors may review and oppose decisions taken by senior managers. This monitoring function involves also overseeing the process of accounting, financial reporting, auditing and disclosure, the mechanisms by which investors and other stakeholders are able to make assessments about the performance of the company and its management. In case of bad performance, the board can also dismiss the CEO as previously discussed.

21 The relationship between the board of directors and management has evolved worldwide over time, with the recent corporate collapses increasing awareness on both sides. The trend has been towards greater interaction, with the directors' expertise being actively sought by management and directors seeking more information from, and enhanced communication with, management (Korn-Ferry 2002).
• access to resources—providing the firm, through personal and business contacts, with access to resources, including access to finance, information and market power (Zald 1969; Pfeffer 1972, 1973; Pfeffer & Salancik 1978; Aldrich 1979; Provan 1980; Conner & Prahalad 1996; Dalton & Daily 1999; Hillman & Dalziel 2003; Kim 2005).

The specific nature and balance of board functions will vary depending on the company’s context and evolution (Johnson 1997; Young et al. 2001; Aguilera & Jackson 2003; Lynall et al. 2003; Randoy & Goel 2003; Pye & Pettigrew 2005). For example, if a company is subject to alternative monitoring forces (i.e. large external shareholders or debtholders), the board may add greater value by providing advice to management if it has the necessary expertise and by providing access to resources than by monitoring (Dalton et al. 2003). The access to resource function might be very important in an acquisition context if it implies access to financial resources. Alternatively, in complex companies, the board may need to take a much stronger role in controlling managers’ decisions, especially with regard to their involvement in mergers and acquisitions (Pfeffer 1972). Thus, all three board functions need to be considered since they are likely to influence the performance and the acquisition decision in particular (Hillman & Dalziel 2003; Roberts, McNulty & Stiles 2005).

One of the widely discussed issues in the academic literature concerns how to appropriately structure the board of directors and to what extent the structure of the board may affect its ability to be an effective monitor, guide and decision maker or provider of resources and, thus, influence the performance of a company (Van Den Berghe & Levrau 2004). In this respect, board size, board leadership duality and board composition are the main characteristics examined in academic research. As presented by Korn-Ferry (2002), the key features of Australian boards include a clear separation between the roles of the chief executive officer and the chairman and a predominance of non-executive directors on boards. These characteristics are different from those of the boards of directors in the US, where the majority of the studies on board structure have been performed and this difference was maintained over time. For example, Stapledon and Lawrence (1996) reported that only 17 per cent of their sample of Australian companies had board leadership duality in 1995 while Hanson and Song (2000) reported an average of 82 per cent in their sample of the activities of US companies from 1981 to 1995. The average proportion of non-executive directors was 73 per cent for the Australian study and 60 per cent for the US study. The difference in sample periods
does not create a bias because there was no strong variation in the board size of US companies during 1981 to 1995. The size of the board was on average smaller than in the US. (The average board size of the Australian companies examined by Stapledon and Lawrence (1996) was almost 9, while Hanson and Song (2000) reported around 12). Another specific feature of Australian boards of directors concerns the relative importance of the functions they are expected to perform. The Australian company directors interviewed in Korn-Ferry (2002) generally regarded the board as a vital monitoring mechanism but not a strategic driver of the organisation. Some interviewees felt that the board should also have an active role in strategy by organising special strategy meetings where executives and non-executive directors could exchange ideas for the future. These specific features of Australian boards impose some restrictions in discussing and applying in an Australian context the arguments used in previous US literature regarding the influence of board structure on performance. This thesis tests board characteristics with regard to their potential for supporting or making major corporate decisions regarding mergers and acquisitions in the best interests of shareholders in the Australian context.

2.2.1.1. Board size

For many years, academics have examined the idea of size efficiency for the board of directors in terms of its influence on corporate strategy and performance. Some researchers have argued for a large number of directors while others have put forward arguments for minimising the size of the board.

Larger boards may be better for corporate performance in general and for acquisitions in particular because they are harder for a CEO to dominate and they have a range of expertise to help make better strategic decisions (Zahra & Pearce 1989; Judge & Zeithaml 1992; Ocasio 1994; Golden & Zajac 2001; Kiel & Nicholson 2003; Ruigrok, Peck & Keller 2006). Thus, larger boards are more likely to fulfil their monitoring, advice and strategic functions. Resource dependence theory has also been used to suggest that larger boards can yield higher levels of firm performance (Pfeffer 1972, 1973; Pfeffer & Salancik 1978; Provan 1980; Mintzberg 1983; Alexander, Fennell & Halpern 1993; Goodstein, Gautam & Boeker 1994). Larger boards may yield benefits from external networks and secure a broader resource base, thus fulfilling the access to resources function (Pfeffer 1973; Pfeffer & Salancik 1978; Pearce & Zahra 1992; Goodstein, Gautam & Boeker 1994).
Other researchers argue that large boards are less effective than small boards, especially with regard to the control/monitoring and advice and strategic functions (e.g. Jensen & Meckling 1976; Shaw 1981; Jewels & Reitz 1981; Olson 1982; Gladstein 1984; Lipton & Lorsch 1992; Ellis & Fisher 1994; Guzzo & Salas 1995; Guzzo & Dickson 1996; Yermack 1996). Lipton and Lorsch (1992) and Jensen (1993) argue that large boards are less effective and are easier for the CEO to dominate. Mintzberg (1983) suggest that board members' assessments of managers are more easily manipulated when boards are large and diverse. CEOs may gain advantages in power relations with board members through coalition building, the selective distribution of information and dividing and conquering (Alexander, Fennell & Halpern 1993). This view is complementary to the argument that smaller boards engender greater focus, participation and genuine interaction and debate (Firstenberg & Malkiel 1994).

Larger boards are usually more difficult to coordinate due to the large number of potential interactions among group members (Forbes & Milliken 1999). Group cohesiveness is a theoretical concept that may apply to boards of directors in relation to performance (Evans & Dion 1991; Forbes & Milliken 1999). Whenever a board has to oppose a strategic proposition of managers, it has to act as a cohesive group (Lorsch & McIver 1989). Arguably, smaller boards, on average, have more group cohesiveness (Lipton & Lorsch 1992; Jensen 1993; Cohen & Bailey 1997; Mueller & Barker 1997). Goodstein et al. (1994) suggest that larger boards develop coalitions that lead to group conflict and this may embitter the process of reaching consensus and, hence, decrease board effectiveness. Some observers have suggested that a tendency to react slowly or indecisively in a crisis—a tendency likely associated with group conflict—might jeopardise the very existence of a firm (Sutton & Callahan 1987; Daily & Dalton 1994a, 1994b). Difficulty or failure to agree at the board level may result in problems with strategy implementation (Bonn 2004). When a board gets too large, it becomes difficult for it to coordinate and process problems. Hence, larger boards may have more difficulty making strategic decisions and, as a consequence, may become less involved in strategic decision making (Judge & Zeithaml 1992; Goodstein, Gautam & Boeker 1994; Yermack 1996).

Another disadvantage of larger boards is that the large number of directors may increase the possibility of individual directors choosing to free ride and decrease their
accountability and contribution to strategic decisions (Golden & Zajac 2001). Related to this, it can be argued that directors in large boards may be prone to social loafing.22

Some empirical results support the superiority of smaller boards. For example, Lipton and Lorsch (1992) showed that a board size below 10 is preferable because it works better and is less subject to manipulation. Yermack (1996) found an inverse association between board size and firm value in a sample of 452 large US industrial corporations operating between 1984 and 1991. Eisenberg, Sundgren and Wells (1998) found a negative correlation between board size and profitability for a sample of small and midsize Finnish firms, which suggests that board size effects can exist even when there is less separation of ownership and control in these small firms. Conyon and Peck (1998) showed an inverse relationship between return on shareholders' equity and board size for five European countries. Mak and Yuanto (2005) found support for the above findings for firms listed in Singapore and Malaysia. They found that firm valuation is highest when the board has five directors, a number considered relatively small in these markets. De Andres, Azofra and Lopez (2005) found a negative relationship between firm value and the size of the board of directors for a sample of 450 non-financial companies from 10 countries in Western Europe and North America.

Kiel and Nicholson (2003) found evidence in the Australian context that board size has a positive linear influence on market based performance and no influence on accounting performance. However, Bonn, Yoshikawa and Phan (2004) found that board size does not influence the market based or accounting performance of Australian firms. The arguments about the disadvantages of large boards of directors might not apply in the case of Australian companies, where the boards are not as large as in the US. A board considered large by Australian standards may not present the problems identified and attributed to large boards in the US.

Some earlier non-Australian studies on the impact of board size on the board's involvement in strategic decision making imply that the disadvantages of large size outweigh the advantages (e.g. Goodstein, Gautam & Boeker 1994; Judge & Zeithaml 1992). As documented by Byrd and Hickman (1992) and Faleye and Huson (2002), board size has a negative impact on acquisitions announcement date returns. However,

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22 Social loafing refers to a decrease in the effort exerted by individuals in a group as the total number of people in the group increases (Latane, Williams & Harkins 1979; Kidwell & Bennett 1993; Sheppard 1993).
more recently Masulis, Wang and Xie (forthcoming) found that the board size does not present any significant relationship with the acquirer’s announcement returns.

In summary, a series of theoretical rationales suggests a linear relationship between board size and firm or acquisition performance but provides no consensus about the direction of this relationship. The empirical studies provide mixed evidence. Jensen (1993) suggested that there might be an ‘inverted U’ relationship between board size and performance that might explain those contradictory results obtained when considering a linear relationship. Following this suggestion, this thesis predicts a non-linear relationship between board size and acquisition performance. At low levels of board size, the performance of the acquisition is likely to be low because the board cannot provide monitoring of the managers’ decisions and cannot provide enough knowledge and other resources that the firm may need to manage the acquisition process. The performance of the firm is likely to increase at higher levels of board size until the board size reaches a level that makes the coordination and other problems appear (Beiner et al. 2004).

The composition of the board may also impact on firm performance (Bonn 2004). Board size only measures the number of directors without capturing the tasks and roles they perform. Board size may not capture group dynamics and behavioural patterns that may influence the performance (Dalton et al. 1999). The next subsections will present the board composition characteristics whose influence on the post-acquisition performance will be tested in this thesis—board leadership duality (i.e. whether the board chairman is also the CEO of the firm) and the composition of the board in terms of the proportion of outside directors. These two characteristics have received the most attention in the literature on the composition of boards of directors.

2.2.1.2. Board leadership structure

Duality in the position of CEO and chairman of the board is a controversial issue in the literature on boards of directors (Rhoades, Rechner & Sundaramurthy 2001). A substantial number of studies have examined the effect of this duality on firm performance, mainly in the US and the United Kingdom (UK). Its influence on acquisition performance has been studied less extensively, but the arguments in the

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Moreover, other researchers (e.g. Subrahmanyam, Rangan & Rosenstein 1997; Brewer, Jackson & Jagtiani 2000; Cornett et al. 2003) have found no relationship between board size and acquisition returns.
literature regarding performance in general may be applied to the acquisition context. In Australia, board leadership duality is observable only in a few cases and is normally associated with high insider ownership (Korn-Ferry 2002). Lawrence and Stapledon (1999) reported that in 1996 only 17 per cent of the Australian Top 100 firms presented board leadership duality while in 1997 Kiel and Nicholson (2003) found 23 per cent in their sample of Australian Top 500 firms. Given this low incidence of board leadership duality in Australia, its influence on performance may not be significant and the arguments used in previous literature may not apply in the Australian context.

Nevertheless, the literature on board leadership structure encompasses two opposing theoretical perspectives—one that argues against and one that argues for board leadership duality. First, financial economists (e.g. Mace 1971; Mizruchi 1983) suggest that the board cannot effectively monitor the CEO when the functions of CEO and chairman of the board are performed by one person. They suggest that board leadership duality determines CEO entrenchment and a decline in board independence from corporate management (Fama & Jensen 1983; Pearce & Zahra 1991; Roberts, McNulty & Stiles 2005). Board vigilance is weaker (Mizruchi 1983; Jensen 1993) and it may be more difficult for directors to objectively evaluate management performance. For these reasons, the Code of Best Practice formulated in the Cadbury Report in 1992 recommends that the functions of CEO and chairman of the board should be separated (Committee on the Financial Aspects of Corporate Governance 1992). Due to corporate scandals and the high incidence of improper CEO activities, more regulatory agencies appear to oppose board leadership duality (Toronto Stock Exchange Committee 1994; Bosch 1995; OECD 1999). Dalton and Dalton (2005) argued that the separation of functions of the chairman and CEO frees the CEO from serving as the primary point of contact for outside directors and gives the board clearly defined leadership for the conduct of board sessions that do not involve the management. On the other hand, board leadership duality may also give the CEO more influence on the nomination of new directors or executives (Westphal & Zajac 1995). Shivdasani and Yermack (1999) reported that stock price reactions to the appointment of independent directors are significantly lower when the CEO is involved in their selection.

Callahan, Millar and Schulman (2003) found a negative relationship between duality and performance. In the acquisition context, Masulis, Wang and Xie (forthcoming) found that firms that separate the positions of CEO and chairman of the board make better acquisitions. This result suggests that separating the two positions
can help control the empire building behaviour of CEOs, enabling firms to be more selective in their acquisition decisions, and leading to greater shareholder returns.

The second theoretical perspective is that the positions of chairman and CEO should be occupied by one person. Advocates of stewardship theory suggest that the dual structure provides unified firm leadership and removes any internal or external ambiguity regarding the individuals responsible for the outcomes of major decisions (Anderson & Anthony 1986; Finkelstein & D'Aveni 1994; Dalton et al. 1998; Muth & Donaldson 1998).24 The stewardship theory researchers claim that firms in which board leadership duality exists will perform better as the CEO has greater authority to make the necessary decisions (Donaldson & Davis 1991; Harris & Helfat 1998).25 The advantages of clear leadership might be most valuable in a situation where the company has to make fast decisions regarding its strategic orientation (Davidson et al. 1996; Mueller & Barker 1997).

Consistent with these arguments, Rechner and Dalton (1991) reported that Fortune 500 companies with board leadership duality have stronger financial performance relative to the companies without this duality. Dehaene, De Vuyst and Ooghe (2001) also found that when the positions of chairman and CEO are combined, the returns on assets are significantly higher. Goyal and Park (2002) examined a sample of US companies and found that the sensitivity of CEO turnover to firm performance was lower for companies without board leadership duality.

Based on these two opposing theoretical perspectives on board leadership duality, other research suggests that duality has no significant direct impact on firm performance (Rechner & Dalton 1989; Boyd 1995; Baliga, Moyer & Rao 1996; Abdullah 2004). Boyd (1995) found that the direction and magnitude of the relationship between board leadership duality and performance varied systematically across the environmental dimensions (munificence, dynamism and complexity) identified by Dess and Beard (1984). Following this evidence, Faleye (2003) argued that board leadership structure depends entirely on individual firm characteristics such as organisational complexity, availability of other controls over CEO authority and CEO reputation and power. Using a sample of 2,166 US companies, companies with complex operations,

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24 According to stewardship theory, managers are not opportunistic and self-serving, as suggested by agency theory, but are motivated to act in the best interests of their organisations and to maximise shareholders' wealth by improving organisational performance (Davis, Schoorman & Donaldson 1997).

25 The separation of the two functions may create power struggles among corporate leaders as well as confusion about corporate objectives and expectations (Baliga, Moyer & Rao 1996).
alternative control mechanisms and strong CEO reputation were found to be more likely to present board leadership duality.

Baliga, Moyer and Rao (1996), after controlling for other factors, found that the share market is indifferent to changes in a firm’s board leadership duality status, there is little evidence of operating performance changes around changes in duality status and there is only weak evidence that duality status affects long-term performance. Daily and Dalton (1993) found no relationship between CEO-chairman duality and performance in entrepreneurial firms. Following a meta-analytic review of this relationship, Dalton et al. (1998) concluded that there is no evidence of a relationship of practical relevance. However, it may be worth examining the relationship between board leadership structure and firm performance for at least two reasons (Kang & Zardkoohi 2005). First, researchers have cautioned against the use of meta-analysis as a substitute for primary research (Russell & Gilliland 1995; Aguinis & Pierce 1998; Fuller & Hester 1999; Cortina 2002). Some scholars suggest that the replication of research is more useful than meta-analysis (e.g. Hubbard, Vetter & Little 1998). Second, Dalton et al. (1998) found no evidence of a direct relationship between board leadership structure and firm performance in earlier research but they did find the potential for a moderating influence. Moreover, according to a more recent meta-analysis using data from 22 studies, Rhoades, Rechner and Sundaramurthy (2001) found that the separation between CEO and the chairman of the board had a positive impact on corporate performance, a result that varies, however, with the context of the research.

Given the specific features of the Australian context with regard to the boards of directors that were described in the introduction of this section, the relationship between board leadership duality and company performance may be weaker in the Australian context. Based on the theoretical arguments, this thesis predicts a negative relationship between board leadership duality and post-acquisition performance. However, if the prediction will not be accepted, it may mean that the specific features of the Australian environment attenuate the relationship predicted in theory.

26 Other researchers are of the opinion that replication and meta-analysis are complementary rather than competing research practices (Allen & Preiss 1993; Hubbard & Armstrong 1994).
2.2.1.3. Outside versus inside directors

A company's board of directors may be composed of inside and outside directors.\(^{27}\) An important question concerns the role of outside directors in monitoring managerial actions in general and those regarding involvement in acquisitions. Outside directors are usually viewed as representing shareholders while inside directors are assumed to represent management. Although the issue of whether directors should be insiders or outsiders is well researched, it is unclear whether outside directors represent shareholders more effectively than inside directors (Dalton et al. 1998; Bhagat & Black 1999).

The arguments for the particular influence of outside and inside directors on acquisition decision and subsequent performance arise from the general arguments for their influence on firm performance. In this literature, some researchers have argued for the superiority of outsider-dominated boards while others have argued for the superiority of insider-dominated boards.

With regard to the superiority of outsider-dominated boards in determining the likelihood of better performance, two interrelated sets of arguments focusing on the potential characteristics of these boards can be identified:

- Independence—outsiders present some independence from top management that makes them more likely to provide monitoring and advice, and demand more information (Fama 1980; Mizruchi 1983; Dalton & Kesner 1987; Walsh & Seward 1990; Pearce & Zahra 1992; Wright, Kroll & Elenkov 2002; Roberts, McNulty & Stiles 2005).

- Motivation—outsiders prefer to have a high reputation, so they do not want to be associated with a badly performing firm (Daily, Johnson & Dalton 1999).

The employment status of inside directors and their accompanying conflict of interest may limit their contribution to reducing agency risk or to corporate governance in general (Weisbach 1988; Baysinger & Hoskisson 1990). These directors may feel unprotected and obligated to agree with the CEO. Given that inside directors report to the CEO and are largely dependent on this person for compensation and career advancement, the extent to which such directors occupy board seats may confer a power

\(^{27}\) Outside directors are considered those directors who do not work in the company (non-executives) while inside directors are those who are managers of the company at the same time (executives).
imbalance to the CEO (Patton & Baker 1987; Stiles 2001; Ruigrok, Peck & Keller 2006). A majority of insiders as board members suggests weak monitoring due to hierarchical relationships within the firm (Vance 1983; Beatty & Zajac 1994). On the other hand, outside directors may be more vigilant monitors of the management on behalf of shareholders given that they are less beholden to the CEO (Walsh & Seward 1990; Wright, Kroll & Elenkov 2002; Roberts, McNulty & Stiles 2005). Outside directors are in a better position to exert control over managerial self-interest and opportunism (Fama 1980; Mizruchi 1983; Dalton & Kesner 1987; Pearce & Zahra 1992) because they are financially independent from management and are not subject to the same potential conflicts of interest as inside directors (Rhoades, Rechner & Sundaramurthy 2000).

In line with the agency theory, Eisenhardt (1989) argued that there is information asymmetry between outside directors and management. By the very nature of their internal position, managers develop an intimate knowledge of the business, putting the board, and particularly the outside directors, at a disadvantage. However, if the board is dominated by outsiders, these directors may force the managers to release more information to the board and thus lower the information asymmetry. Moreover, the outside directors can deliver a more comprehensive perspective on the big picture for an organisation. Outside directors may act as 'professional referees' and give advice to insiders for actions consistent with shareholder value maximisation (Fama 1980), thus fulfilling the advice function. The access to resources function is also more likely to be fulfilled by outside directors. They may represent important external constituencies and may provide the firm with resources otherwise unavailable to the firm's management (Bazerman & Schoorman 1983; Boeker & Goodstein 1991).

In summary, outsiders have the power and capacity to fulfil monitoring, advice and access to resources functions and ensure good firm performance (Roberts, McNulty & Stiles 2005). The question is whether they have the motivation to do so (Shen 2005). In general, directors are motivated in their actions by two mechanisms. Firstly, directors have legal obligations to the shareholders for which they can be held liable if they fail to exercise due care. Secondly, directors wish to establish and maintain a reputation as

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28 Some researchers, however, question the effectiveness of outside directors because they may be co-opted by CEOs (Wade, O'Reilly & Chandratat 1990). Some outside non-executives may also have business relationships with the firm or have personal relationships with the CEO or other senior executives. These directors are referred to as affiliated directors and are considered to have a lack of independence (Daily & Dalton 1994).
being good monitors and competent professionals (Fama & Jensen 1983). If they are independent from the managers, it can be expected that their actions will only be determined by these two mechanisms, so they will be better guardians of the shareholders’ interests. From this view, outside directors are more likely to perform the monitoring/control function, including reviewing managerial decisions regarding corporate acquisitions and performance, and to initiate the procedure for replacing the CEO in case of bad performance (Daily, Johnson & Dalton 1999).

Several researchers note a positive relationship between outside board members and firm performance (e.g. Baysinger & Butler 1985; Coughlan & Schmidt 1985; Rosenstein & Wyatt 1990; Pearce & Zahra 1992; Hermalin & Weisbach 1998; Dehaene, De Vuyst & Ooghe 2001; Perry & Shivdasani 2005). Independent outside directors have been found to protect shareholders in specific instances in which there is an agency problem (Weisbach 1988; Byrd & Hickman 1992; Xie, Davidson & DaDalt 2003).

Outside directors have been found to contribute to the value of firms through:

- their evaluation of strategic decisions (Brickley & James 1987; Byrd & Hickman 1992; Lee et al. 1992)
- their role in the dismissal of inefficient and poorly performing management (Weisbach 1988).

Mace (1971) reported case study evidence that poor investment proposals will be opposed by outside directors. Byrd and Hickman (1992) found that the reaction of the stock price when a takeover is announced is larger in companies where at least half of the directors are completely independent. Brickley, Coles and Terry (1994) showed that the effect of an announcement of poison pills is larger when most of the directors are independent outsiders.  

The positive monitoring impact of outside directors on the board is also revealed in the dismissals of managers after bad performance. Weisbach (1988) showed that the likelihood that a manager is dismissed because of bad corporate performance is greater

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29 Fama (1980) and Fama and Jensen (1983) observed that outside directors compete in the outside directors labour market. They have incentives to develop a reputation as experts in monitoring management because the value of their human capital depends on it. Moreover, their performance as outside directors serves as a signal of their abilities in similar capacities. This reputation capital provides the outside directors with an incentive to monitor managerial decisions.

30 These positive market reactions are not confirmed by Sundaramurthy, Mahoney and Mahoney (1997) and Kesner and Johnson (1990). They observed a more negative market reaction at the announcement of protection mechanisms when more outsiders are present on the board.
in companies where more outsiders are present on the board. The potential positive influence of outside directors can also be observed from the evidence that corporations tend to add more outsiders to their boards following poor corporate outcomes (Hermalin & Weisbach 1988; Bhagat & Black 2002). Finally, Matolcsy, Stokes and Wright (2004) provided evidence that boards with a majority of non-executive directors add value.

The results of studies examining the role of independent boards on value creation in the case of mergers and acquisitions are generally mixed. Byrd and Hickman (1992) and Faleye and Huson (2002) found a positive relationship between the proportion of independent board members and acquiring shareholder announcement cumulative abnormal returns (CAR). Masulis, Wang and Xie (forthcoming), on the other hand, found that board independence is not significantly related to the acquirer’s returns.

The preference for insider-dominated boards is largely grounded in stewardship theory. There are two interrelated sets of arguments for the superiority of insider-dominated boards on determining the likelihood of better performance:

- **Familiarity**—insiders are more familiar with the firm’s activities (Kesner 1987; Baysinger & Hoskisson 1990; Donaldson 1990; Donaldson & Davis 1991; Wagner, Stimpert & Fubara 1998; Ruigrok, Peck & Keller 2006).

- **Motivation**—insiders are likely to monitor management because they care about their reputation in the labour market (Donaldson & Davis 1994).

Proponents of stewardship theory contend that superior corporate performance will be linked to a majority of insiders on the board of directors because they provide specialised knowledge and expertise about their organisations and are better able to evaluate the CEO’s decisions (Kesner 1987; Baysinger & Hoskisson 1990; Wagner, Stimpert & Fubara 1998). Inside directors understand the business they govern better than outside directors and so can make better decisions (Donaldson 1990; Donaldson & Davis 1991; Ruigrok, Peck & Keller 2006). Underlying this rationale is the assertion that because insiders are naturally trustworthy, there will be no major agency risk.

Stewardship theorists argue that inside directors will not disadvantage shareholders for fear of jeopardising their reputation in the managerial or directors labour market (Donaldson & Davis 1994). Moreover, they act as effective monitors of
management if they perceive the opportunity to advance into positions held by incompetent executives.

Under stewardship theory, a board should have a significant proportion of inside directors to ensure more efficient decision making. Consistent with this theory, some researchers have found that inside directors are associated with higher firm performance (e.g. Kesner 1987). Vance (1968) and Pfeffer (1972) found that a large proportion of outside directors on the board is negatively associated with corporate performance. Agrawal and Knoeber (1996) showed that outside directors affect firm performance negatively even after controlling for the interdependence among various corporate control mechanisms. Bhagat and Black (2002) reported some limited evidence that firms with independent boards under-perform against other firms. With respect to market based performance, Kiel and Nicholson (2003) reported that the market has rewarded firms that have boards with a relatively lower proportion of outside directors. Subrahmanyam, Rangan and Rosenstein (1997) reported a negative relation between abnormal returns and the proportion of outside directors for banks involved in acquisitions.

There is a stream of research that predicts no relationship between the proportion of outside directors on the board and firm performance (Hermalin & Weisbach 1991; Daily & Dalton 1993).31 According to this view, inside and outside directors serve complementary roles on the board.32 The two types of directors bring different skill sets to decision making. The direct contact between corporate managers and outside directors on boards of directors where they see themselves as equals increases the likelihood that valuable information will be passed between them. This sharing of information makes it easier for both insiders and outsiders to evaluate the CEO's performance. Cooperation between the inside and outside directors should make the board more effective than in the case where either type of director dominates the board. Scholars have concluded that a complementary balance of inside and outside directors is

31 Yermack (1996) and Beiner et al. (2004) found no association between the proportion of outside directors on the board and firm performance for US and Swiss companies respectively.
32 Inside directors can provide internal monitoring due to their access to information on managerial performance (Fama & Jensen 1983; Baysinger & Hoskisson 1990). Such directors can also enhance board decision making because of their knowledge of day-to-day operations (Baysinger & Hoskisson 1990) and ability to integrate intra-firm functions (Hill & Snell 1988). Outside directors are viewed as a means of independent monitoring (Jensen & Meckling 1976; Fama & Jensen 1983; Kosnik 1990; Byrd & Hickman 1992), control of business practices (Davis 1991; Boeker 1992; Haunschild 1993) and advisors on strategic decision making (Baysinger & Hoskisson 1990; Johnson, Hoskisson & Hitt 1993).

Mehran (1995) and Klein (1998) reported a non-significant relationship between board independence and accounting performance while Morck, Shleifer and Vishny (1988) and Hermalin and Weisbach (1991) found no relationship between board independence and firm value measured using Tobin’s Q.\textsuperscript{33} Baysinger and Butler (1985) found empirical support for the prediction that a mix of insiders and outsiders on the board enhances firm performance. Lawrence and Stapledon (1999) failed to find consistent evidence for a direct relationship between the proportion of independent directors on the board and firm performance in publicly listed Australian companies.

While there appears to be no clear linear relationship between the proportion of non-executives and performance, it remains possible that a non-linear one exists. When the proportion of outsiders (non-executives) on the board is low, the board is dominated by managers who can impose their decisions. When the proportion of non-executives rises, they may impose their point of view and limit the managers’ discretion, creating an opportunity for better results in terms of post-acquisition performance. However, this would happen up to a point. If the proportion of non-executives on the board were too high, the board may not have enough information on how to run the company. This possibility will make the board more likely to make wrong decisions.

\section*{2.2.2. Ownership structure}

Berle and Means (1932) argue that when managers hold little equity in the firm and shareholders are too dispersed to enforce value maximisation, corporate assets may be deployed to benefit managers rather than shareholders. Self-monitoring (interest alignment) or external monitoring induced by ownership structure may promote the efficient utilisation of firm resources in acquisition projects. Porter (1980) and McGee and Thomas (1986) contend that ownership structure has influence on strategy and time horizons for decision making.

Ownership structure is mainly studied on two dimensions:

\begin{itemize}
  \item insider ownership—shareholdings by management and directors
\end{itemize}

\textsuperscript{33} Tobin’s Q is defined as the ratio of the market value of a firm to the replacement value of its physical assets.
blockholder ownership—shareholdings by blockholders.34

Significant ownership by insiders ensures the effective alignment of their interests with the interests of outside shareholders (Fama 1980; Fama & Jensen 1983). Concentrated shareholdings by blockholders may provide incentives for outside monitoring (Demsetz & Lehn 1985; Kroll et al. 1997; Wright et al. 2002; Ben-Amar & Andre 2006). These mechanisms may ensure that the firm will perform only value-creating acquisitions and therefore the post-acquisition performance of a firm with high level of insider or blockholder ownership is expected to be better than the performance of a firm with low levels of these ownership variables. The next subsections will describe in detail the literature discussing the influence of these mechanisms on performance.

2.2.2.1. Insider ownership

This section presents the theoretical arguments used in previous research to predict the relationship between insider ownership and firm performance in general and post-acquisition performance in particular. Overall, the large volume of literature addressing the issue of whether insider ownership plays a part in aligning the interests of managers and shareholders provides mixed results.35

Jensen and Meckling (1976) argue that as insider ownership increases, the interests of managers and shareholders converge and, therefore, agency conflicts are likely to be resolved. Increased insider ownership encourages managers to maximise shareholder value rather than simply pursue strategies that will offer them personal benefits. Giving managers a share of ownership requires them to bear a part of the cost of poor decisions (Jensen & Meckling 1976; Leland & Pyle 1977). Morck, Shleifer and Vishny (1990) propose that managerial ownership incentives may be the most effective deterrent to investments that decrease a firm’s value. Board members with high equity stakes are also more likely to exert a strong influence on managers’ decisions (Miller & Komorita 1987) and more likely to resist an acquisition proposal that destroys shareholder value (Buchholtz & Ribbens 1994). This ‘convergence of interest’ hypothesis suggests that firm value increases as management or director ownership rises

34 Blockholders are shareholders who own a significant portion of the firm’s shares—normally above five per cent.

35 A meta-analysis of 229 studies dealing with the relationship between insider ownership and firm financial performance has failed to find consistent evidence (Dalton et al. 2003).
(Jensen 1993). Morck, Shleifer and Vishny (1988) and Klein (1998) found evidence to support this hypothesis by showing that directors’ shareholdings are positively related to firm performance. Cosh, Guest and Hughes (2006) found that overall board ownership has a strong positive impact on long-term market performance and a weak positive impact on operating performance.

In the literature on M&As, it is often argued that the relationship between insider ownership and acquisition performance is monotonically positive (Lewellen, Loderer & Rosenfeld 1985; Agrawal & Mandelker 1987; Bethel & Liebeskind 1993; Johnson, Hoskisson & Hitt 1993; Kroll et al. 1997; Loderer & Martin 1997; Amihud & Lev 1999; Shinn 1999). Lewellen, Loderer and Rosenfeld (1985) demonstrated that announcement period abnormal stock returns are positively related to management ownership in the bidder. Agrawal and Mandelker (1987) also showed that insider ownership is higher for firms that choose mergers (and divestitures) that increase the value of the firm’s shares. Bethel and Liebeskind (1993) reported that managerial ownership is directly associated with profitable corporate strategies. Kroll et al. (1997) found that acquisitions made by manager controlled firms generated significant negative returns while for owner-manager controlled and owner controlled firms these transactions generated positive returns.36

Demsetz (1983) and Fama and Jensen (1983), among others, identified offsetting costs of significant insider ownership and argued that increased levels of insider ownership can be expected to result in bad corporate performance. Moreover, even for low levels of insider ownership, market discipline may still force managers to pursue value maximisation. In contrast, when managers own a substantial fraction of the firm shares, which confers them enough power and influence, they may satisfy their non-value-maximising objectives without endangering their employment and remuneration. These arguments give rise to the ‘entrenchment’ hypothesis, according to which excessive insider ownership has a negative impact on corporate performance because a level of insider ownership that is too high is likely to entrench the managers. Using listed firms in eight East Asian economies during the 1997 Asian crisis, Lemmon and Lins (2003) found evidence that stock returns of firms in which ownership is

36 Manager-controlled firms are those firms in which no single shareholder owned more than five per cent of the stock. Owner-manager-controlled firms were those firms in which at least one senior manager owned five per cent or more of the company. Owner-controlled firms were those firms that had at least one shareholder with a five per cent or greater stake.
concentrated in managers and their family members were significantly lower than those of other firms.

The association between insider shareholdings and performance may be non-linear. Combining the previous two sets of arguments, insider ownership appears to be motivated by the desire for direct monetary gain from share price increases as well as the possibility of exercising control over the company (De Miguel, Pindado & Torre 2004). These motives can cause managerial alignment (Jensen & Meckling 1976) and managerial entrenchment (Stulz 1988). Stulz (1988) argues that the relationship between the monetary motive and the control motive depends on the level of managerial ownership; low levels of ownership will be associated with the monetary motive and high levels will be associated with the control motive. This argument suggests a non-linear relationship between managerial ownership and firm value: as managerial ownership increases, the negative effects associated with the entrenchment of managers start to exceed the incentive benefits of managerial ownership.

Morck, Shleifer and Vishny (1988), McConnell and Servaes (1990, 1995), and Kole (1995) considered non-linearity in the relationship between insider ownership and corporate performance. Morck, Shleifer and Vishny (1988) reported a positive relationship between managerial ownership and Tobin’s Q for ownership levels between zero and five per cent and beyond 25 per cent and a negative relationship for levels over the five to 25 per cent managerial ownership range. They argued that while the convergence of interest hypothesis holds over smaller and larger ownership ranges, it is the entrenchment hypothesis that may explain the negative relationship between corporate value and managerial ownership when the managerial range exceeds five to 25 per cent. McConnell and Servaes (1990, 1995), using a quadratic regression, reported a positive relationship for up to 40 to 50 per cent of managerial ownership and a negative relationship beyond that. Kole (1995), rationalising the difference in findings of Morck, Shleifer and Vishny (1988) and McConnell and Servaes (1995) in terms of their samples, suggested that, for small firms, convergence of interest holds over a larger range of managerial ownership. Kole (1995)’s argument suggests that managerial ownership may impact large and small firms differently with respect to value. Short and Keasey (1999) also reported a non-linear relationship between managerial

37 If the monetary motive dominates the control motive, the interests of management are likely to be aligned with those of the other shareholders. Alternatively, if the control motive dominates the monetary motive, the managers with significant ownership levels may engage in non-value-maximising activity.
38 To account for this effect, the thesis will control for acquirer’s size as a determinant of performance.

Hubbard and Palia (1995) and Wright et al. (2002) documented non-linear relationships between value creation and insider ownership in US M&As, a result similar to that found by Bigelli and Mengoli (2004) for acquiring firms in Italy. Craswell, Taylor and Saywell (1997) documented only a weak curvilinear relationship between inside ownership and performance in Australia; the relation was found to be unstable across time and inconsistent over firm-size groups.

### 2.2.2.2. Blockholder ownership

This subsection presents the theoretical arguments used in previous research to predict the relationship between blockholder ownership and firm performance in general and post-acquisition performance in particular.

Agency theory assumes that managers’ monitoring can be accomplished when ownership is concentrated in the hands of large blockholders (Demsetz 1983; Shleifer & Vishny 1991). Given that ownership dispersion makes the monitoring of managers difficult, a positive relation between blockholder ownership and firm performance is expected (Shleifer & Vishny 1986; Holderness & Sheehan 1988; Stulz, Walkling & Song 1990). Investors with large ownership stakes may have strong incentives to maximise their firms’ value and are able to collect information and oversee managers. As such, they can help overcome the conflict of interests between outside shareholders and managers as the ‘monitoring’ hypothesis proposes (Jensen & Meckling 1976; Jarrell & Poulson 1987).

Evidence shows that the presence of large shareholders may increase the market value of a company (Baumol 1959; Morck, Shleifer and Vishny 1988; Zeckhauser & Pound 1990). Some researchers (e.g. Holderness & Sheehan 1985; Barclay & Holderness 1991; Bethel, Liebeskind & Opler 1998) have found that purchases of large stakes are followed by increases in stock value and high rates of top management

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39 Support for this argument was found by Wright et al. (2002), who identified that when managers possess moderate values of share ownership, the relationship between managerial shareholdings and stock return after an acquisition is significant and positive. When managers are major shareholders, however, the relationship becomes significantly negative.
Moreover, Bethel, Liebeskind and Opler (1998) reported that active investors typically target poorly performing companies for purchases of blockholdings. In the model developed by Shleifer and Vishny (1986), the presence of large shareholders in the bidding firm effectively promotes the interests of all shareholders.

High blockholder ownership may also lead to poor performance, as the ‘expropriation’ hypothesis proposes (Shleifer & Vishny 1997). This hypothesis argues that value reduction or redistribution may arise from the conflict between large controlling blockholders and minority shareholders. Baek, Kang and Park (2004) found evidence that Korean listed firms with concentrated ownership by controlling family shareholders experienced a larger drop in stock value during the 1997 financial crisis. With regard to M&As, large shareholders do not appear to be influential in merger decisions (Loderer & Martin 1997) and may actually be detrimental (Sudarsanan, Holl & Salami 1996) by encouraging managers to engage in wealth-decreasing combinations.

The two competing hypotheses presented above suggest the possibility of a non-linear relationship between blockholder ownership and performance (De Miguel, Pindado & Torre 2004). In a survey of the literature, Holderness (2003) concluded that while blockholders have incentives to monitor management, they might also consume corporate resources. This thesis accepts the above theoretical arguments and predicts a non-linear relationship between blockholder ownership and post-acquisition performance (Claessens et al. 2002). De Miguel, Pindado and Torre (2004) found evidence of a non-linear relationship between large shareholders’ ownership and firm performance for Spanish companies.

A problem with the relationship between large shareholders and performance is that not all shareholders are alike. They are different from one another with regard to their specific expectations and the extent of active monitoring they perform (O’Barr & Conley 1992; Monks & Minow 1995). Woidtke (2002) cautions that not all large shareholders are positively related to firm value, as some investors such as administrators of public pension funds (as opposed to private pension funds) may focus on political or social issues and not on firm performance. On the other hand, while some

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40 Empirical evidence suggests that the threat of outside intervention is high at substantial levels of outside blockholders and thus the managers may act to prevent their creation (e.g. Brennan & Franks 1997; Kahn & Winton 1998). For example, Brennan and Franks (1997) reported that initial public offerings (IPOs) in the UK are structured to increase the dispersion of ownership and to prevent the creation of outside blockholders.
owners might exercise power only when they have sizable equity holdings, others might engage in active monitoring at lower levels of ownership (Brickley, Lease & Smith 1988; David, Kochhar & Levitas 1998). 41

2.2.3. Financial leverage

This section presents the theoretical arguments used in previous research to predict the relationship between financial leverage, or debt, and firm performance in general and post-acquisition performance in particular.

In line with agency theory, debt is another monitoring mechanism to make management work in the interest of shareholders. Debt involves monitoring from the debtholders and leads to more strict financial control (Hitt et al. 1996). Debt obliges managers to choose good projects so that they will be able to pay back the funds and to borrow at a low interest rate in the future. High debt levels may require higher firm performance to pay back the debt (Seth 1990). Paying back the debt and interest is mandatory. If managers are not able to pay back in time, debtholders have the right to liquidate the firm. This so-called 'bankruptcy risk' forces managers to ensure that their firm has sufficient cash flows. While interest and principal payments on debt are mandatory, a firm does not have to pay dividends to its shareholders, and that is why managers are less constrained to have sufficient cash flows in a firm without leverage. This advantage of debt is more important in companies that generate large cash flows, preventing overinvestment (Jensen 1986). Shareholders may prefer a higher level of leverage than management in order to lower the agency risk of free cash flow. Debt also has tax advantages. Interest payments are tax deductible and thus will involve a higher profit for a leveraged firm in comparison to a firm without leverage.

However, debt may have also some costs determined by the fact that it may discourage investment initiatives. In the case of a firm with low growth opportunities, the most likely result is preventing managers from investing in negative present value projects. The leverage may also discourage investments in positive net present value projects because the benefits will accrue, at least partially, to the debtholders rather than

41 Brickley, Lease and Smith (1988) propose a classification of shareholders based on the nature of relationship that they have with the organisations they invest in. The pressure-sensitive shareholders are those who are susceptible to the influence exercised by the firm’s managers. Pressure-resistant shareholders are characterised as pure investors who have clear profit and growth objectives that cannot be influenced by the managers. Pressure-indeterminate shareholders do not have a clearly defined relationship with the managers, playing a passive role in some situations and a marginally active role in others.
to the shareholders (Myers 1977). This is known as the underinvestment problem. Highly leveraged firms are less likely to exploit valuable investment opportunities than firms with low levels of leverage. A related underinvestment argument centres on a liquidity effect. This argument submits that firms with large debt commitments invest less irrespective of the nature of their investment opportunities because they lack cash flows. Agrawal and Knoeber (1996) and Beiner et al. (2004) found no relationship between leverage and firm performance and argued that leverage is employed optimally in conjunction with other governance mechanisms.

Only a few empirical studies focus on the relationship between the acquirer’s leverage and the takeover outcome. Jensen (1986) observed that leverage-increasing acquisitions result in significant positive increases in share prices while leverage-decreasing ones result in significant decreases. Maloney, McCormick and Mitchell (1993) showed that the acquirer’s abnormal returns are related to pre-announcement acquirer’s leverage. This is consistent with the arguments put forward by Jensen (1986). More recently, Masulis, Wang and Xie (forthcoming) found that leverage has a non-significant positive effect on the acquirer’s returns.

In conclusion, financial leverage may provide monitoring and tax benefits that increase performance. Leverage also deters investment in good or bad projects, so the relationship between leverage and post-acquisition performance is likely to be moderated by the acquirer’s growth opportunities. However, with regard to agency risk, low levels of financial leverage may determine lower post-acquisition performance than higher levels of financial leverage.

### 2.2.4. Free cash flow

This section presents the theoretical arguments used in previous research to predict the relationship between free cash flow levels and firm performance in general and post-acquisition performance in particular.

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42 Aivazian, Ge and Qiu (2005) showed that leverage is negatively related to investment and that this negative effect is significantly stronger for firms with low growth opportunities than those with high growth opportunities. McConnell and Servaes (1995) examined a large sample of non-financial US firms operating in the years 1976, 1986 and 1988. For each year, they split their sample into two groups based on growth opportunities. They found that corporate value was negatively correlated with leverage for firms with high growth opportunities and positively correlated with leverage for firms with low growth opportunities. Their results are consistent with the hypothesis that leverage induces underinvestment and reduces firm value for high growth opportunities. They are also consistent with the hypothesis that leverage attenuates overinvestment and increases firm value for low growth opportunities. The later hypothesis is also confirmed by Lang, Ofek and Stulz (1996).
Free cash flow can have large potential costs. Jensen (1986) argues that the agency conflict between managers and shareholders is most severe in the presence of large free cash flows—that is, cash flows in excess of that needed to make the required payments to stakeholders and to fund the projects with positive net present value. Free cash flow theory postulates that, when a firm has free cash flow, it may invest in non-positive net present value projects (Jensen 1986). Management cannot always find profitable projects, but they do want to invest free cash flow in projects that they believe will maximise their personal benefits. Shareholders, on the other hand, prefer receiving the cash instead of it being invested in projects that will not increase the value of the firm. Paying out the free cash flow to shareholders in the form of dividends or by repurchasing shares will reduce the resources controlled by management and, therefore, subsequently increase the amount of monitoring by external capital providers necessary for the firm if it wants to obtain capital to undertake new investment projects (Rozell 1982; Easterbrook 1984). Easterbrook (1984) posited that frequent trips to the capital market help control the agency conflict between shareholders and managers. Plentiful internal financing reduces, however, the effectiveness of this control mechanism. Internal cash provides freedom from external due diligence and allows managers to make more mistakes than in the case of other better monitored firms. Jensen (1986) noted that acquisitions are a primary method by which managers can spend the cash instead of paying it out to their shareholders, and managers of firms with free cash flow are likely to undertake value destroying acquisitions. Harford (1999) submits that the managers of acquirers with excess cash may be prone to make acquisitions that are not well planned and hence not likely to perform well. The managers of firms with free cash flow are only interested in spending the cash as soon as possible on projects that will increase their benefits; having the free cash flow in the firm for a long time is not acceptable for the managers as the firm may become a takeover target for other firms that are interested in the available cash. Harford (1999) found that firms exhibit agency risks with respect to the accumulated free cash flow. In a study of 101 US tender offers in the period 1968–1986, Lang, Stulz and Walking (1991) found support for the negative influence of free cash flow on performance. The results revealed that an increase of free cash flow is associated with a decrease in abnormal returns of an approximately similar amount for low growth opportunities firms.

Some researchers suggest that free cash flow has a positive influence on investment and performance. Myers and Majluf (1984) argue that capital market imperfections deriving from asymmetric information between managers and capital
providers might make access to external funds costly for companies. In the presence of these imperfections, free cash flow may have a strategic role. Managers can increase firm value by managing their free cash flows as buffer stocks. These buffer stocks allow the firm to finance necessary investments internally even when current cash flows are insufficient to meet the firm’s investment demands. Thus, free cash flow provides benefits to shareholders by reducing the underinvestment problem. Under this hypothesis, firms with free cash flow are no more likely to make bad investments than any other firms. Moreover, Hanson (1992) and Smith and Kim (1994) have found that there are gains in an acquisition when firms with financial problems combine with cash rich firms. However, Masulis, Wang and Xie (forthcoming) showed that free cash flow has an insignificant effect on bidder returns.

In conclusion, free cash flow has costs and benefits. However, with regard to agency risk, high levels of free cash flow may determine lower post-acquisition performance than low free cash flow levels.

2.2.5. Theoretical proposition for the influence of agency risks

This chapter has outlined the literature on the monitoring or interest alignment mechanisms that can be used against agency risks and their relationship with post-acquisition performance. A mechanism that can encourage self-interest and induce agency risks in performing an acquisition—that is, free cash flow—was also discussed. The monitoring or interest alignment mechanisms can be complements to, or substitutes for, each other (Rediker & Seth 1995; Agrawal & Knoeber 1996; Sundaramurthy, Mahoney & Mahoney 1997; Gillan, Hartzell & Starks 2003; Cremers & Nair 2005). An efficient corporate governance system includes a multiplicity of mechanisms to ensure that the interests of shareholders are protected against the agency risks (Suchard, Singh & Barr 2001; Beiner et al. 2006). To address this issue, this thesis considers together in a model all the variables that describe the monitoring or interest alignment mechanisms, plus the variable for free cash flow. The lack of a relationship between one

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43 For example, Coles and Hesterly (2000) found that the relationship between board leadership duality and shareholder wealth is largely contingent on board structure, reinforcing the importance of moderating monitoring or interests alignment mechanisms in examining the impact of duality. This is a view echoed by other scholars (e.g. Conyon & Murphy 2000; Davidson et al. 2004). There is also evidence that board size, together with other features of the board, is endogenously determined by ownership structure (Hermalin & Weisbach 2003).
mechanism and post-acquisition performance may mean that other mechanisms influence the relationship.

The central proposition of this chapter is that firms with good monitoring or interest alignment mechanisms make better acquisitions because of decreased agency risks whereas firms with mechanisms that increase agency risks make poorer acquisitions.

**Proposition 1:** In the absence of efficient monitoring or interest alignment mechanisms, post-acquisition performance is likely to be lower than in the presence of these mechanisms. Further, the existence of mechanisms that encourage self-interest will increase the likelihood of poor post-acquisition performance.
Chapter 3. Pre Deal: Non-agency motivations

The previous chapter discussed the first approach used in the literature on investments and M&As—the agency approach. This chapter focuses on the second approach—the stewardship approach, which concerns shareholder wealth oriented motivations for engaging in an acquisition—that is, the synergistic and opportunistic motivations. Synergistic motivations are considered in terms of horizontal, vertical or conglomerate acquisitions performed to exploit the potential synergy gains. Opportunistic motivations refer to the exploitation of opportunities offered by the existence of undervalued assets due to specific market conditions or those that are identified as a result of previous shareholdings relationships between companies.

3.1. Synergistic motivation

Three categories of acquisitions can be distinguished when the synergy motives for acquisitions are analysed—horizontal, vertical and conglomerate (Brealey & Myers 2000). Horizontal acquisitions involve companies that operate in the same product market and, hence, are likely to be competitors. Vertical acquisitions involve firms at different stages of the value chain, so they have a potential or existing buyer-seller relationship. When the acquirer and target firms are not related to each other in terms of product markets or production processes, the transaction is a conglomerate or diversifying acquisition. Each of these three types of deals is likely to have specific synergy or value-increasing effects.

3.1.1. Horizontal acquisitions

The principal objectives of horizontal integration are to increase the company’s market power and to remove competitors (Chatterjee 1986; Seth 1990; Fee & Thomas
Consequential advantages may include raising prices and profitability, increasing barriers to entry in the product markets served by the organisation, increasing the capital market valuation of the organisation and obtaining access to finance and other resources (Buzzell & Gale 1987; Fee & Thomas 2004). Horizontal acquisitions may also provide economies of scale and scope (Nguyen, Seror & Devinney 1990; Seth 1990). They may arise through efficient use of management resources, increased specialisation and information sharing among resource and development (R&D) departments (Hitt, Harrison & Ireland 1991), and in general through growth in the scale of operations (Pfeffer 1972). Larger firms can lower the costs of their inputs by taking advantage of higher purchasing power. Cost synergies can also arise from the divestiture of redundant assets and activities (Capron 1999). These cost savings may directly contribute to profits or enable a company to be more competitive in the market, thus further increasing market power. Negative effects of horizontal integration can also be identified—for example, the risk of focusing on an individual market. However, the benefits are argued to overcome the costs and result in an increase in performance (Capron 1999). Nevertheless, the empirical evidence on changes in performance around horizontal acquisitions is mixed (e.g. Ravenscraft & Scherer 1987; Healy, Palepu & Ruback 1992; Ghosh 2001; Sung & Gort 2006).

3.1.2. Vertical acquisitions

Vertical acquisitions take two basic forms—forward integration, in which a firm buys a customer, and backward integration, in which a firm acquires a supplier. Strategic benefits of vertical integration may arise from avoiding market and transaction costs; offsetting bargaining power; elevating entry and mobility barriers; and achieving economies of combined operations, economies of internal control and economies of information coordination (Porter 1980; 1985). Vertical acquisition internalises all transactions between the company and its supplier or customer, thus removing a potentially adversarial relationship. The risk of upstream factors of production coming to a sudden halt as a result of problems in the contractual relationships with suppliers is

44 Seth (1990, p.101) defined market power as: "...the ability of a market participant or group of participants to control the price, the quantity or the nature of the products sold, thereby generating extra-normal profits."

45 Mintz (1994) defined economies of scale and scope in the following way: "Economies of scale are reductions in average and marginal costs that result from the increased size of an operating unit.... Economies of scope are reductions in average and marginal costs that result from using facilities and processes in a single operating unit to produce a larger variety of goods and services." (1994, p. 120-121)
offset by integrating vertically upstream. Similarly, integrating downstream offsets risks associated with barriers to entry in the market that can be imposed by rival firms through, for example, the closure of distribution channels.

Vertical integration may change patterns of value chain and industry behaviour. Regardless of whether the integration is forward or backward the newly acquired firm may decide to deal only with the acquiring firm, thereby altering competition among the acquiring firm’s suppliers, customers or competitors. This will create a competitive advantage for the vertical acquirer that may increase shareholder wealth even though it might be to the detriment of other players in the market (Chen 2001).

Vertical integration may also lead to an increase in fixed costs, investment risk, reduced flexibility and dulled incentives for the firm to seek alternative producers. The corresponding ownership links may tie a firm to a producer that becomes inefficient or suffers decreasing quality of output. Vertical integration may also act as an exit barrier. Given that the firm may have developed asset specificities as a result of integrating vertically in a particular market, it may be hindered from switching to the provision of an alternative product when there is a decrease in demand for the existing product (Joskow 1998). A further disadvantage is losses on each step of the value chain in times of low demand.

It is argued that, on average, the potential benefits of vertical integration are likely to result in an increase in performance that will offset the potential negative effects. Fan and Goyal (2006) found that vertical mergers generate significant positive wealth effects. The average combined wealth effect in vertical mergers was found to be about 2.5 per cent during the three-day event window surrounding the announcement of the acquisition transactions in a sample of US acquirers during 1962-1996. The wealth effect was significantly larger than for diversifying mergers. Fan and Goyal (2006) also found that the wealth effect in vertical mergers was comparable to that in horizontal mergers.

### 3.1.3. Conglomerate acquisitions

Conglomerate acquisitions provide opportunities for firms to reduce capital costs through risk reduction and to gain conglomerate power. Benefits of conglomerate acquisitions may arise due to the fact that the acquirer and the target are likely to have revenue streams that are not correlated (Seth 1990). When these firms combine, their
earnings and cash flows may become more stable and predictable. Consequently, diversification as a result of conglomerate acquisition reduces the cash flow risk and the bankruptcy risk (Hitt, Harrison & Ireland 1990). By reducing these risks, conglomerates may borrow at less cost from risk sensitive lenders, who are willing to charge less in return for a lower default risk (Lewellen 1971; Winton 1999). Conglomerate diversification may also add value by creating internal capital markets (Klein 2001; Villalonga 2004).46

Collusion theory suggests that firms engaging in diversification may gain advantages because they can exercise conglomerate power (Hill 1985). Montgomery (1994) identified three ways in which conglomerate power can be created:

- cross-subsidisation
- reciprocal buying
- mutual forbearance.

Cross-subsidisation arises when a firm employs the revenues earned in one product line to support another (Palepu 1985). This may facilitate predatory pricing to drive out competitors. The diversified firm will use the profits generated in some industries to sustain the other industries’ losses that may occur as the firm cuts prices below those of its competitors. Reciprocal buying means that diversified firms may give preference in purchasing inputs to firms that buy outputs from them (Montgomery 1994; Grant 1995). Diversified firms are also likely to encounter each other in a considerable number of markets (Edwards 1955). Consequently, they might compete less vigorously because they adopt a mutual forbearance policy (Grant 1995).

Notwithstanding these potential benefits available to conglomerate acquirers, researchers argue that, because of the costs involved in managing a diversified set of activities (i.e. coordination and bureaucratic costs and the costs of inefficient investment decisions), the performance of a conglomerate acquirer is likely to be low (e.g. Rajan et al. 2000; Fulghieri & Hodrick 2006). Further, a substantial part of the literature suggests that, in general, conglomerate M&As are less successful than horizontal and vertical

46 Empirical evidence by Lamont (1997), Houston, James and Marcus (1997), Shin and Stulz (1998), Scharfstein (1998), and Rajan, Servaes and Zingales (2000) on the efficacy of internal capital markets suggests that funds may actually flow in the wrong direction (i.e. from divisions with excellent investment opportunities to divisions with poor opportunities).
M&As because the potential synergy benefits are lower or difficult to obtain (e.g. Kusewitt 1985; Porter 1987; Singh & Montgomery 1987; Datta 1991; Oster 1994).

3.1.4. Theoretical proposition for the influence of synergistic motivation

As discussed above, horizontal and vertical acquisitions are likely to present synergy benefits that will positively influence performance. Although conglomerate acquisitions have the potential to achieve synergy, they might not result in performance improvements due to costs implied by diversification. Thus, synergistic motivation is more likely to manifest in the case of horizontal and vertical acquisitions as opposed to conglomerate acquisitions. The general proposition that can be formulated based on previous discussion is:

Proposition 2: Synergistic motivation has a positive influence on post-acquisition performance.

3.2. Opportunistic acquisitions

An opportunistic acquisition occurs when undervalued assets that have no seemingly strategic relevance to the acquirer are identified and acquired. According to opportunistic or speculation theory, the market undervalues companies and managers may identify them as attractive investments. An offer can be made opportunistically when the external market conditions determine the undervaluation of a target in the market (e.g. during a low market cycle) or when the acquirer obtains private information that the potential target is undervalued (e.g. a prior shareholding in the target facilitates the access to such information). These situations are discussed next.

3.2.1. Market cycle and merger wave

During low-equity market cycles, the majority of the assets are likely to be undervalued. An acquirer that can afford a takeover might take advantage and act opportunistically, paying only a part of the real value for the target assets. Moreover,

47 Private information plays an important role because managers can acquire companies cheaper if they possess information that is not yet in the market.
acquisitions undertaken opportunistically during low market cycles will exhibit, according to Pangarkar and Lie (2004), good performance for two key reasons—a low likelihood of overpayment due to hubris or agency, and ease in implementing restructuring projects. Low market cycles are characterised by poor organisational profitability and low equity prices, which in turn lead to decreased top management power (Eisenhardt & Bourgeois 1988), stigma (Sutton & Callahan 1987), and the deterioration of the management’s authority and confidence (Hayward & Hambrick 1997). During low-equity market cycles, limited financial resources might also induce managers to scale back their acquisitions plans and select only the best projects (Kusewitt 1985; Lubatkin & O’Neill 1987). Top managers will be less likely to overpay for otherwise undervalued acquisition targets because they are constrained by the scepticism of the rest of the organisation and are unlikely to be affected by hubris. The lower premium will impact on acquirer performance in three distinct ways:

- improving the net present value (Hogarty 1970; Sirower 1997)
- avoiding a negative reaction due to overpayment
- reducing (or avoiding) the creation of goodwill on the balance sheet, which involves a mandatory write-off (Rappaport & Sirower 1999).

It also can be argued that restructuring strategies, which are often crucial for the realisation of value improvements after acquisitions, may be easier to implement during low market cycles. During an economic downturn, it might also be easier to undertake restructuring in general (Morosini & Singh 1994) because the stakeholders expect the firm to undertake significant, even painful, strategic initiatives in response to the environmental malaise (Barton, Newell & Wilson 2002).

On the other hand, high market cycles, which often occur contemporaneously with an improved economic outlook, lead to a general improvement in performance (in terms of profitability and stock returns). Prior studies have shown that managers will pursue aggressive mergers and acquisitions strategies during such a period (e.g. Lubatkin & Chatterjee 1991). Shleifer and Vishny (1992) hypothesise that merger waves always occur in market booms because increases in cash flows simultaneously increase fundamental values and relax financial constraints. Given that organisational success is often attributed to leaders (Hayward & Hambrick 1997), managers might become assured and place strong faith in the efficacy of their leadership (Miller & Chen 1994). Successful managers are less likely to be self-critical and more lax in their
analysis, especially regarding the magnitude of synergies available from acquisitions (Sirower 1997). Managers’ overconfidence and power may also be bolstered by strong commitment from the rest of the organisation due to good performance (Brockner 1988). Under these circumstances, managers are likely to be affected by hubris and this may be reflected in the adoption of riskier strategies and overpayment (Roll 1986). The likelihood of overpayment is accentuated because there is strong competition for target firms. Moreover, target share prices are also likely to be inflated as a result of the high market cycle. The implied overpayment will have a negative impact on performance.

Kendig (1998) argues that takeover waves are a consequence of greater management hubris and less binding corporate governance during high market cycles. Increased takeover activity motivated by agency considerations is a consequence of these features. Martynova and Renneboog (2005) argue that the number of misevaluated bids is expected to increase with booming equity markets, when uncertainty about the true value of firms is especially pronounced.

In summary, acquisitions undertaken during low market cycles are likely to exhibit higher net present values and be perceived more favourably by the equity markets than acquisitions performed during high market cycles. A similar relationship for accounting performance can be predicted from previous arguments regarding possible agency and hubris problems in undertaking acquisitions during different market cycles.

3.2.2. Acquirer’s prior ownership in the target

An acquirer’s initial stake in the target may determine a financial and strategic advantage and higher returns (Grossman & Hart 1981; Shleifer & Vishny 1986; Franks & Harris 1989; Stulz, Walkling & Song 1990; Bulow, Huang & Klemperer 1999; Ravid & Spiegel 1999; Betton & Eckbo 2000; Bris 2002). These returns could be attributed to the information advantage provided by the initial shareholding (Burkart 1995). The existence of information asymmetry between potential rival bidders has a significant influence on the competition for targets and the size of the acquisition premium (Barney 1988).

The theory of corporate opportunistic driven M&As views acquisitions as being executed by acquirers who have information unavailable to the market about the unrealised potential value of the target (Steiner 1975; Holderness & Sheehan 1985;
Ravenscraft & Scherer 1987). The assumption of speculation or opportunistic theory is that the acquirer possesses valuable and unique information to enhance the value of a combined firm through purchasing an undervalued target or deriving benefits from combining the target's business with its own. As the market may not have been aware of the possibility of the more productive use of the acquired firm's assets or may have discounted the probability that the acquisition would occur (for example, because of management resistance or opposition by regulatory agencies), the pre-acquisition market price may not reflect the full value of the company in this alternative use.

Barney (1986b) presents other two possibilities for undervaluation. First, a myopic market focuses on short-term periods because important players such as institutional investors are focused on short-term returns. As a consequence, companies with long-term investment horizons are undervalued in the market. As such, those companies are attractive targets for acquirers with financial resources. Second, firms can have a market price under the real value of their net assets because of prior bad management. Such companies have good fundamentals, such as growth prospects and attractive products, but the market corrects their value because they are not efficiently run. When this happens, companies looking for growth will acquire these companies as a strategy to increase production capacity at a low cost. Therefore, the acquirer can profit from the acquisition.

One of the most common criticisms of opportunistic theory is that it is impossible to acquire accurate and tangible private information about the acquisition results (Trautwein 1990). However, an acquirer can gain private information about a target by purchasing a toehold before the acquisition.

The economic literature has shown that whenever a firm has a toehold in a potential takeover target, other bidders may suffer from a competitive disadvantage (e.g. Betton & Eckbo 2000). This effect would shield the firm from the competitive pressure and would yield a situation in which new bidders are discouraged from entering into the competitive bidding (Bulow, Huang & Klemperer 1999). A related effect is that the toehold provides the firm with additional negotiating power, which would be expected to lead to a lower final price and greater value captured by the acquirer. Abnormal
returns should therefore be higher when the acquirer has a toehold in the target firm. However, Grossman and Hart (1980) showed that this kind of acquisition may present some complications because the acquirer must pay at least the value of the remaining shares if the bid succeeds, which may not be profitable for the acquirer. In some cases, acquiring a toehold may be costly because it reveals to the target’s shareholders that their firm is a target for acquisition. This may induce a significant price reaction that jeopardises the potential gains from the acquisition.\(^4\) Nevertheless, given that a previous toehold in the target is likely to offer opportunities for the acquirer to learn more about the target, it is more likely that the acquirer will pursue the acquisition in the case of greater value creation prospects than otherwise. In conclusion, it can be predicted that acquirers who own a high proportion of the target’s shares prior to the acquisition are more likely to perform better after acquisition than those who own fewer shares. In Australia, the evidence on the influence of the toehold on acquisition performance is limited to work by Canil and Rosser (2004), who found significantly negative abnormal returns surrounding takeover announcements by toehold bidders. However, no Australian study has looked at the influence on long-term performance, where the private information implied by the toehold can show its effect.

3.2.3. Theoretical proposition for the influence of opportunistic motivation

Acquisitions are considered opportunistic when they are performed during a low market cycle or as a result of a previous shareholding of the acquirer in the target. The general proposition that can be formulated based on the above discussion is:

**Proposition 3:** There is a positive relationship between opportunistic acquisitions and post-acquisition performance.

\(^4\) As soon as the bidder acquires more than a five per cent stake in the target, a form must be filed with the appropriate securities commission. This form includes a statement of bidder intentions (in this case, to eventually acquire the target). If markets are assumed to be reasonably efficient, this information should lead investors to expect an eventual bid on the firm and the target’s share price should increase. This makes the acquisition more expensive to the acquirer (Schwert 1996). However, a bidder can mask this by acquiring indirect shareholdings through its subsidiaries.
Chapter 4. Selection of the target

Based on the agency or synergistic acquisition motives, the acquirer selects a target firm with the required characteristics. In the case of opportunistic motivation, the selection of the target is based on the identification of undervalued targets and other characteristics do not matter (see section 3.2 above).

The selection of the target for acquisition in the case of agency and synergistic motivation is conditional on the completion of an individual and comprehensive due diligence process (Angwin 2001). Due diligence is intended to be an objective, independent examination of the acquisition target (Wen, Wang & Wang 2005). During the due diligence process, the acquirer ensures that the required resources are present in the target. The potential for a target to possess the required resources can be predicted by the degree of relatedness between the acquirer and the target. Related targets are more likely to have the resources that are needed to perform well in a specific market while unrelated acquisitions provide the required resources for expanding into other markets. The required resources also have to be present in sufficient quantity in order to allow the fulfilment of the acquisition’s agency or synergistic motive. Moreover, in the case of synergistic motivation, in order to achieve the potential synergies, these resources have to be managed or integrated into the acquirer. The difficulty of performing these processes rises with the quantity of new resources that need to be managed. Thus, the target characteristics that are likely to be considered during the selection of the target are:

- relatedness between the acquirer and the target
- relative size of the target compared to the acquirer.

These characteristics are examined in the next sections. Following this, a proposition will be developed concerning the influence of these characteristics on performance.
4.1. Relatedness between the acquirer and the target

Related acquisitions are combinations of firms that sell the same or similar products, serve similar markets or are vertically linked (Chatterjee 1986; Blackburn, Lang & Johnson 1990). Unrelated acquisitions are combinations without these connections. Related acquisitions usually result in an increase in focus of the acquiring company’s operations while unrelated acquisitions help diversify the company.

4.1.1. Relatedness and performance

The impact of the degree of relatedness between target and acquirer on subsequent performance has received previous attention from academics (e.g. Salter & Weinhold 1981; Amit & Livnat 1988; Denis, Denis & Yost 2002). This research is a subset of the research on diversification.50

Researchers such as Salter and Weinhold (1979), Lubatkin (1983), Kusewitt (1985), Palich, Cardinal and Miller (2000) and Denis, Denis and Yost (2002) state that related acquisitions should exhibit superior performance based on arguments from the diversification literature and the literature on industrial organisation. Related acquisitions are hypothesised to be more beneficial than unrelated ones because of the greater number of strategic fits possible (Salter & Weinhold 1979; Singh & Montgomery 1987; Lubatkin 1987; Shelton 1988). Strategic fits create synergies that enhance the performance of the combined firms. Ansoff (1965), Rumelt (1974), Porter (1985) and Datta, Pinches and Narayanan (1992) argue that the increased value generated by an acquisition is the result of synergy created by the combination of the related assets of target and acquiring firm.51 Lubatkin (1983) argues that while unrelated acquisitions may lead to synergies in areas such as finance, growth prospects and management, the potential benefits of related acquisitions are more easily obtained. Moreover, Singh and Montgomery (1987) argue that, generally speaking, it is easier for related firms to tap the benefits available to unrelated diversifiers than it is for the unrelated firms to exploit the sources of value creation that are available to the related firms. The actions performed to obtain the benefits associated with unrelated diversification may lead to increased costs that cancel out the benefits gained (Rajan,

50 For a review of the corporate diversification literature, see Martin and Sayarak (2003).
51 A key role is assigned to the economies of scale and scope that result when two firms are able to benefit from combining their operations. Compared to unrelated acquisitions, related acquisitions may provide greater synergistic benefits arising out of economies of scale and scope because the possibilities of transferring core resources and skills across firms are mainly associated with such acquisitions.
Servaes & Zingales 2000; Fulghieri & Hodrick 2006). The costs of diversification include the costs of inefficient investment decisions, power struggles and incentive degradation. There are also bureaucratic and coordination costs. As such, managers may be drawn to invest the cash flows from one division into businesses and projects that might not have positive net present value, thereby creating organisational inefficiencies (Jensen 1986; Berger & Ofek 1995). Comment and Jarrell (1995) showed that diversified firms fail to take advantage of the purported benefits of diversification. The managers of diversified firms produced by unrelated acquisitions may find it increasingly difficult to give proper attention to all aspects of the business that are dissimilar (Grant, Jamime & Thomas 1988). This reduced attention increases the possibility of managers making poor decisions that will negatively influence performance.

Researchers argue that unrelated acquisitions are more likely than related acquisitions to be implemented by managers to achieve their own goals at shareholders’ expense (e.g. Morck, Shleifer & Vishny 1990; Aggarwal & Samwick 2003a). Specifically, it is argued that unrelated acquisitions can best serve managers by enhancing their compensation as a result of increased firm size and complexity (Kroll, Simmons & Wright 1990), reducing their income risk (Amihud & Lev 1981; May 1995; Berry et al. 2006), or entrenching them in the firm (Shleifer & Vishny 1989). 52

Based on the empirical evidence in the diversification literature, Denis, Denis and Sarin (1997) argue that ‘focused’ firms outperform their more diversified counterparts. However, it should be noted that this finding is not universal across (or within) studies (Michel & Shaked 1984; Dubofsky & Varadarajan 1987; Matsusaka 1993; Servaes 1996). Nevertheless, the evidence that supports the disadvantages of diversified firms comes from a variety of sources. Scharfstein (1998) concluded that diversified firms:

- tend to have lower Tobin’s Q
- trade at discounts when compared to the value of a portfolio of comparable single-segment firms
- face an increased likelihood of being broken up through reorganisation that varies directly with the size of the discount, and

52 Berry et al. (2006) found that CEO turnover in diversified firms is completely insensitive to both accounting and stock price performance but CEO turnover in focused firms is sensitive to firm performance. Diversified firms also experience less forced CEO turnover than focused firms.
• experience positive stock market reactions following increases in corporate focus.

Decisions that lead to a reduction in the diversity of a firm's operations are found by some researchers to increase share value, improve the firm's prospects for future long-term performance and increase its operating performance. For example, Daley, Mehrotra and Sivakumar (1997) found that spin-offs that increase corporate focus (i.e. the spin-off division and the continuing units are unrelated) add more value than own industry spin-offs. Desai and Jain (1999) found that abnormal returns spanning three years after a spin-off that increases corporate focus are greater than the returns to firms after spin-offs that do not. Desai and Jain (1999) also found that improvements in operating performance are consistent with improvements in market performance. Similarly, John and Ofek (1995) found evidence of improved operating performance over the three years following asset sales that lead to an increased corporate focus. In addition, Liebeskind and Opler (1994), Berger and Ofek (1995), Comment and Jarrell (1995) and John and Ofek (1995) documented a trend towards increased corporate focus in the 1980s and report that this was associated with significant increases in shareholder value. However, neither Ghosh (2001) nor Linn and Switzer (2001) found a positive relationship between corporate focus and long-term operating performance.

In Australia, Bosworth et al. (1997) and Feeny and Rogers (1999) found that more focused firms have higher profitability than diversified firms. Fleming, Oliver and Skourakis (2003) found that Australian multi-segment firms traded at a greater discount than a comparable portfolio of single-segment firms over the same period.

In the literature on mergers and acquisitions, Healy, Palepu and Ruback (1992) discovered better long-term operating performance when mergers were between firms in highly overlapping businesses than between firms with low levels of business overlap. Morck, Shleifer and Vishny (1990) found that in unrelated US acquisitions during the 1980s, the acquirers' stock prices declined in the short term by an average of 4.09 per cent relative to the acquisition value compared to a gain of 2.88 per cent for related acquisitions. A cross-section analysis of long-term market returns performed by Morck, Shleifer and Vishny (1990) showed that acquirers' returns are significantly higher when the acquirer and the target are related compared to cases in which they are unrelated. Megginson, Morgan and Nail (2004) also found strong evidence indicating that the primary determinant of long-term performance in acquisitions motivated by synergies is
the degree of relatedness between the partners; related acquisitions, by creating focused companies, perform better both in terms of market and accounting returns than acquisitions that result in diversified companies.

Another stream of the diversification literature argues that the advantages that accrue only to unrelated firms are just as high as those accruing to related firms. Further, the benefits of relatedness may not be obtainable due to impediments in exploiting relatedness arising from implementation difficulties. Applying these arguments to the related/unrelated dichotomy in acquisitions, two specific arguments can be proposed. Firstly, while the economies of scale or scope obtained in related acquisitions may appear high, there are also some sources of value creation which can only be obtained in unrelated acquisitions—that is, coinsurance and financial diversification. Secondly, impediments that arise from the implementation process necessary to obtain the benefits of related acquisitions may cancel these benefits out. Therefore, the performance implications of unrelated acquisitions may not be better than the performance implications of related acquisitions. These arguments are presented in detail in the following discussion.

Firstly, in unrelated acquisitions, the acquirer may gain financial benefits due to a greater stability of cash flows. In this case, value creation is linked to the 'coinsurance' effect. This is the primary argument in favour of unrelated diversification and it was introduced in the literature by financial economics researchers under the name of the coinsurance hypothesis (Lewellen 1971). When the cash flows of the acquirer and target are not perfectly correlated, financial synergy from the reduced probability of bankruptcy of the combined firm may be reaped. Since the cash flows of firms involved in unrelated acquisitions are likely to be uncorrelated, there is room for financial synergy to be realised. On the other hand, the cash flows of firms in related acquisitions are likely to be more closely correlated, leaving less scope for such synergistic gains. A similar argument for unrelated acquisitions performing at least as good as related acquisitions comes from portfolio theory, which suggests that industry specific risk can be reduced only through extra-industry diversification (Kim et al. 1989). Therefore, unrelated acquisitions can do more to reduce risk because this strategy involves business units in multiple industries (Amit & Livnat 1988). Although some researchers (e.g. Lubatkin & Rogers 1989) argue that related acquisitions enjoy reduced risk because of their superior competitive advantage, most researchers still believe risk reduction is mainly obtained in unrelated acquisitions (Barney 1997). The lower risk
that results from portfolio effects and reduced probabilities of bankruptcy can lead to
increased debt capacity (Seth 1990) and lower debt costs (Porrini 2004). Moreover, as
interest expenses are tax deductible, firms that pursue unrelated acquisitions may also
enjoy the windfall of reduced taxes (Amit & Livnat 1988). As a result of unrelated
acquisitions, an internal capital market can also arise (Hubbard & Palia 1999; Billett &
Mauer 2003).

Secondly, arguments for the superiority of related acquisitions in terms of post-
acquisition performance rely mainly on the initial phases of the acquisition process and
on the potential gains from resource combination. It can be argued that related
acquisitions may not fare that well when the later phases of the acquisition process are
analysed. A growing stream of research in the theory of diversification suggests that
implementation strategies are crucial for the success of strategies motivated by potential
synergy benefits, with mounting evidence that implementation difficulties may offset
the potential benefits of relatedness (Reed & Luffman 1986; Nayyar 1992). The
evidence from mergers and acquisitions research suggests that realising potential
synergy benefits requires appropriate implementation processes (Datta 1991; Pablo
1994; Larsson & Finkelstein 1999). It seems that value creation in mergers and
acquisitions comes not only from relatedness but also from the management of the
activities employed to obtain the benefits of relatedness (Haspeslagh & Jemison 1987).
Related firms may not be able to fully exploit the benefits of relatedness designed in the
portfolios of businesses. Markides and Williamson (1994) referred to this as
'exaggerated relatedness', suggesting a 'mirage effect' when assessing apparent
similarities between business units. They argued that related acquisitions will
outperform unrelated acquisitions only to the degree that they are able to exploit
relatedness. Nayyar (1992) pointed out that the activities which are necessary to exploit
relatedness lead to costs that partially blunt the benefits of that strategy. In particular,
impediments to relatedness exploitation result from a lack of communication between
units, problems allocating joint costs, incentive distortions generated from intra-firm
competition (rather than the necessary cooperation among managers) and incompatible
technologies. Any portfolio of related businesses, no matter how well planned, will face
such obstacles to performance. Consequently, synergy initiatives often fall short of
management expectations (Goold & Campbell 1998), blunting the primary advantage of
related acquisitions over unrelated alternatives. On the other hand, it can be argued that
the choice of unrelated acquisition partners is virtually unlimited and that integration
into the existing organisation may not be necessary. Operational autonomy and
centralisation of cash flows and capital allocation might be sufficient to realise the desired benefits in the case of unrelated acquisitions.

These arguments point to the superiority of unrelated acquisitions in terms of post-acquisition performance (Elgers & Clark 1980; Lubatkin 1987). Some research has found that relatedness does not influence shareholder returns at announcement or that announcements of unrelated acquisitions can enhance shareholder returns more than announcements of related acquisitions (Elgers & Clark 1980; Chatterjee 1986; Lubatkin 1987; Lubatkin & O’Neill 1988; Blackburn, Lang & Johnson 1990; Matsusaka 1993).

Nevertheless, the large empirical evidence to date appears to show that diversification has no consistent impact on performance. The review of the diversification literature by Martin and Sayrak (2003) indicates four prevalent sets of findings:


• an inverted U-shaped relationship (Grant, Jammime & Thomas 1988; Palich, Cardinal & Miller 2000).

The strongest conclusion that can be made on an a priori basis regarding the related and unrelated acquisitions is that these two types of acquisitions are associated with different sources of value creation (Seth 1990). Existing diversification theory does not permit researchers to draw the further conclusion that a given source of value creation creates a greater amount of value, on average, than another (Seth 1990). For example, the theory does not lead researchers to assume that economies of scope (which are likely to be associated with related acquisitions) should create more value, on average, than coinsurance (which is likely to be associated with unrelated acquisitions). The difficulties in achieving the benefits of related or unrelated acquisitions need a closer examination due to their likely moderating influences on the relationship between relatedness and post-acquisition performance.

4.1.2. Influences on relatedness

As discussed earlier, some researchers argue that conglomerate diversification leads to the destruction of shareholder value, implying the existence of a diversification discount. A number of studies have begun to question this connection (e.g. Lang & Stulz 1994; Campa & Kedia 2002; Hyland & Diltz 2002; Villalonga 2004). These studies do not question the existence of a discount for diversified firms. They instead argue that the discount is attributable to factors other than diversification based on the idea that conglomerate firms are somehow different prior to the start of their diversification program. Formally, firms that choose to diversify are systematically different from the typical focused firm, and a failure to control for the endogenous effects in the diversification decision can lead to incorrect inferences. Support for this contention comes from the observation that diversified firms tend to trade at a discount prior to diversifying. Lang and Stulz (1994) found that diversifying firms are poor performers prior to conglomerations. Hyland and Diltz (2002) found that conglomerate firms perform poorly and adopt a diversification strategy in an effort to acquire growth opportunities. Similarly, Campa and Kedia (2002) found that conglomerate firms differ from single-segment firms in terms of size; ratio of capital expenditures to sales; ratio of earnings before interest and taxes to sales; industry growth rate; and ratio of R&D expenditure to sales. They also reported that the conglomerate firms tend to be sold at a discount prior to the implementation of their diversification strategy. Controlling for
these differences, Campa and Kedia (2002) noted that the diversification discount either dropped or disappeared. The research reported in this thesis also controls for the characteristics of the acquirer and its industry to account for confounding influences.

There is also evidence that the diversification discount implied by previous research is at least partially determined by the firm's corporate governance structure used to limit the discretion of managers to pursue their own objectives (May 1995; Palia 1999; Anderson et al. 2000). The performance implications of relatedness are also moderated by the post-acquisition processes. While the influence of the corporate governance mechanisms will be discussed next, the effect of the interaction between relatedness and integration processes on post-acquisition performance will be discussed in the chapter dedicated to post-acquisition management (i.e. Chapter 6).

This section describes the theoretical arguments related to the ability of the ownership structure to prevent unrelated acquisitions coming from the managers' motives. The performance implications of these acquisitions are also discussed. If agency problems motivate the pursuit of unrelated acquisitions, firms with high insider ownership are less likely to diversify while firms with low insider ownership may engage in unrelated acquisitions because managers derive private benefits that exceed their private costs (Denis, Denis & Sarin 1997). Agrawal and Mandelker (1987) suggest that managers with negligible ownership stakes may adopt risk-reducing corporate strategies because such strategies may serve their personal objectives of decreasing the risk of their employment income. These risk-reducing strategies are shareholder value reducing or at least value neutral because they are less likely to provide a shareholder return as high as risk-enhancing strategies. Corporate strategies that result in low risk are counterproductive because they transfer wealth from owners to debtholders (Galai & Masulis 1976; Stapleton 1982; Agrawal & Mandelker 1987; Shastri 1990; Leland, forthcoming). Managers bear a greater fraction of the costs associated with value-reducing actions as their ownership stakes increase, and therefore are less likely to adopt strategies that reduce shareholder wealth (Bethel & Liebeskind 1993; Palmer & Wiseman 1999). Thus, if an unrelated acquisition is risk- and shareholder value-reducing, the agency hypothesis predicts that there will be a negative relation between the likelihood of engaging in unrelated acquisitions and managerial equity ownership. Many researchers suggest that at low managerial ownership levels, detrimental risk-reducing acquisition strategies may be emphasised but with increasing ownership incentive levels, beneficial risk-enhancing acquisitions may be more prevalent (e.g.

Implicit in the agency theory is the presumption that managers’ private benefits from diversification are unrelated to their level of ownership. However, as Amihud and Lev (1981) pointed out, the private benefits associated with managers’ personal risk reduction are likely to increase with their equity ownership. This effect potentially confounds the predictions of the agency theory. Inherent in this conjecture is the presumption that the nature of managers’ wealth portfolios will influence their attitudes towards corporate strategy (Wright et al. 2002). Presumably, as managers increase their equity stakes in the firm, their personal wealth portfolios become correspondingly less diversified. Although outside shareholders can diversify their wealth portfolios, managers have less flexibility if they own substantial shares in the firms they manage. Hence, if a significant portion of managers’ wealth is concentrated in one investment—that is, in the firm they manage—they may prefer to diversify their firms via risk-reducing, unrelated acquisitions.

Lewellen, Loderer and Rosenfeld (1989) examined a sample of mergers and found no evidence that larger managerial shareholdings increase the incentive to reduce risk. May (1995), however, also used a sample of mergers and documented a negative relation between a proxy for the fraction of a manager’s wealth invested in the firm and the co-variability of acquirer and target returns. May (1995) interpreted these findings as suggesting that managers with more personal wealth invested in the firm seek to reduce risk through unrelated acquisitions.

Given that, at low level of insider ownership managers are more likely to act on agency motives, unrelated acquisitions are more likely to perform worse than on average. However, at high levels of ownership, managers are interested in their firm being a good performer. Therefore, unrelated acquisitions in this case are expected to perform better than average. Related acquisitions of firms with high insider ownership are also expected to perform better than average. Nevertheless, at high levels of insider ownership, related acquisitions are expected to perform as well as on average.

Amihud and Lev (1981) reported that companies without large blockholders tend to be more involved in unrelated acquisitions and have higher levels of
diversification than firms where large blockholders are present. To the extent that outside blockholders provide monitoring benefits to firms and that unrelated acquisition is shareholder wealth-reducing, agency theory predicts a negative relationship between the presence of blockholders and the likelihood of an unrelated acquisition in the absence of other monitoring mechanisms. An alternative argument, as in the case of insider ownership, is that the unrelated acquisition provides benefits to the blockholders as well. Blockholders might have invested a great deal of their wealth in the firm and the diversification of their investment might efficiently result from an unrelated acquisition. With respect to performance implications, the same relationships predicted for the interaction between insider ownership and relatedness are expected to be observed in the case of the interaction between blockholder ownership levels and relatedness.

4.2. Relative size

Another characteristic that acquirers need to look at when selecting the target is the size of the target and, more specifically, the relative size of the target compared to the acquirer. The relative size of the target is an indicator of potential economies of scale yet at the same time can indicate the potential problems in integrating the acquired assets into the acquiring firm. The literature is divided into studies that argue for the superiority of larger targets and studies that promote smaller targets.

Predictions of higher post-acquisition performance for large targets and lower performance for small targets are based on the existence of information asymmetries promoted by target size (Barry & Brown 1984). Based on the evidence that less information is available about small firms (Zeghal 1984), it is considered that these firms are riskier than large firms (Banz 1981; Beatty & Zajac 1994). Consequently, if returns are calculated without regard to the effects of information related risk, and given

53 Zeghal (1984) advanced a number of arguments explaining why size would be positively related to the amount of information available to the market about a particular firm. Large firms tend to allocate proportionally greater amounts of resources to information production than small firms. The comparative lack of resources which small firms have at their disposal prevents them from doing the same. Further, external producers of information (e.g. analysts) have different incentives to produce information about large and small firms. There will be greater expected returns associated with information produced about larger firms as this information is used by more investors to decide on more important transactions (Alchian 1969). As such, external producers of information tend to devote a comparatively greater part of their resources to generate information about relatively larger firms.
the existence of a positive correlation between firms' size and the amount of information available to the market, small targets would be expected to generate smaller abnormal returns than larger targets (Barry & Brown 1984).

Liquidity differences based on firm size also support the existence of a positive effect of relative size on post-acquisition performance. There is evidence to suggest that because size and liquidity are positively related, small firms are relatively less liquid than large firms (Lakonishok & Smidt 1986). Consequently, when a firm seeks to acquire a large proportion of a small firm's stock, the acquirer has to pay a premium to induce sellers into the market. In contrast, larger targets will trade more frequently. Therefore, while the acquirer of a large target can be expected to offer a premium to shareholders in order to implement its takeover bid, that premium need not be as large as for smaller targets. This liquidity premium may impact upon the returns to the acquiring firm's shareholders following evidence to suggest that the size of takeover premiums and the returns to acquirer shareholders are negatively related (Bradley 1986).

Shelton (1988) found a significant positive relationship for the relative size of the target firm and post-acquisition performance. This positive relationship is supported by many other studies (Kitching 1967; Biggadike 1979; Asquith, Bruner & Mullins 1983; Waldman 1983). The relative size of the offer was shown to be positively related to market returns by, among others, Jarrell and Poulson (1989), Eckbo, Giammarino and Heinkel (1990), and Peterson and Peterson (1991). Moeller, Schlingemann and Stulz (2004) found that bidder announcement returns increased in relative deal size, although the reverse was true for their subsample of large bidders. Bhagat et al. (2005) showed that acquisitions in which the acquirer was relatively large compared to the target performed better than when the target was relatively large in terms of abnormal market returns.

Another stream of literature predicts a negative relationship between the acquirer's post-acquisition performance and the relative size of the target. The argument used is the relatively high integrative effort implied by a large target firm (Kuehn 1975; Kusewitt 1985; Bhagat et al. 2005). The acquisition of smaller targets is likely to be less complex. Although scale effects may be smaller, capturing the value creation potential may be easier (Lamont & Polk 2002). This is consistent with the belief that it is desirable to enter a new area in a small way, learn and expand (Lubatkin 1983). It could also be argued that in small acquisitions, the business benefits of possessing the target
can be leveraged across a larger set of operations, yielding greater gains per dollar spent on acquisition (Bhagat et al. 2005).

Hawawini and Swary (1990) analysed bank mergers and acquisitions in the US between 1972 and 1987 and found that M&A transactions were more favourable for acquirers if the targets were small relative to the acquirer. Ramaswamy and Waegelein (2003) also found that performance was negatively associated with relative size.

Given the uncertainty regarding the direction of the relative size-performance relationship, Kusewitt (1985) hypothesised a non-linear relationship. That is, the performance of an acquisition may be better if the target firm is large enough to achieve ‘critical mass’. Alternatively, in order to avoid high financial strain and integrative effort, the target should not be very large (King 2002). The results of the work by Kusewitt (1985) provide some evidence for this case, and the conclusions suggest that performance in cases of extreme relative size was lower. As such, the researcher suggests that very small or very large acquisitions should be avoided: the relative size should be slightly less than 5 per cent (Kusewitt 1985).

4.3. Theoretical proposition for the influence of phase 2

The previous discussion of the second phase of the acquisition process and the identification of factors influencing the performance in this phase leads to the following general theoretical proposition:

**Proposition 4:** The relatedness and relative size influences post-acquisition performance.

The potential for moderating influences of ownership structure on the relationship between relatedness and post-acquisition performance is identified and discussed. These predicted relationships provide some evidence for a proposition that considers the moderating influence of process phases on post-acquisition performance. This proposition will be formulated at the end of the theoretical discussion in Chapter 6.
Chapter 5. Method of payment

After the target has been selected and the initial due diligence process has been completed, provided that the offer is accepted, the acquiring firm has to pay the acquisition price. Related to the price paid is the method of payment. In planning the acquisition, the acquirer determines which payment method is appropriate. The acquiring company can choose to pay using cash, stock or a combination of both. The implications of this choice for acquisition performance are discussed in this chapter.

5.1. Choice of method of payment and performance

The most researched determinant of method of payment is the information asymmetries in the capital market that can cause misevaluations. Myers and Majluf (1984) developed a framework that can be used to interpret financing alternatives in M&As based on the existence of asymmetric information. Using this framework, researchers such as Hansen (1987), Fishman (1989), Berkovitch and Narayanan (1990), Eckbo, Giammarino and Heinkel (1990), and Brown and Ryngaert (1991) developed an information asymmetry model in which the method of payment is considered to convey information to the market concerning the value of the acquirer and the deal (Yook 2003). Jensen and Meckling (1976) and Myers and Majluf (1984) suggested that acquirers prefer to use cash if their stock is undervalued and stock if their stock is overvalued. As a result, the capital market takes a cash offer as good news concerning the value of the bidding firm’s assets while a stock offer is viewed as bad news after which the market revises downwards its estimate of the acquirer’s value (Franks, Harris

54 As data on the price paid is not available for sufficient cases to allow meaningful enquiry, this thesis cannot test the relationship between the price paid and performance.
55 Given that the exchange ratio in stock offers is based on the ratio between the price per share of the acquirer and the target, the acquirer will effectively transfer more value in stock offers to the target if the acquirer’s stock is undervalued and less if the stock is overvalued.
Moreover, the target’s shareholders demand a higher premium to compensate for the ‘lemons’ problem in stock offers (Leland & Pyle 1977; Myers & Majluf 1984) and this premium has the potential of negatively influencing post-acquisition performance. Travlos (1987) also found that stock payment delivers negative information about the valuation of the bidding firm’s assets, resulting in significant losses to the shareholders of bidding firms.

Cornett and De (1991), however, reported a different result when studying interstate bank mergers. They examined 132 interstate bank mergers in the US and found that the abnormal returns to the shareholders of bidding firms were positive and significant for cash, and also for stock and a combination of the two. These results seem inconsistent with the asymmetric information arguments. However, according to the authors, there are two possible explanations for these findings. First, there might be a less severe effect of information asymmetry on the assets of banking firms than on those of non-banking firms. Second, the stock payment may convey positive signals about asset management practices. Because interstate bank acquisitions require approval by US regulatory bodies, stock payment in bank mergers may signal positive information about the acquirers.

Hansen (1987) argues that an acquirer prefers to pay for the acquisition with stock when the acquirer has little information about the target’s value. High uncertainty about the true value of the target firm induces the bidder to pay for the acquisition with stock because this will force the target’s shareholders to share in any subsequent potential re-evaluations. Hansen (1987) and Fishman (1989) further argue that the choice of method of payment is related to the information on the value of the deal, with the acquirers paying more cash to prevent competitive bidding. Fishman (1989) argues that bidders use cash to deter competing bids when they have favourable private information.

A related explanation is that the acquirers in stock-for-stock M&As are expected to use earnings management. Louis (2004) found strong evidence suggesting that acquiring firms overstate their earnings reports in the quarter preceding a stock offer announcement. Erickson and Wang (1999) and Shivakumar (2000) postulated that the market expects a firm to inflate its earnings prior to a stock offer and, consequently, discounts its stock price at the announcement of the offer whether the firm manages earnings or not. Anticipating this market behaviour, an acquirer’s best response is to manage earnings. However, Heron and Lie (2002) found no evidence to support this.

The ‘lemons’ problem in corporate finance means that if investors cannot observe the value of firms before they buy them, they would be willing to pay only an average price. This idea is based on Akerlof (1970).

There might be a competitive advantage of using cash as the method of payment because cash offers deter competition for the target. Bidding contests are likely to take longer to resolve and could reduce the probability that the first bidder’s offer is finalised or increase the premium that the bidder has to pay. The potential defeat will result in the bidder losing the money spent to study the target. Fishman (1989) and Berkovitch and Narayanan (1990) concluded that the greater the potential for competition and the more costly it is to study the target, the less likely it is that acquisitions will be financed with stock.
information indicating a high value for the deal. For low valuing bidders, a stock offer is made. Berkovitch and Narayanan (1990) argue that a cash offer increases the likelihood that the target will accept the initial bid and eliminates any delay during which other firms might make competing bids. Cash also directly conveys the value of the acquirer’s offer as opposed to a stock offer that needs more time to be evaluated. Hence, a cash offer may enhance the attractiveness of a bid as perceived by the target management and shareholders (Wong & O’Sullivan 2001). By doing so, it reduces potential disagreement and conflict during the negotiation process, increasing its likelihood of going through easily and fast. Because cash deters competition for the target, the premium may be smaller in the end (Walkling & Edmister 1985; Varaiya 1987; Varaiya & Ferris 1987; Slusky & Caves 1991; Haunschild 1994; Hayward & Hambrick 1997). Thus, the bidder will not be forced to transfer a significant portion of the value creation to the target.

Eckbo, Giammarino and Heinkel (1990) combined the previous arguments regarding the information conveyed by the method of payment on the acquirer valuation with arguments regarding the information conveyed on the valuation of the target and the deal, including anticipated synergistic benefits. Yook (2003) also argues that because acquirers presumably have a better understanding of the impact of the acquisition on their firm’s products, markets, strategies and investment opportunities, they convey inside information about the synergy to markets via the choice of payment method, regardless of whether that is their intention.

An argument for using cash as method of payment based on information asymmetries comes from the fact that the share of synergistic gains captured by the bidding firm increases with the fraction of the offer represented by cash because cash offers do not result in the dilution of ownership which otherwise occurs in stock offers. Bidders with favourable private information about future excess operating returns will

59 The evidence provided by Jennings and Mazeo (1993) is contrary to this proposition.
60 Gilson (1986) documented that stock payments lead to substantial delays due to shares registration and shareholder approval requirements.
61 Wansley, Lane and Yang (1983) and Huang and Walkling (1987) found, however, that the acquirers typically pay more when the medium of payment is cash rather than stock. Their results can be explained by the tax implication of the method used. Amihud, Lev and Travlos (1990) noted that in the US, a cash offer creates an immediate liability for capital gains tax for the target firm’s stockholders whereas a share offer delays a tax payment obligation until the new shares are sold. However, the tax implication proposition is not important in the Australian context. Australian target shareholders are fully liable for capital gains tax regardless of whether they sell their securities for cash or exchange them for the acquiring firm’s shares. Various exceptions to the rule do exist, most significantly in relation to shares purchased before 20 September 1985 and not subject to transfers since that date. However, these exceptions are not likely to manifest in the case of the current study’s sample.
tend to use larger amounts of cash in their offers to ensure that post-acquisition synergy gains will not have to be shared with the target. Acquirers that have access to debt or large stocks of cash are also more likely to use it to pay for the acquisition.

A review of the corporate finance empirical results regarding this decision suggests that the method of payment has an impact on the announcement-period stock returns of bidding firms (Travlos 1987). Most studies have found that acquirers' abnormal returns are lower in stock offers relative to cash offers (Asquith, Bruner & Mullins 1983; Travlos 1987; Wansley, Lane & Yang 1987; Franks, Harris & Mayer 1988). Bellamy and Lewin (1992) reviewed returns to acquiring firms listed on the Australian Stock Exchange and found that on the bid announcement day, bidders involved in 52 stock offers earned a significantly abnormal return of -2.25 per cent while bidders in 81 cash offers earned an insignificant return of 0.03 per cent. Bugeja and Walter (1995) found that Australian bidders who offered stock (cash) earned significantly positive (negative) abnormal returns over the period (-60, +1) days relative to the announcement day.

Loughran and Vijh (1997) found the same relationship for long-term market performance. Ghosh (2001), and Linn and Switzer (2001) presented evidence that the long-term operating performance of US mergers tends to be larger for cases in which cash was the main method of payment.

In summary, if the acquirer has information about a target that reveals good prospects for value creation, the acquirer is more likely to use cash. Thus, it can be argued that the use of cash will predict better post-acquisition performance than the use of stock.62

5.2. Influences on method of payment

The impact of the information asymmetries on methods of payment and subsequent performance may come from ownership dilution avoidance, which is related

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62 The choice of method of payment and the subsequent performance can also be explained using agency theory. The propositions are similar. Jensen and Meckling (1976) argue that conflicts of interest between the management and shareholders influence the method of payment choice. Given that a cash offer implies engagement of debt, the choice of method of payment is basically a choice between a share and a debt issue. For a manager who pursues a personal agenda at the expense of shareholders, a debt issue is regarded as the least preferred source of financing as it restricts the availability of corporate funds at the manager’s disposal. On the other hand, a share issue increases the funds under managerial discretion and may be preferred by the manager.
to managerial ownership and blockholder ownership. The decision to use cash or stock will also be influenced by the availability of cash and the possibility of attracting more debt. Information asymmetries are likely to be related to or arise from the relatedness between acquirer and target and the relative size. The following sections will discuss these relationships.

5.2.1. Ownership structure

The choice of payment methods in M&As may be related to insider ownership in the acquirer. Harris and Raviv (1988) propose that payment preferences are based upon insiders' incentive to keep control over the company. According to these researchers, when insiders hold a substantial percentage of stock and believe that the stock is undervalued, they will be less willing to finance acquisitions with stock because they refuse to dilute their shareholdings and risk losing their original control. Results obtained by, among others, Stulz (1988), Amihud, Lev and Travlos (1990) and Ghosh and Ruland (1998) confirmed these arguments. However, Martin (1996) found no positive relationship between the acquiring firm's management ownership and the probability of stock payment (only a negative relationship over a middle range of ownership), when both private and public firms were included in the analysis.

An interaction effect between the method of payment and insider ownership on post-acquisition performance can be predicted (Amihud, Lev & Travlos 1990; Blackburn, Dark & Hanson 1997). Shareholders in general do not want to lose control of a potentially good investment. Thus, if at the high levels of insider ownership managers decide to use more cash, it may be because they have private information that the acquisition will create value for shareholder and therefore performance is expected to be better than average. If they use stock, they accept the possibility of losing control. This effect can be caused by the private information about the low potential of value creation. At the same time, a stock offer can trigger a lower likelihood of good performance in the long term because the managers are likely to lose control and their interests will not be aligned to those of shareholders. Investors recognise this possibility, and the offer of stock by these managers signals that the acquisition is at least not value-increasing. In this case, the expected implication on performance is negative. On the other hand, acquirers with low insider ownership are more likely to present high agency risks than the acquirers with high insider ownership, as predicted in Chapter 2. If they use stock to pay for the acquisition, post-acquisition performance is
likely to be lower on average because of these agency risks and the information revealed by the method of payment about valuation. However, if they use cash, the effects of the agency risks and the information about valuation are likely to influence performance in a negative and positive direction respectively. As such, no specific prediction can be formulated in this case.

The same arguments used in the case of insider ownership can be applied to blockholder ownership. Since both theoretical arguments and empirical evidence indicate that stock-financed acquisitions typically reduce the wealth of the acquiring firm’s shareholders, the likelihood of acquisitions being financed in this manner should be lower in the case of acquirers with high levels of blockholdings. However, if the acquisition performed by a company with high levels of blockholder ownership is paid with stock, performance is likely to be low because it can result in ownership dilution. As such, it will reduce the potential for monitoring from blockholders. If an acquirer with high blockholder ownership uses more cash, it provides a signal that the potential value created following the deal will be higher, as blockholders will retain their control of the acquirer. On the other hand, the decision of the acquirers with low blockholder ownership to use stock is more likely to be determined by the agency risks in this type of acquisition. As such, it will have a negative influence on post-acquisition performance. However, in the case of acquirers with low blockholder ownership that use cash, the resulting performance implications cannot be predicted because the negative influence of agency risks and the positive information revealed by the method of payment interact and provide no clear indication of the dominating effect.

5.2.2. Financial leverage

An acquirer’s decision with regard to the method of payment can be strongly influenced by its debt capacity and existing leverage. Given that cash would normally be obtained by issuing new debt and highly leveraged bidders are constrained in their ability to issue debt, these bidders will use stock payment more frequently. A bidder with few excess liquid assets, few tangible assets and high leverage can be strongly constrained in its use of cash. Examining the effects of bidders’ financial condition, Faccio and Masulis (2005) found that financially constrained bidders with high leverage were more likely to use stock payment, which is consistent with bidders’ concerns about substantially raising the likelihood of bankruptcy if more debt is engaged. If highly leveraged acquirers decide to use cash, they are more likely to perform better than
average. These arguments positively link post-acquisition performance with cash payment through monitoring benefits of debt. If the acquirer borrows more to pay for acquisition with cash, the debt will function as a corporate governance mechanism that restricts managerial discretion and discourages non-value-maximising behaviour. On the other hand, acquirers with low levels of leverage that choose to offer stock are more likely to perform worse because of the negative information revealed by the stock payment combined with the absence of debt as a corporate governance mechanism. The performance implications of the other two combinations—high debt and stock payment or low debt and cash payment—cannot be predicted because the effects of leverage and, respectively, the effects of method of payment on performance for each of these cases trend in opposite directions and show no clear dominating effect.

5.2.3. Free cash flow

Cash flow availability arguments are based on the premise that the acquirer with sufficient cash in hand will use it to pay for the acquisition (Jensen 1986). Thus, firms that have large amounts of free cash flow are more likely to finance acquisitions with cash. This hypothesis is supported by previous research (Martin 1996; Mayer & Walker 1996). With regard to performance implications, the agency costs of free cash flow would predict lower post-acquisition performance in the case of acquisitions motivated by agency. Moreover, free cash flow also makes a company more attractive as an acquisition target, implying the presence of a premium included in the value of the acquirer’s shares before the acquisition. Using the cash to pay for the acquisition should reduce this premium in the case of acquirers with high free cash flow and thus reduce the market returns as well. However, this effect might interact with the positive information about valuation revealed by using cash as a method of payment such that the joint effect cannot be identified at this point. Also, the levels of free cash flow that decrease as a result of the cash financing of an acquisition cause a reduction in the implied agency costs of free cash flow. As such, the negative effect on long-term performance is lowered. However, when an acquirer with sufficient free cash flow decides to use stock to pay for the acquisition, the performance is more likely to be worse than average because of the joint negative effects of the agency costs of free cash flow and of the information revealed by stock as a method of payment. Similarly, acquirers with less free cash flow that make cash offers are more likely to perform
better than average while those that choose stock are likely to present no difference in performance compared with overall acquisitions.

5.2.4. Relatedness between target and acquirer

With regard to relatedness and method of payment, Kochhar and Hitt (1998) and Faccio and Masulis (2005) showed that stock is preferred in related acquisitions and unrelated acquisitions are associated with cash. Cash transactions may ease expansionary transactions in the form of diversification into other industries, where value assessment is hampered by the parties’ relative lack of familiarity with one another’s core business. This is consistent with the asymmetric information arguments in choosing the method of payment because unrelated acquisitions present more disparity in the information available to the managers of both companies than for related acquisitions (Coff 1999). Unrelated acquirers, being more likely to have limited information about the value of the target and the potential synergy gains, prefer to use stock for the acquisition to protect their wealth by making the target share the potential mismevaluations.

Further, targets should be more reluctant to hold the acquirer’s stock as the asymmetric information problems arising from the inadequate transparency of the unrelated acquirer’s financial statements rises (Faccio & Masulis 2005). On the other hand, target shareholders are more likely to accept a continuing equity position in an intra-industry related merger, where they are well acquainted with the specific industry risks. Based on these considerations and given the negative effects predicted for diversification and stock payment and the positive effects for relatedness and cash offer, it is predicted that unrelated acquisitions paid with stock will perform poorly while related acquisitions paid with cash will perform well. The performance implications of the other two combinations—unrelated acquisitions paid with cash and related acquisitions paid with stock—cannot be predicted because of the opposite effects of the relatedness and method of payment.

5.2.5. Relative size

Many researchers argue that a large size of the target relative to the acquirer will make a stock payment more likely (e.g. Grullon, Michaely & Swary 1997; Heron & Lie 2002; Faccio & Masulis 2005). There are three main arguments for this viewpoint.
First, the relative size can be a proxy for information asymmetries facing the acquirer in evaluating the target. The large information asymmetries implied by a large target are likely to encourage the acquirer to use stock to protect itself against misevaluation (Hansen 1987). Second, managers in large target firms have more power to negotiate payment methods. If they want to retain their job and influence in the combined firm, stock payment may be an ideal choice for them, especially if they have substantial ownership in the target prior to the acquisition (Ghosh & Ruland 1998). Another argument is that if the target firm is relatively large, the acquirer’s management has to choose stock payment because there will be not enough cash to finance the deal, even though this choice will dilute its ownership (Faccio & Masulis 2005).

Previous studies on the impact of the target relative size on payment methods have not consistently confirmed this hypothesis. On the one hand, Faccio and Masulis (2005) linked the relative size of the deal to information asymmetry and found the relative size of the target negatively and significantly correlated with the proportion of cash used as payment. This result supports evidence provided by Grullon, Michaely and Swary (1997), who found that the larger the relative size of the target to the acquirer, the more likely the method of payment will include a high proportion of stock. However, in conflict with these findings, Martin (1996) and Ghosh and Ruland (1998) showed that relative size does not differ significantly between the methods of payment used in acquisitions. A possible interpretation of their results is that when the target size is relatively large compared to the acquirer, the target management would prefer negotiating for stock financing in order to maintain their interest and influence in the combined company. Meanwhile, the acquiring firm’s managers prefer paying cash in order not to dilute their existing ownership in the firm. The payment alternatives are, therefore, offset by these two different motivations.

The arguments presented earlier to predict the relationship between relative size and method of payment can be used to predict performance in the presence of these two factors. When the acquirer chooses to pay for a relatively large target with cash, usually obtained by engaging debt, the performance is likely to be better than average because management is forced to spend large amounts of cash only on positive net present value projects due to the monitoring effect of debt. Another argument is that the acquirer is likely to use cash in this case to replace the managers of the target, most likely because they perform badly. On the other hand, the decision to use stock for a relatively small target is likely to result in worse performance. The acquirer is less likely to be
monitored by the debtholders and the dilution in ownership of the existing shareholders by bringing the target’s shareholders into the acquirer may increase agency risks even though the target size is small. Another argument for the worse performance of relatively small acquisitions financed with stock comes from the asymmetric information effect of stock offers in general. This implies that the acquirer’s stock is overvalued and the market will correct the misevaluation subsequent to the offer. Also, the argument discussed in Chapter 4 that predicted a negative effect for relatively small targets can be used here. The other two cases—paying with stock for a large target or with cash for a small target—cannot be predicted to exhibit different performance outcomes when compared with the average. This happens because the opposite effects of relative size and method of payment interact and the resulting influence cannot be predicted.

5.2.6. Ownership structure and relative size

The performance implications of the interactions between insider or blockholder ownership and method of payment discussed above (section 5.2.1) related to the likelihood of stock offers to determine ownership dilution are heightened in the case of a relatively large targets. In this case, the stock offer increases the number of shareholders in the acquirer and the immediate effect may be a dilution in the ownership. Therefore, the arguments outlined in section 5.2.1 may be influenced by the relative size of the acquirer and target firms.

5.3. Theoretical proposition for the influence of phase 3

Based on the theoretical arguments presented above, the direct influence of the method of payment on post-acquisition performance can be formulated as follows:

**Proposition 5:** Post-acquisition performance is likely to be higher in the case of acquisitions using more cash than those using less cash.

The evidence presented in previous studies indicates that the payment methods chosen in M&A transactions might be related to ownership structure, debt capacity and cash availability and information asymmetries predicted by relatedness and relative size. Theories about method of payment choices in the presence of these other acquisition
process factors help predict some moderated relationships between method of payment and post-acquisition performance. These predicted relationships, similar to those in the second phase of the acquisition process described in Chapter 4, provide support for a proposition that considers the moderating influence of process phases on post-acquisition performance. This proposition will be formulated at the end of the theoretical discussion in Chapter 6.
Chapter 6. Post-acquisition management

This chapter deals with the fourth and final phase of the acquisition process—that is, post-acquisition management. The potential influence of this phase on post-acquisition performance is assessed through a review of the relevant literature. From this, a theoretical proposition will be formulated.

During the post-acquisition phase, managers need to achieve the expected positive results of the acquisition. The integration process drives value creation by preserving, transferring and commencing the deployment of resources and capabilities from the target organisation in order to develop, produce and sell the products or services that result from the acquisition (Hayward 2002). The importance of successfully integrating the acquired companies to achieve the desired acquisition results is widely accepted (e.g. Haspeslagh & Jemison 1991; Birkinshaw, Bresman & Håkanson 2000). Companies such as Cisco are renowned for the rapid and successful integration of acquired companies (Saxton & Dollinger 2004).

As recognised by Puranam and Shikanth (2004), one of the central tenets of the process approach is that the acquisition of another company does not automatically lead to the creation of necessary links between the assets of the two companies. To create value, the post-acquisition integration should allow for the effective use of new or existing resources and capabilities—that is, take advantage of potential synergies (Hoover 1994). Shrivastava (1986) identifies three different types of integration:

- procedural integration
- physical integration
- managerial and socio-cultural integration.

Procedural integration involves combining systems and procedures of the merged companies at the operational, management and strategic levels. Physical integration involves the consolidation of product lines, production technologies, R&D projects, plant and equipment and other fixed assets. Managerial and socio-cultural integration is perhaps the most difficult post-acquisition integration activity because it involves a complex combination of tasks related to the selection or transfer of managers, changes in organisational and leadership structure, the development of the corporate
culture for the combined entity and the achievement of employee commitment and motivation.

Haspeslagh and Jemison (1991) identify four types of resource and capabilities transfer in the post-acquisition integration process:

- operational resource sharing
- functional skills transfer
- general management skills transfer
- combination benefits.

Most of the value creation in M&As can be classified according to one of the four categories. Operational resource sharing entails the combination and rationalisation of operating assets of the two firms, leading to both cost improvements and additional revenues from economies of scale and scope. Functional skills transfer means obtaining functional skills from the partner. General management skills transfer creates value when one firm can make the other more efficient regarding general management skills and systems. Combination benefits are synergies originating from the mere fact of combining two firms. Examples include increased market power and/or bargaining power or lower financing costs due to the larger size. These benefits are not the result of managerial action or some sort of operational cooperation. Therefore, they do not require any capability transfer between the organisations.

The complexity of integrating two separate organisations and creating value post-acquisition is well described in the categorisations proposed by Shrivastava (1986) and Haspeslagh and Jemison (1991). While the theory submits that integration should result in benefits, impediments associated with the integration of operations can result in the acquiring firm being unable to manage the integration of the target firm effectively (Haspeslagh & Jemison 1987). The integration involves the trade-off between gaining coordination benefits and preserving the target’s tacit knowledge and organisational flexibility. An alignment of incentives, the creation of coordination mechanisms and the adjustment of information flows governing the use of the resources may be needed (Zollo & Singh 2004). It has been emphasised that poorly managed integration of the acquired firm runs the risk of undermining the distinctive organisational context in which capabilities are embedded and the smooth functioning of routines and capabilities (Haspeslagh & Jemison 1991; Helleloid & Simonin 1994; Hoover 1994; Schweizer
An important indicator of the potential problems in post-acquisition management is the level of integration which will be discussed in the next section.

6.1. Level of integration and performance

Pablo (1994) defined level of integration as the degree of post-acquisition change in an organisation's technical, administrative and cultural configuration. The level of integration refers to the degree to which the resources within the two firms are replaced after the completion of the acquisition. Acquirers may pursue acquisitions to gain access to products, technologies, markets and human capital and to secure the financial assets of the acquired firm. The extent to which these resources will contribute to acquisition performance will be dependent in part on how they are deployed or redeployed following the acquisition (Capron, Dussauge & Mitchell 1998; Capron & Pistre 2002).

As the acquired firm is integrated more extensively in the acquiring firm, a number of both positive and negative outcomes might be expected. The acquiring firm will have to compare the benefits from realising economies of scale and scope with the costs derived from higher levels of complexity in the management of the combined entity. High integration of the target within the acquirer is often the only way in which the expected economies of scale and scope can be realised (Pablo 1994). To appropriately and successfully deploy the target's resources and transfer them to internal operations, tight links between organisations are required (Polanyi 1962; Nelson & Winter 1982). Tight links are facilitated by greater integration. A high degree of integration enables uniform task management, a converged culture and identity, a set of common goals as well as tighter control with uniform incentives. Together, these benefits translate into efficient coordination, focused effort and fewer issues in managing productivity (Shrivastava 1986; Haspeslagh & Jemison 1991). An integrated structure can provide a platform for increased contact and cooperation amongst employees of the target and acquirer. The resulting improved communication leads to an understanding of differences, decreasing the chances of misunderstandings that could lead to productivity losses and increasing the opportunities for finding common goals and methods to promote productive cooperation (Shrivastava 1986; Haspeslagh & Jemison 1991).
However, when the level of post-acquisition integration is high, a large number of simultaneous and highly interrelated decisions need to be made by the functional departments of the combined firm during the integration phase. This translates into larger numbers of data requirements to support the decision making efforts and more people and teams to be coordinated. The necessity to coordinate the acquired businesses and personnel increases the probability of disrupting existing routines and inadvertently destroying valuable competencies within the acquired units. This is because routines are often rooted in groups such as engineering, manufacturing and sales teams, not just in individuals (Huber 1991). Groups draw upon the collective knowledge, skills and experiences of their individual members. Over time, as they work together, they divide tasks in unique ways so that individual members develop expertise in various areas that are useful in conjunction with the abilities of the other team members and not necessarily on their own (Nelson & Winter 1982; Leonard-Barton 1995). As such, knowledge often rests in specialised relationships in these groups (Leonard-Barton 1992; Grant 1996). These groups are often tightly coupled systems in which disturbed individual linkages can dissipate the tacit knowledge that resides in them (Nelson & Winter 1982; Leonard-Barton 1995) even if all employees that belong to the original group are retained. Moreover, while high integration can lead to efficiency due to focused effort and increased coordination, it can also damage the group’s technical understanding and experience because the differences in work habits, norms and values guiding the actions and interactions of people may also be a source of specialised skills amongst the acquired employees (Marks & Mirvis 1986, 2001; Buono & Bowditch 1989; Chatterjee et al. 1992; Weber 1996).

On the other hand, a low degree of integration, which implies a high degree of autonomy, enables the preservation of capabilities which could otherwise be damaged if the routines underlying them were disrupted (Hespelag & Jemison 1991; Zollo & Singh 1998; Chaudhuri & Tabrizi 1999; Ranft & Lord 2002). The literature on innovation points to an additional benefit from lower levels of integration—namely, organisational flexibility. This work suggests that radically different innovations requiring new competencies should be maintained in separate organisational units to avoid inertia stemming from existing competencies being firmly embedded in the main entity’s processes and systems (Tushman & O’Reilly 1997). Thus, a low degree of integration offers more organisational flexibility in rearranging the resources as environmental circumstances change.
In conclusion, there is an explicit trade-off between high and low levels of integration such that a relationship between integration level and post-acquisition performance cannot be predicted without assessing the influence of other moderating factors.

6.2. Influences on post-acquisition integration

As shown in section 6.1, in some situations, non-integration or a low level of integration of the acquired company may be satisfactory or high integration may cost too much. In other situations, low integration can be unproductive (Shrivastava 1986). The situations vary from one acquisition to another. Shrivastava (1986) argues that the extent of post-acquisition integration needs to be judged according to the acquisition motives. Nahavandi and Malekzadeh (1988) suggest that the motive behind the acquisition and the characteristics of the acquired and acquiring companies, such as cultural similarity or difference, influence the choice of the acquiring company's level of integration. Given that the motivations of the acquisition that have impact on integration level—that is, agency and synergistic motivations—manifest in the selection of the target, this thesis submits that the characteristics considered in the selection of target phase of the acquisition process are likely to influence the post-acquisition integration and its effect on acquisition performance. Further, the factor identified in the third phase of the acquisition process—that is, the method of payment—can also influence the degree of integration and, in combination with the other facts, post-acquisition performance. The method of payment imposes some restrictions and special requirements on restructuring activities needed to integrate the target (for example, using cash, obtained usually from debt, translate into a requirement to quickly obtain the cash flows in order to pay it back). Thus, the factors that influence the post-acquisition integration may be:

- the relatedness between acquirer and target
- the target’s relative size
- the method of payment.
6.2.1. Relatedness between acquirer and target

The way in which the integration is managed is highly dependent on the relatedness of the acquisition. Different degrees of relatedness will put different demands on the integration. Kleppestø (1993), cited in Risberg (2003), supports this argument by claiming that the level of integration in mergers and acquisitions is determined by synergy potential. An acquisition might form part of a strategy of related diversification and be expected to provide synergistic benefits. Such benefits could be in the form of operating efficiencies and economies of scale requiring high levels of integration (Salter & Weinhold 1979; Porter 1985). Alternatively, an acquisition could involve an unrelated company, motivated by a desire to achieve financial synergies or to grow in other industries, and thus necessitate little or no integration or sharing of resources other than financial resources (Shrivastava 1986). The company typically will need to limit the integration to such actions as inserting some new management talent into the acquired company, strengthening financial reporting requirements and sharing financial resources (Vestring, Rouse & Rovit 2004).

The value creation following resource deployment stems from resource asymmetry and contextual similarity (Anand, Capron & Mitchell 2002). First, post-acquisition resource redeployment may be encouraged by the asymmetries between the target and acquiring firms (Singh & Montgomery 1987; Lubatkin & O’Neill 1988; Hitt, Hoskisson & Ireland 1994; Nakamura, Shaver & Yeung 1996). Second, contextual similarity will ease resource redeployments to and from the target and acquiring firms (Kogut & Zander 1993; Brannen, Liker & Fruin 1998). Resources that exist in a particular competitive context tend to involve context-specific routines. The context specificity of a resource is the degree to which the resource has value in a particular competitive environment compared with other environments. Context specificity is more likely to lead to value creation when firms redeploy resources to similar environments. Many resources are embedded within both a specific firm’s internal activities and an external market context. A high degree of context specificity of a resource can create disincentives for resource redeployment because the resource will lose part of its value by being redeployed in a new context (Kogut & Zander 1993). In other words, the more a resource has value primarily in a particular competitive context, the less likely it is that a firm will create value by redeploying that resource into a different competitive context (Madhok 1996). In similar environmental settings, firms can absorb resources more effectively. A greater absorptive capacity arises when the
target and acquirer share common knowledge and industry experiences, common repertoires of strategies and collective cognitive models and beliefs that shape interorganisational relationships. Conversely, in different environmental settings, firms must manage the process of decontextualising and recontextualising resources (Brannen, Liker & Fruin 1998). Many technical resources are drawn from specific innovation systems and must adjust to other products and standards (Nelson 1993). Unsuccessful recontextualisation will result in a lost opportunity for organisational learning and strategic realignment (Brannen, Liker & Fruin 1998). Thus, when contextual similarity is high, as in the case of related acquisitions, a higher integration level is more likely to be beneficial in terms of post-acquisition performance. In the case of unrelated acquisitions, a high integration level would be less beneficial than on average. The influence on performance of the unrelated acquisitions and related acquisitions integrated to a low extent cannot be predicted.

6.2.2. Relative size

Pablo (1994) argues that size difference is a factor influencing management attention to an acquisition. A relatively small target may maintain its original structure and be subject to a lower level of integration because it does not attract a high degree of management interest. In contrast, a large target possesses a higher potential for gain or loss. Therefore, the highest level of integration is desirable, allowing an increased line of authority and a closer scrutiny for unforeseen problems. It can be argued further that a higher level of integration of a large target can determine a better post-acquisition performance. However, the integration problems are more likely to manifest in the case of high integration of a large target. As such, the resulting effect is difficult to predict. Smaller targets do not exhibit the same problems with integration, but they might not have sufficient resources to have a significant impact on performance. Thus, relative size may not influence performance in combination with integration level.

6.2.3. Method of payment

When an acquirer decides to pay with cash, its acquisition needs to generate cash flows to repay any debt that the acquirer used. These cash flows are more likely to be obtained in the case of a high integration in which divestment yield cash.
Acquirers that pay mainly with stock for their targets and do not engage in post-acquisition integration are more likely to be motivated by agency behaviour in acquiring a target. The performance in this case is likely to be low. However, if they decide to pursue a high level of integration, the benefits of integration may cause the overall performance to be zero. According to the asymmetric information arguments regarding the method of payment, a cash offer means that the acquirer is undervalued or the acquisition deal is most likely to create value. A high integration level in this case may destroy the value or permit the realisation of value, depending on the necessity of integration coming from relatedness.

6.2.4. Method of payment and relatedness

Integrating the perspectives on relatedness, method of payment and level of integration and their potential impact on post-acquisition performance, the joint moderated influence of these factors can be predicted in the following way:

- Related acquisitions paid with more cash and pursuing a high integration level are likely to perform better than average.
- Unrelated acquisitions paid with low cash and which choose a high integration level should perform worse than average.

The performance implications of the other six combinations of high and low levels of relatedness, method of payment and integration level cannot be predicted because of the negative and positive relationships they predict individually.

6.3. Theoretical proposition for the influence of phase 4

This chapter has analysed the post-acquisition management phase of the acquisition process. The level of integration is argued to be the most important characteristic of this phase, so a literature review of the influence on this characteristic on post-acquisition performance was outlined. The general proposition that can be formulated from this review is as follows:

Proposition 6: The post-acquisition integration level will not influence post-acquisition performance.
This chapter concludes the description of the acquisition process phases. Propositions have been formulated that describe direct relationships between the process phases and post-acquisition performance. Moderated relationships determined by the interactions between the process phases can also be predicted based on the material presented. Chapter 4 predicted moderated effects of relatedness and ownership structure. Chapter 5 predicted moderated influences of method of payment in combination with ownership structure, financial leverage, free cash flow, relatedness and relative size. This chapter predicted moderated effects of integration level in combination with relatedness, relative size and method of payment. A general theoretical proposition is formulated as follows:

**Proposition 7:** The process phases interact to influence performance.

This proposition will be detailed in Chapter 8 in a series of hypotheses that will address all the predicted moderated influences.
Chapter 7. Research method and data description

Chapters 2 to 6 discuss the theoretical arguments used in previous research on mergers and acquisitions and develop the propositions with regard to the influence of different phases of the acquisition process on post-acquisition performance. This chapter presents the research method and the data used to test the propositions. The general approach for empirical analysis is described in section 7.1. The variables used to measure performance, to proxy for agency risks and different aspects of the acquisition process, and as controls, are described in section 7.2. A detailed description of testing methods is provided in section 7.3. The sampling process used in this study is described in section 7.4. The characteristics of the final sample are presented in section 7.5.

7.1. Research method

The propositions developed in Chapters 2 to 6, which predict the direct and moderated influences of the process phases on post-acquisition performance, are outlined in Table 7.1. According to these propositions, post-acquisition performance is explained by the acquirer’s agency risks, the synergistic and opportunistic motivations, the selection of the target, the method of payment and the integration level.

In the first part of the analysis employed to test the propositions, the influence of the acquisition motivations and process phases are tested individually (propositions 1 to 6). The influences of agency risks and phase 1 of the acquisition process, represented by the synergistic and opportunistic motivations, are first tested on an univariate basis. Because the agency risks and the motivations for acquisitions are likely to manifest simultaneously, their joint influences on performance are then tested on a multivariate basis, while controlling for the influence of industry. Univariate tests are also used to test the individual influences on performance of each of phase 2 (selection of the target), phase 3 (payment) and phase 4 (post-acquisition integration) of the acquisition process. Multivariate tests are then used to control for the influence of industry on the individual performance effect of each of those phases.
### Table 7.1 Description of the propositions

<table>
<thead>
<tr>
<th>Phase of the M&amp;A process</th>
<th>Decisions taken by the acquirer</th>
<th>Chapter</th>
<th>Proposition</th>
</tr>
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<tbody>
<tr>
<td><strong>Agency risk</strong></td>
<td>Monitoring/alignment mechanisms:</td>
<td></td>
<td>Proposition 1: In the absence of efficient monitoring/alignment mechanisms, post-acquisition performance is more likely to be low. Further, the existence of mechanisms that encourage self-interest will increase the likelihood of poor post-acquisition performance.</td>
</tr>
<tr>
<td></td>
<td>• Board structure</td>
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<td>• Ownership structure</td>
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<td></td>
<td>• Financial leverage.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agency risk mechanism:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Free cash flow.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Phase 1: Pre-deal</strong></td>
<td>Synergistic motives for the acquisition:</td>
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</tr>
<tr>
<td></td>
<td>• Horizontal integration</td>
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<td>Proposition 2: Synergy motivation positively influences post-acquisition performance.</td>
</tr>
<tr>
<td></td>
<td>• Vertical integration</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>• Conglomerate diversification.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Phase 2: Selection of the target</strong></td>
<td>Opportunistic motives for the acquisition:</td>
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</tr>
<tr>
<td></td>
<td>• Merger wave</td>
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<td>Proposition 3: There is a positive relationship between opportunistic motivation and post-acquisition performance.</td>
</tr>
<tr>
<td></td>
<td>• Previous ownership in the target.</td>
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<td></td>
</tr>
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<td><strong>Phase 2: Payment</strong></td>
<td>Selection of the target:</td>
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<td>• Business relatedness</td>
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<td>Proposition 4: The relatedness and relative size influences post-acquisition performance.</td>
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<td><strong>Phase 3: Post-acquisition management</strong></td>
<td>Method of payment:</td>
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<td>• Stock versus cash.</td>
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<td>Proposition 5: The method of payment chosen for an acquisition is likely to influence the post-acquisition performance.</td>
</tr>
<tr>
<td><strong>Phase 4: Post-acquisition management</strong></td>
<td>Integration level:</td>
<td>Chapter 6</td>
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<td></td>
<td>• Low versus high level of integration.</td>
<td></td>
<td>Proposition 6: Post-acquisition management is likely to influence post-acquisition performance.</td>
</tr>
<tr>
<td><strong>All phases</strong></td>
<td>Phase interactions:</td>
<td>Chapter 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Agency risk + Phase 2;</td>
<td></td>
<td>Proposition 7: The process phases interact in determining post-acquisition performance.</td>
</tr>
<tr>
<td></td>
<td>• Agency risk + Phase 3;</td>
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<tr>
<td></td>
<td>• Phase 2 + Phase 3;</td>
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<tr>
<td></td>
<td>• Agency risk + Phase 2 + Phase 3;</td>
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<td></td>
<td>• Phase 2 + Phase 4;</td>
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<td>• Phase 3 + Phase 4;</td>
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</tr>
<tr>
<td></td>
<td>• Phase 2 + Phase 3 + Phase 4.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proposition 7 submits that the acquisition process, in its entirety, is what matters. That is, the simultaneous effects and the interactions between agency risks and all the motivations and phases are important in determining the acquisition performance. These effects are tested on a multivariate basis, while controlling for the influence of industry. This multivariate analysis is intended to be the main focus of the analysis. The
individual agency risks, motives and phases tests used in the first part of the analysis are mainly to provide a better understanding for interpreting the multivariate results and a basis for comparison with prior studies. The multivariate analysis tests also the interaction effects predicted in proposition 7.

Before the testing methods are explained in detail in section 7.3, the variables used to test propositions 1 to 7 are described in section 7.2.

7.2. Variables description

This section describes the variables and measures used to test the propositions summarised in Table 7.1. Section 7.2.1 deals with the performance measures, section 7.2.2 describes the measures for the explanatory variables and section 7.2.3 identifies the industry control variables.

7.2.1. Performance measures

Post-acquisition performance is measured over three years post-acquisition using accounting based returns on assets and market returns. As suggested in Chapter 1, using both accounting and market performance measures provides a better understanding of the effects that the acquisition process has on long-term performance, compared to using only one measure of performance. Measures of long-term performance in previous studies use three or five years post-acquisition. Due to data limitations, this thesis will use only three years pre- and post-acquisition. This is consistent with Rau and Vermaelen (1998), Mitchell and Stafford (2000), and Ikenberry, Lakonishok and Vermaelen (2000).

The post-acquisition performance measure is adjusted for pre-acquisition performance to better identify the effect of the acquisition on firm performance (Fama & French 2000). Profit returns are influenced by industry and firm specific factors such as size (Barber & Lyon 1996). Previous M&A studies show that acquirers tend to be above average firms in terms of prior size and profitability (Hughes 1993) and they are affiliated to specific industries that are undergoing fundamental shocks (Mitchell & Mulherin 1996; Andrade & Stafford 2004; Powell & Yawson 2005). To control for these effects, post-acquisition performance is adjusted for the acquirer’s and target’s
pre-acquisition performance, post-acquisition size and post-acquisition primary industry performance. The residual post-acquisition performance is attributable to the acquisition and in this thesis is called ‘Abnormal performance’. Because this thesis uses two types of measures for performance, namely returns on assets and market returns, the actual adjusted performance measures that will be used for the analyses are the ‘Abnormal returns on assets’ and the ‘Abnormal market returns’. The methods used to obtain these measures are detailed in the next two subsections.

7.2.1.1. Abnormal returns on assets

Returns on assets (ROA) is selected on the basis of its relationship with accounting efficiency and usefulness in prior studies and to facilitate comparisons with prior research.\(^ {63} \)\(^ {64} \)

ROA is measured over three years post-acquisition, beginning with the year of the acquisition, as follows:

\[
ROA = \frac{1}{3} \sum_{i=0}^{2} ROA_{t+i}
\]  

(7.1)

where:

\(ROA\) - the return on assets over the three years after acquisition.

\(ROA_{t+i}\) - the return on assets in year ‘\(t+i\)’.

The raw returns on assets are adjusted for acquirer’s and target’s pre-acquisition performance, post-acquisition combined size and post-acquisition acquirer’s primary industry performance using the regression model described in Equation 7.2:

---

\(^{63}\) The accounting method used for acquisitions requires amortisation of goodwill on acquisition. This may impart a downward bias in the measurement of post-acquisition performance (Sharma & Ho 2002). Thus, using returns on assets as a performance measure may impose a limitation on assessing the success of the acquisition. However, this thesis is focused on the determinants of differences in performance, not on the actual performance.

\(^{64}\) While other profitability measures such as returns on equity (ROE) or returns on investment (ROI) are often used, a number of studies have used ROA as a profitability measure (e.g. Bettis 1981; Bettis & Hall 1982; Christensen & Montgomery 1981; Michel & Hambrick 1992). The use of ROA as the profitability measure allows more direct comparison with these studies. ROA is not only widely employed by both managers and researchers but, unlike other profitability measures, also controls for the effects of differing financial structures (Bettis & Hall 1982; Michel & Hambrick 1992). In any case, all these profitability measures are highly correlated.
\[ ROA = \alpha + \beta_1 ROA_{pre\_acq} + \beta_2 ROA_{pre\_tg} + \beta_3 ROA_{post\_ind} + \beta_4 \log(TA_{post\_acq}) + \epsilon_{ROA} \]  

(7.2)

where:

- \( ROA \) - the acquirer’s average ROA over the three years after the acquisition.
- \( ROA_{pre\_acq} \) - the acquirer’s average ROA over the three years before the acquisition.
- \( ROA_{pre\_tg} \) - the target’s average ROA over the three years before the acquisition.
- \( ROA_{post\_ind} \) - the average ROA for the acquirer’s industry over the three years after the acquisition.
- \( \log(TA_{post\_acq}) \) - the logarithm of the average value of the acquirer’s total assets over the three years after the acquisition.
- \( \epsilon_{ROA} \) - the acquirer’s abnormal returns on assets.

The residual obtained from estimating Equation 7.2 using regressions, \( \epsilon_{ROA} \), is the accounting performance measure that will be used in the analysis.

### 7.2.1.2. Abnormal market returns

Market returns are measured over a three year-period relative to the effective month of the acquisition. Using the effective month of the acquisition is consistent with prior research (e.g. Mitchell & Stafford 2000). The returns are calculated as follows:

\[ R = \ln\left(\frac{P_{t+3}}{P_{t-3}}\right) \]  

(7.3)

where:

65 This also imposes a limitation because using the effective date of the acquisition as the start of the post-acquisition period rather than the date of the announcement reduces the likelihood of observing abnormal performance.

66 All share prices are adjusted for dividends paid and capitalisation changes.
Individual returns are adjusted for the return on the market.\footnote{The measurement of long-term post-acquisition market performance has been controversial. Brown and Da Silva Rosa (1998) propose a method for assessing the performance that controls for survival, firm size and measurement bias in return accumulation.} The market return experienced by an acquirer’s stock relative to the market index is defined as follows:

$$R^* = R - R_M$$  \hspace{1cm} (7.4)

where:

- $R^*$ - the acquirer’s market adjusted return three years after the acquisition.
- $R$ - the acquirer’s return computed using Equation 7.3.
- $R_M$ - the return on market index ‘$M$’ three years after the acquisition.

The market adjusted returns from Equation 7.4 are adjusted for pre-acquisition performance and post-acquisition overall market performance. Due to the further need to adjust for the post-acquisition combined size as in the case of the accounting performance measure, a regression model is employed. The adjustment regression model for the market based performance measure is:

$$R^* = \alpha + \beta_\lg(TA_{post\_acq}) + \varepsilon_{R^*}$$  \hspace{1cm} (7.5)

where:

- $R^*$ - the acquirer’s market adjusted return three years after acquisition computed in Equation 7.4.
- $\lg(TA_{post\_acq})$ - the logarithm of the average value of the acquirer’s total assets over the three years after the acquisition.
- $\varepsilon_{R^*}$ - the acquirer’s abnormal market adjusted return.
The residual obtained from estimating Equation 7.5 using regressions, $e_{r'}$, is the market performance measure that will be used in the analysis.

7.2.2. Agency risks, motivations and other phase variables

As discussed in Chapter 2, the agency risks proxies considered in this thesis pertain to board structure (board size, board leadership duality and proportion of non-executive directors on the board), ownership structure (insider and blockholder ownership), financial leverage, and free cash flow. For phase 1 of the acquisition process, synergistic motivation is described as the synergy potential measured by the type of competitive relationships between the merging parties (horizontal, vertical or conglomerate), while opportunistic motivation is described as affiliation to the merger wave and the acquirer’s prior ownership in the target. Phase 2 variables are the degree of relatedness between the acquirer and the target and the relative size of the deal. The variable that describes phase 3 is method of payment in terms of the percentage of cash. The variable for phase 4 is integration level, expressed as the difference in the net cash paid for property, plant and equipment (PPE) post-acquisition versus pre-acquisition.

The information for agency risk variables was manually extracted from the acquirer’s annual report one year prior to the acquisition deal. The primary source of data on the acquisition process phases was SDC Platinum database. Additional information on variables of interest was sourced from bidder and target statements available on the Connect 4 database, from the companies’ annual reports and Signal G announcements available on the Aspect Data Analysis database and the Aspect Financial Analysis database.68

Board size ($bs$) is measured as the number of directors sitting on the acquirer’s board one year prior to the acquisition. Board leadership duality is represented by a dummy variable ($CEOChair$) equal to 1 when the CEO was also the chairman of the board and 0 otherwise. The proportion of outsiders on the board ($nex$) is the number of non-executives divided by board size. The number of shares held by all directors is divided by the total number of shares on issue to obtain the insider ownership variable ($dirsh$). Ownership of directors was used as a proxy for insider ownership by, for example, Brailsford et al. (2002), Morck, Shleifer and Vishny (1988), and Keasey et al.

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68 Connect 4’s Takeovers database provides an in-depth summary of every takeover of listed companies in Australia from 1997 onwards.
(1994). The percentage of total shares held by the shareholders holding more than five per cent of the company’s stock (sh5) was manually computed based on available data. Financial leverage (finlev) is defined as the value of total debt divided by the book value of total assets one year prior to the acquisition. The level of free cash flow (freecf), based on data from Aspect Financial Analysis, is the difference between gross cash flow and gross investment, scaled by the book value of total assets.

For the synergistic motivation, to decide whether an acquisition was horizontal, vertical or conglomerate, statements related to the acquisition from the acquirer’s and target’s annual reports were analysed together with market announcements made through the Australian Stock Exchange (Signal G announcements) and the formal bidder and target statement documents. Horizontal acquisitions are deals motivated by the need to consolidate the position of the acquirer in the industry by acquiring a competitor. Vertical acquisitions are deals performed to take over a target that activates in an industry that has significant links with the acquirer’s industry whether as an existing or potential supplier or a client of the acquirer. Conglomerate acquisitions are deals involving two partners from industries that do not have any significant relations. Dummy variables were created for each type, based on this analysis.

To test for the influence of deals timing in relation to the 1995-2000 merger wave, the dummy variable wave equals 1 if the acquisition occurred between 1995 and 2000 and 0 for any other year. Toehold is measured as the percentage of the target’s shares owned by the acquirer at the end of the first year before the acquisition.

The relative size of the acquisition (relsize) is computed by dividing the total assets of the target firm by the total assets of the acquiring firm at the balance date preceding the acquisition. Unrelated is a dummy variable based on the SIC codes disclosed in the SDC Platinum Database. If the primary SIC code was the same for both the acquirer and the target, the acquisition was classified as ‘related’ and unrelated equals 0. In all other cases, unrelated equals 1. This relatedness proxy was used previously by Da Silva Rosa et al. (2004a).69

The method of payment is measured as the percentage of the acquisition price paid in cash. The data is taken from SDC Platinum database.

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69 Measuring relatedness using SIC codes has some limitations identified in Nayyar (1992). The most serious limitation arises from the fact that the SIC system may not adequately differentiate between industries.
Integration level is computed as an integration ratio \( r_{int} \) based on data on property, plant and equipment (PPE) collected from *Aspect Financial Analysis* and is represented as:

\[
\begin{align*}
    r_{int} &= \frac{1}{3} \left( \frac{\sum_{i=0}^{2} \text{NetCashPPE}_{t+i} - \sum_{j=1}^{3} \text{NetCashPPE}_{t-j}}{\text{TargetPPE}} \right) - \frac{1}{3} \sum_{j=1}^{3} \frac{\text{NetCashPPE}_{t-j}}{\text{AcquirerPPE}_{t-j}} \tag{7.6}
\end{align*}
\]

where:

- \( r_{int} \) - the ratio chosen as proxy for the level of integration.
- \( i \) - the three financial years after acquisition, including the year of the acquisition.
- \( j \) - the years before the acquisition.
- \( \text{NetCashPPE}_{t+i} \) - the difference between the cash received on sale of PPE and the cash paid for PPE during the financial year ‘\( i \)’.
- \( \text{NetCashPPE}_{t-j} \) - the difference between the cash received on sale of PPE and the cash paid for PPE during the financial year ‘\( j \)’.
- \( \text{TargetPPE} \) - the target PPE as it appears in the target’s Annual Report one year prior to the acquisition.
- \( \text{AcquirerPPE}_{t-j} \) - the acquirer’s PPE in the financial year ‘\( j \)’.

7.2.3. Industry controls

Controlling for the influence of industry on the acquisition process and post-acquisition performance relies on dummy variables for post-acquisition industry classification. The data on primary industry’s affiliation post-acquisition are taken from the *SDC Platinum* database.
7.3. Detailed description of the testing methods

This section describes in detail the methods used to test propositions 1 to 7 and makes clear the reasons why the particular analysis methods and procedure were chosen. It also discusses potential issues with particular methods and the steps taken to minimise their occurrence and impact.

7.3.1. Methods used to test the individual effects of acquisition motivations and phases on performance

This section presents the methods used to test individually the effects of agency risks, acquisition motivations and phases on post-acquisition performance as predicted by propositions 1 to 6.

7.3.1.1. Proposition 1

The first part of empirical analysis described in section 7.1 begins with an univariate test of the apparent influence of high and low levels of agency risks proxies on post-acquisition performance put forward in proposition 1. For each agency proxy, two dummy variables are created. One variable equals 1 when the corresponding value of the particular agency risk proxy was below the mean and 0 when it was above the mean (the dummy for low levels of the agency risks proxy). The other variable is the inverse (the dummy variable for high levels of the agency risks proxy). These dummy variables are included in the regression model described at Equation 7.7. For robustness, a median split is also tested as described at Equation 7.8.

\[
\text{performance} = \beta_1 \text{ Below } \text{ mean} + \beta_2 \text{ Above } \text{ mean} \tag{7.7}
\]

\[
\text{performance} = \beta_1 \text{ Below } \text{ median} + \beta_2 \text{ Above } \text{ median} \tag{7.8}
\]

where:

- the performance measures \( (\varepsilon_{ROA} \text{ and } \varepsilon_{R}) \) described in section 7.2.1.

- dummy variable equal to 1 if the value of the explanatory variable is less than the mean, 0 otherwise.
Above _mean - dummy variable equal to 1 if the value of the explanatory variable is greater than the mean, 0 otherwise.

Below _median - dummy variable equal to 1 if the value of the explanatory variable is less than the median, 0 otherwise.

Above _median - dummy variable equal to 1 if the value of the explanatory variable is greater than the median, 0 otherwise.

The Wilcoxon non-parametric rank-sum test is used to assess the significance of the difference in the performance of acquirers with high levels of agency risks (above the mean/median) versus those with low levels (below the mean/median).

Based on the arguments presented in Chapter 2 with regard to the particulars of Australian companies, some agency risks proxies are not expected to be good predictors of post-acquisition performance. A correlation analysis is performed on the agency proxies to reveal the potential for misleading influences due to significant correlations among some of the proxies. A condensing technique is then employed to select only the agency proxies that had a significant influence on post-acquisition performance. This technique compares a regression model of all the agency proxies with partial models obtained by removing only one agency risks proxy at a time.\(^7\) The regression model is described at Equation 7.9.

\[
\text{performance} = \alpha + \sum \beta \text{Agency_risk} \tag{7.9}
\]

If removing a particular variable significantly reduces the variance in performance explained by the model (that is, the R-squared value), that variable is considered to influence the performance and included in further analyses. The difference in R-squared values between the partial regression models obtained by removing one agency risks proxy at a time and the full model is tested using the F-test described at Equation 7.10.

\[
F_{p_i, n-k} = \frac{(R_{\text{full}} - R_i)/p_i}{(1 - R_i)/(n-k)} \tag{7.10}
\]

\(^7\) For some agency risks proxies, a non-linear relationship with performance is predicted (see Chapter 2). In those cases, the full regression model includes the proxies and their squared values. Thus, when removing one of these proxies, the actual number of variables excluded is two.
where:

\[ F_{p,n-k} \] - the F-test value with \( p \) and \( n-k \) degrees of freedom.

\[ R_{\text{full}} \] - the R-squared of the full regression model.

\[ R_i \] - the R-squared of the partial regression model ‘i’.

\[ p_i \] - the number of variables excluded in the partial regression ‘i’.

\[ n \] - the number of cases (sample size).

\[ k \] - the number of independent variables in the full regression model.

7.3.1.2. **Propositions 2 and 3**

In order to test propositions 2 and 3, the mean and median split analyses in Equations 7.7 and 7.8 are also performed for the variables representing synergistic and opportunistic motivation. The Wilcoxon non-parametric rank-sum test is used to assess the significance of the difference in the performance of acquirers with high levels of these variables (above the mean/median) versus acquirers with low levels (below the mean/median).

Because the agency risks and the motivations for acquisitions are likely to manifest simultaneously, they need to be tested together. For this, a regression model that considers all the variables for agency risks (after the condensing technique) and synergistic and opportunistic motivations is considered. The regression model includes also the industry affiliation dummies and is described by the following equation:

\[
\text{performance} = \alpha + \sum \beta_{\text{Agency\_risk}} + \sum \beta_{\text{Synergistic\_motivation}} + \sum \beta_{\text{Opportunistic\_motivation}} + \sum \beta_{\text{Industry\_dummies}} \tag{7.11}
\]

In order to test whether the agency risks and the acquisition motivations influenced performance independently of each other, three other partial regression models were used, each of them including only the variables characterising one type of motivation. The differences in variance in performance explained by each of the partial motivation models on one hand and the full model on the other give an indication of the degree of independence of the acquisition motivations in influencing performance. The values of the F-test of the difference in R-squares between the partial and the full agency risks and acquisition motivations models are computed based on the formula.
outlined at Equation 7.10. No significant difference in variance in performance explained by each of the three partial models and the full model will indicate that the motivation corresponding to the partial model did not influence post-acquisition performance independently of the other two motivations. A significant difference for a specific partial model means that one motivation influences performance independently of the other two.

7.3.1.3. Propositions 4, 5 and 6

Propositions 4 to 6 deal with the influence on performance of phases 2 to 4 and are tested using regression models in Equations 7.7 and 7.8 and the Wilcoxon non-parametric rank-sum test that considers the difference in the performance of acquirers with high levels (above the mean/median) versus acquirers with low levels (below the mean/median) of each of the variables that characterise these phases. The influence of the primary industry of the acquirer is controlled by using regression models that include the dummy variables for industry affiliation as follows:

$$performance = \alpha + \beta_1 Explanatory\_variable + \sum \beta_i Industry\_dummies$$

(7.12)

where:

- **performance** - the performance measures ($\varepsilon_{ROA}$ and $\varepsilon_{R^*}$) described in section 7.2.1.
- **Explanatory\_variable** - the explanatory variable.
- **Industry\_dummies** - dummy variables for industry affiliation.

The analyses performed until this point test only the influence of agency risks, each acquisition motivations and process phase without considering the influence of other motivations or process phases or the joint effects of the interactions between the motivations and other phases. The next part of the methodology deals with those effects and it constitutes the major contribution of this thesis.
7.3.2. Methods used to test the simultaneous effects of acquisition motivations and phases on performance

This section presents the methods used to test the simultaneous effects of agency risks, acquisition motivations and phases on post-acquisition performance as predicted by propositions 1 to 7.

7.3.2.1. Propositions 1 to 6

To account for potential misleading effects on performance that may arise from other process variables when testing a particular variable, a multiple regression model is designed that includes all the explanatory variables tested previously, to which the industry dummy variables are added to control for industry effects. This multiple regression model allows to test the direct relationships between process variables and post-acquisition performance while controlling for the confounding effects of the other variables. The full regression model includes the agency risks proxies (after the condensing technique), the synergistic motivation variables, the opportunistic motivation variables, the selection of the target variables, the method of payment variable and the level of integration variable. Given that primary industry can influence performance independent of the acquisition process phases, the regression model is augmented to include industry controls. The multiple regression model is expressed as follows:

\[
performance = \alpha + \sum \beta_a \text{Agency}_\text{risk} + \sum \beta_s \text{Synergistic}_\text{motivation} + \\
+ \sum \beta_o \text{Opportunistic}_\text{motivation} + \sum \beta_s \text{Selection}_\text{target} + \beta_p \text{Payment} + \\
+ \beta_int \text{Integration} + \sum \beta_i \text{Industry}_\text{dummies}
\]  

(7.13)

7.3.2.2. Proposition 7

The multiple regression described in Equation 7.13 tests the influence on post-acquisition performance of various characteristics of the acquisition process at the same time. The regression only tests the influence of each independent variable on the dependent variable when the other independent variables in the regression are considered constant. This study submits that the acquisition process is important in determining post-acquisition performance and predicts in proposition 7 that the
interactions between the variables describing the process are important determinants of post-acquisition performance. As a first step in testing proposition 7, tests are performed to determine if the influence of agency risks or each of the acquisition motivation or process phase on performance was independent of the influence of the other phases or motivations. These tests consider the difference in the variance in performance explained by each of the partial models including only the agency risks, synergistic or opportunistic motivations, phase 1 (including agency risks and all acquisition motivations), phase 2, phase 3 or phase 4 versus the variance in performance explained by the full model at Equation 7.13. The values for the significance in the difference in variance in performance explained by the models are computed based on Equation 7.10. If the difference is not significant, the individual agency risks, motivations or phases are dependent on others in influencing performance. To further test proposition 7 regarding the interaction effects of the characteristics of acquisition process on performance, a series of contingency analyses are performed. In line with the material considered in Chapters 4 to 6, three main variables are considered for these analyses, each representing a phase in the acquisition process:

- the relatedness between acquirer and the target (phase 2)
- the percentage of cash used to pay for the acquisition (phase 3)
- the level of post-acquisition integration (phase 4).

Some agency risk variables are also included in the analysis to test their combined influence on performance together with the phase 2 and phase 3 variables. Ownership structure, in terms of insider and blockholder ownership, is tested in combination with the variables from each of the two phases and with both phases at the same time. The combined influence on performance of the phase 3 variable and financial leverage or free cash flow levels is also tested.

For the contingency analyses, which included either two or three independent variables, a series of four and eight subsamples respectively are created based on the interactions of the high and low levels of the variables involved. Cases with a value above the median for continuous variables or cases with a value of ‘1’ for dummy variables are considered to have high levels for that variable. The remainder are considered to have low levels. The contingency analyses test the significance of the difference between the mean performance of each of the subsamples and the overall mean performance.
7.4. Identification of the sample

The initial sample obtained from the *SDC Platinum* database was identified according to three criteria:

- Both the acquirer and target were Australian publicly listed companies.
- The transaction was a ‘completed’ firm acquisition rather than an asset acquisition.
- The effective date of the transaction was between 1 January 1992 and 31 December 2001.

Acquisitions involving unlisted entities or entities listed on stock markets other than the Australian Stock Exchange (ASX) are excluded because acquirers and targets must be subject to the same institutional environments (including accounting disclosure requirements) and post-acquisition performance of both acquirers and targets must be observable\(^{71}\).

Completed firm acquisitions are defined as deals in which the target firm is reported as a controlled entity in the acquirer’s post-acquisition annual report. Brown and da Silva Rosa (1998) and Finn and Hodgson (2005) consider completed acquisitions as all deals in which the bidder acquired more than 50 per cent of its target’s shares. They concede that effective control may be achieved through a holding of less than 50 per cent of a firm’s issued shares. Because of this, the list of controlled entities in an acquirer’s annual report is a better indicator of whether a takeover deal was actually completed.

A sampling frame of 10 years is used to obtain a sufficiently large sample and to reduce short-term market biases. Acquisitions during the calendar years 1992-2001 are used. Because performance is measured for three years pre-acquisition and three years post-acquisition, the data period is 1989-2004.

Applying these sampling criteria, 198 acquisitions were initially identified. Because multiple acquisitions within the six-year window may have a confounding effect on the performance measures, the acquirers with multiple completed firm

---

\(^{71}\) This is consistent with previous Australian research which studies separately public and private acquisitions and asset acquisitions (e.g. Da Silva Rosa et al. 2004b; Da Silva Rosa, Nguyen & Walter 2004).
acquisitions in the data period are excluded from the sample. This reduces the sample to 163 one-time domestic successful acquisitions of which 39 cases had missing data, giving a final sample of 114 cases. This filtering process is summarised in Table 7.2.

Table 7.2 Filtering process to select the sample

<table>
<thead>
<tr>
<th>Steps in the filtering process</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian domestic successful firm acquisitions of listed companies from 1992-2001</td>
<td>198</td>
</tr>
<tr>
<td>Less multiple successful acquisitions</td>
<td>35</td>
</tr>
<tr>
<td>Australian one-time domestic successful acquisitions of listed companies from 1992-2001</td>
<td>163</td>
</tr>
<tr>
<td>Less acquisitions without enough information</td>
<td>39</td>
</tr>
<tr>
<td>Final sample</td>
<td>114</td>
</tr>
</tbody>
</table>

Table 7.3 presents the distribution of the sample of 114 acquisitions by the financial year of the acquisition (Panel 2) compared with the distribution of the initial sample of 198 Australian public acquirers obtained based on the initial sampling criteria (Panel 1). A comparison of these two panels indicates whether the last steps of filtering process (the elimination of multiple acquirers and those with missing data) introduced any temporal bias on the sample. The distribution of the final sample by financial year of acquisition was generally consistent with the distribution of the initial sample, with no significant bias identified.

Consistent with merger wave research, the sample’s acquisitions are not evenly distributed over time (Schwert 2000; Simmonds 2004). The number of acquisitions in the final sample increased until the year 2000 and then decreased slightly. The same trend has been observed in the total number of acquisitions in Australia and worldwide.

---

72 This criterion excludes the experienced acquirers from the sample. Given that experience with acquisitions may increase the likelihood of good performance as described in section 1.4.1 (p. 13), those acquire might be good performers. However, the lack of experience can be mitigated by using M&A consultants, so even acquirers without many acquisitions in the past can be good performers. Further research should look at the experience and reputation of the M&A consultants or advisers used by the acquirer. Nevertheless, the criterion used in this thesis is a potential limitation of the analysis.

73 The 39 cases with missing data include the acquirers that were not listed for the entire six years window surrounding the acquisition’s effective date.

74 Appendix A1 includes the distribution based on the acquisition year of the intermediary sample obtained before excluding the cases with missing data. No significant bias can be identified.

75 The period from 1992 to 2002 incorporates the fifth merger wave which ended in 2000, the best year in terms of the number of acquisitions performed worldwide and in Australia. Australian M&A activity peaked in 2000 ($A118 billion). In 2001 and 2002 the M&A activity fell sharply following the trend of the rest of the world, according to Thomson Financial (http://www.thomson.com/financial/investbank/fi_investbank_league_tablearchive_mergers.jsp).
Table 7.3 Distribution of sample deals by financial year

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of deals</td>
<td>Percentage</td>
</tr>
<tr>
<td>1992</td>
<td>2</td>
<td>1.01</td>
</tr>
<tr>
<td>1993</td>
<td>8</td>
<td>4.04</td>
</tr>
<tr>
<td>1994</td>
<td>10</td>
<td>5.05</td>
</tr>
<tr>
<td>1995</td>
<td>11</td>
<td>5.56</td>
</tr>
<tr>
<td>1996</td>
<td>32</td>
<td>16.16</td>
</tr>
<tr>
<td>1997</td>
<td>18</td>
<td>9.09</td>
</tr>
<tr>
<td>1998</td>
<td>19</td>
<td>9.60</td>
</tr>
<tr>
<td>1999</td>
<td>27</td>
<td>13.64</td>
</tr>
<tr>
<td>2000</td>
<td>30</td>
<td>15.15</td>
</tr>
<tr>
<td>2001</td>
<td>28</td>
<td>14.14</td>
</tr>
<tr>
<td>2002</td>
<td>13</td>
<td>6.57</td>
</tr>
<tr>
<td>Total</td>
<td>198</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Notes: The year of acquisition is the first financial year in which the target is listed as a controlled entity in the acquirer’s annual report. Panel 1 describes the distribution of the initial sample of Australian domestic publicly listed acquirers identified from the SDC database. Panel 2 presents the distribution of all one-time Australian domestic publicly listed acquisitions included in the final sample.

7.5. Data description

This section describes the data for the variables used in Section 7.2. Section 7.5.1 describes the performance measures, section 7.5.2 includes the descriptive statistics of the explanatory variables and section 7.5.3 presents the summary statistics for the industry control variables.

7.5.1. Descriptive statistics of the performance measures

Raw data for estimating accounting based performance are obtained from the company’s annual reports available on Aspect Data Analysis and from the financial data available on Aspect Financial Analysis. Raw stock market data are sourced from Datastream. The raw performance measures are adjusted for pre-acquisition performance and post-acquisition industry performance and combined size as discussed in section 7.2.1. The descriptive statistics for the raw performance variables and adjustment variables are presented in Table 7.4.

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76 The year 2001 represents here the calendar year. Thirteen deals performed in the 2001 calendar year belong to the 2002 financial year.

77 Aspect Data Analysis and Aspect Financial Analysis provide comprehensive reports and detailed financial historical information for all ASX listed companies from 1989.
Table 7.4 Descriptive statistics for the performance adjustment variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min.</th>
<th>Percentiles</th>
<th>Max.</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td>50</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>-0.023</td>
<td>0.179</td>
<td>-0.775</td>
<td>-0.032</td>
<td>0.053</td>
<td>0.071</td>
<td>0.152</td>
</tr>
<tr>
<td>R*</td>
<td>-0.475</td>
<td>0.891</td>
<td>-3.728</td>
<td>-0.650</td>
<td>-0.424</td>
<td>0.097</td>
<td>1.410</td>
</tr>
<tr>
<td>ROA pre-acq</td>
<td>-0.009</td>
<td>0.295</td>
<td>-2.213</td>
<td>0.000</td>
<td>0.057</td>
<td>0.079</td>
<td>0.350</td>
</tr>
</tbody>
</table>

Notes: ROA represents the raw average return on assets for the acquirer over the three years after the acquisition. R* is the raw average market return over the three years after acquisition. ROA pre-acq and ROA pre-tg represent the average return on assets for the acquirer and the target for the three years prior to the acquisition. ROA post-ind represents the average value of the return on assets of all firms in the acquirer’s industry over the three-year period after the acquisition. lg(TA post-acq) represents the logarithm value of the average total assets of the combined firm after acquisition. The significance values of the skewness and kurtosis are included in the parentheses below the statistics value. The values displayed in bold are significant at the 0.100 level.

The results of the performance adjustment regressions are displayed in Table 7.5. The results show that the industry’s post-acquisition accounting performance positively influenced the post-acquisition raw return on assets. If the primary industry of the acquirer was performing well in the years after acquisition, the acquirer was likely to be a good performer as well. This result is consistent with the arguments that the performance of a firm in general is influenced by its industry affiliation (Schmalensee 1985; Dess, Ireland & Hitt 1990; Rumelt 1991; Roquebert, Philips & Westfall 1996; McGahan & Porter 1997; Li & Simerly 1998; Brush, Bromiley & Hendrickx 1999).

Table 7.5 Results of the adjustment regressions

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Raw returns on assets</th>
<th>Raw market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.394 (0.064)</td>
<td>-2.785 (0.001)</td>
</tr>
<tr>
<td>lg(TA post-acq)</td>
<td>0.047 (0.043)</td>
<td>0.270 (0.004)</td>
</tr>
<tr>
<td>ROA pre-acq</td>
<td>0.169 (0.163)</td>
<td></td>
</tr>
<tr>
<td>ROA pre-tg</td>
<td>0.014 (0.955)</td>
<td></td>
</tr>
<tr>
<td>ROA post-ind</td>
<td>0.181 (0.103)</td>
<td></td>
</tr>
</tbody>
</table>

Notes: lg(TA post-acq) represents the logarithm value of the average total assets of the combined firm after acquisition. ROA pre-acq and ROA pre-tg represent the average return on assets for the acquirer and the target for the three years prior to the acquisition. ROA post-ind represents the average value of the return on assets of all firms in the acquirer’s industry over the three-year period after the acquisition. The P-values for the null hypothesis that the coefficient is zero are based on White’s corrected standard errors and are included in the parentheses below the coefficient value. The values displayed in bold are significant at the 0.100 level.
The positive relationships between the combined size after acquisition and the raw returns on assets and raw market returns are consistent with the evidence that large firms perform better than their small counterparts (Tongli, Ping & Chiu 2005). This also helps explain why acquisition activity is sought by firms. They try to gain the benefits of increased size through acquisition because this strategy ensures immediate growth as opposed to organic growth strategies that need time to develop the desirable size.

The negative constant indicates that the post-acquisition raw returns on assets and market returns were likely to be low. This is consistent with the empirical evidence showing poor long-term post-acquisition performance (Meeks 1977; Agrawal, Jaffe & Mandelker 1992; Dickerson, Gibson & Tsakalotos 1997; Loughran & Vijh 1997; Rau & Vermaelen 1998; Mitchell & Stafford 2000; Ikenberry, Lakonishok & Vermaelen 2000; Andrade, Mitchell & Stafford 2001; Andre, Kooli & L'Her 2004).

The descriptive statistics for the performance variables used further in the analysis are presented in Table 7.6. The performance variables present significant negative skewness and positive kurtosis. The negative skewness means that acquirers are more likely to be good performers after the influence of prior performance, post-acquisition industry performance and the combined size is removed. The significant positive values of kurtosis for the performance variables indicate that they are ‘peaked’ distributions.

Table 7.6 Descriptive statistics for the performance variables

<table>
<thead>
<tr>
<th>Performance variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min.</th>
<th>Percentiles</th>
<th>Max.</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal return on assets</td>
<td>0.000</td>
<td>0.148</td>
<td>-0.684</td>
<td>-0.005</td>
<td>0.028</td>
<td>0.068</td>
<td>0.278</td>
</tr>
<tr>
<td>Abnormal market return</td>
<td>0.000</td>
<td>0.845</td>
<td>-3.363</td>
<td>-0.322</td>
<td>0.097</td>
<td>0.521</td>
<td>1.846</td>
</tr>
</tbody>
</table>

Notes: Abnormal return on assets represents the adjusted average ROA for the acquirer over the three years after the acquisition. Abnormal market returns are the adjusted average market returns over the three years after acquisition. The significance values of the skewness and kurtosis are included in the parentheses below the statistics value. The values displayed in bold are significant at the 0.100 level.

7.5.2. Descriptive statistics of the acquisition process variables

The descriptive statistics of the acquisition process variables are shown at Table 7.7. The median board size (bs) was six. The mean board size was almost seven. These statistics are consistent with those obtained by Kiel and Nicholson (2003). They reported a mean board size in their sample of Australian publicly listed companies in 1996 of 6.6. The statistics from the current sample are almost identical to those obtained
by Matolscy, Stokes and Wright (2004) for Australian companies for 2001, who reported a mean board size of 6.6 and a median of six directors.

Table 7.7 Descriptive statistics for the explanatory variables

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min.</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>Max.</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>bs</td>
<td>6.675</td>
<td>2.792</td>
<td>3.000</td>
<td>5.000</td>
<td>6.000</td>
<td>8.000</td>
<td>15.000</td>
<td>0.957 (0.000)</td>
<td>0.670 (0.157)</td>
</tr>
<tr>
<td>CEOChair</td>
<td>0.123</td>
<td>-</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>nexo</td>
<td>0.658</td>
<td>0.240</td>
<td>0.000</td>
<td>0.525</td>
<td>0.750</td>
<td>0.833</td>
<td>1.000</td>
<td>-1.200 (0.000)</td>
<td>1.074 (0.052)</td>
</tr>
<tr>
<td>Agency risk</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dirsh</td>
<td>12.692</td>
<td>18.197</td>
<td>0.000</td>
<td>0.116</td>
<td>3.175</td>
<td>20.943</td>
<td>81.106</td>
<td>1.554 (0.000)</td>
<td>1.622 (0.012)</td>
</tr>
<tr>
<td>sh5</td>
<td>36.568</td>
<td>19.876</td>
<td>0.000</td>
<td>21.853</td>
<td>36.568</td>
<td>48.408</td>
<td>88.130</td>
<td>0.373 (0.099)</td>
<td>-0.138 (0.627)</td>
</tr>
<tr>
<td>finlev</td>
<td>0.241</td>
<td>0.199</td>
<td>0.079</td>
<td>0.176</td>
<td>0.215</td>
<td>0.334</td>
<td>0.411</td>
<td>3.425 (0.000)</td>
<td>11.412 (0.000)</td>
</tr>
<tr>
<td>freecf</td>
<td>-0.022</td>
<td>0.166</td>
<td>-0.604</td>
<td>-0.077</td>
<td>0.000</td>
<td>0.054</td>
<td>0.706</td>
<td>0.190 (0.344)</td>
<td>5.069 (0.000)</td>
</tr>
<tr>
<td>Synergistic motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>horizontal</td>
<td>0.658</td>
<td>-</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>vertical</td>
<td>0.079</td>
<td>-</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>conglomerate</td>
<td>0.263</td>
<td>-</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
<td>1.000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Opportunistic motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wave</td>
<td>0.674</td>
<td>-</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
<td>1.000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>toehold</td>
<td>7.123</td>
<td>13.814</td>
<td>0.000</td>
<td>0.000</td>
<td>9.350</td>
<td>49.820</td>
<td>19.63</td>
<td>1.963 (0.000)</td>
<td>2.757 (0.000)</td>
</tr>
<tr>
<td>Phase 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unrelated</td>
<td>0.333</td>
<td>-</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
<td>1.000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>relsize</td>
<td>0.625</td>
<td>0.931</td>
<td>0.003</td>
<td>0.132</td>
<td>0.359</td>
<td>0.792</td>
<td>5.918</td>
<td>3.682 (0.000)</td>
<td>15.732 (0.000)</td>
</tr>
<tr>
<td>Phase 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of cash</td>
<td>46.026</td>
<td>47.753</td>
<td>0.000</td>
<td>18.580</td>
<td>100.000</td>
<td>100.000</td>
<td>0.217</td>
<td>0.097 (0.000)</td>
<td>-1.925 (0.000)</td>
</tr>
<tr>
<td>Phase 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>relratio</td>
<td>-1.163</td>
<td>7.430</td>
<td>-71.201</td>
<td>-0.826</td>
<td>-0.049</td>
<td>0.421</td>
<td>4.815</td>
<td>-7.974 (0.000)</td>
<td>71.949 (0.000)</td>
</tr>
</tbody>
</table>

Notes: bs is the acquirer’s board size in terms of the number of directors. CEOChair is a dummy variable that equals 1 if the acquirer’s CEO is the same person as the Chairman of the board. nexo represents the proportion of non-executives on the acquirer’s board. dirsh is the percentage of shares owned by the directors of the acquirer. sh5 represents the percentage of acquirer’s shares owned by shareholders holding more than five per cent of the company’s stock. finlev and freecf are the acquirer’s financial leverage and free cash flow respectively scaled by the book value of total assets. horizontal is a dummy variable that equals 1 for horizontal acquisitions and 0 otherwise. vertical and conglomerate are dummy variables for which 1 is assigned to the vertical and conglomerate acquisitions respectively. wave is a dummy variable that equals 1 for the acquisitions during the period 1995-2000, and 0 otherwise. toehold represents the percentage of target’s shares owned by the acquirer one year prior to the acquisition. unrelated is a dummy variable that equals 1 if the target has been classified as unrelated to the acquirer (i.e. if the primary industry SIC code of the target is not the same as the acquirer’s primary industry SIC code) and 0 otherwise. relsize represents the relative size of the target compared to the acquirer in terms of the book value of their total assets. %ofcash is the percentage of consideration for the target paid in cash and is equal to the value paid in cash divided by total value. relratio is the integration ratio and was computed based on data on property, plant and equipment (PPE). The significance values of the skewness and kurtosis are included in the parentheses below the statistics value. The values displayed in bold are significant at the 0.100 level.

The descriptive statistics for the board leadership duality variable (CEOChair) show that in the majority of cases (almost 90% of the sample) the CEO was not the chairman of the board. Only 14 deals (12% of the sample) involved acquirers where the CEO was the chairman of the board. This is less than the 23 per cent reported by Kiel and Nicholson (2003) for Australian companies in 1996. Stapledon and Lawrence (1997) reported that 83 per cent of their sample of Australian Top 100 firms in 1995 had a chairman that was not CEO. These statistics support the arguments presented in
Chapter 2 with regard to the particulars of Australian companies in terms of board leadership duality. The low incidence of board leadership duality might determine a non-significant influence of this board characteristic on performance.

The mean value of the non-executive proportion variable ($nex$) was smaller than the proportion of 73 per cent reported by Stapledon and Lawrence (1997) for their sample of Top 100 firms in Australia in 1995 and the proportion of 72 per cent reported by Korn-Ferry (2002) for 426 leading companies in Australia in 2001. These statistics are consistent with those found by Kiel and Nicholson (2003). They reported a mean proportion of non-executive directors in Australian companies in 1996 of 69 per cent with a median of 75 per cent. Matolscy, Stokes and Wright (2004) reported a mean proportion of 66.5 per cent and a median of 71.4 per cent for their sample of Australian companies in 2001. The mean proportion reported here is also consistent with the 67 per cent reported by Xie, Davidson and DaDalt (2003) for US companies. However, given the relatively high proportion of non-executives observed across this study’s sample, this variable might not have a significant influence on performance.

The mean combined stake of all board members ($dirsh$) was 12.6 per cent, which is similar to the 10.7 per cent and 10.3 per cent reported in Australia by Brailsford, Oliver and Pua (2002) and Psychogios (2001) respectively. This statistic is consistent with the 11.8 per cent reported by McConnell and Servaes (1990) in the US. In the UK, Sudarsanam, Holl and Salami (1996) reported a mean insider ownership of 10 per cent for the period 1980 to 1990. Short and Keasey (1999) reported a mean insider ownership level of 12.5 per cent and a median of 5.6 per cent during the period 1988 to 1992.

The descriptive statistics for the blockholder ownership variable ($sh5$) were consistent with those identified in previous research. For example, using the data on the ownership of the top five shareholders as a proxy for blockholder ownership, Brailsford, Oliver and Pua (2002) reported an average of 43.28 per cent (and a median of 40.72%) for their sample of Australian firms in 1998. The slightly higher values obtained by Brailsford, Oliver and Pua (2002) may be due to the fact that aggregating the top five shareholdings into the blockholder ownership measure could include shareholders with less than five per cent ownership. In general, Australian publicly listed companies have less than five shareholders that own five per cent or more of a company. The descriptive statistics reported in this thesis are consistent with those of McConnell and Servaes (1990) that found that the mean blockholder ownership was 32.4 per cent for US
companies and those of Faccio and Lasfer (2000) and Davies, Hiller and McColgan (2005) that found approximately 35 per cent for the UK.

The descriptive statistics for financial leverage were found to be consistent with previous research by Welch (2003), who reported a mean leverage of 0.248 and a median of 0.245 for the sample of Australian companies in 1998.

The descriptive statistics for the proportion of horizontal, vertical and conglomerate acquisitions was also consistent with those from previous research. There is a significant body of evidence (e.g. Lichtenberg 1992; Montgomery 1994) indicating that the proportion of conglomerate diversifying acquisitions in the total M&A activity has decreased worldwide following the wave of the 1960s. The improved efficiency of the equity markets in the 1980s is considered the foremost cause for this decline. Baker, Ruback and Wurgler (2004) explained this trend towards corporate focus from a behavioural corporate finance point of view. They argued that the conglomerate wave of the 1960s can be considered a managerial response to a temporary 'investor appetite' for conglomerates. Investor demand for the shares of conglomerates was high during the 1960s and the market greeted diversifying acquisitions with positive announcement returns. The reduction in the size of such announcement effects since 1968 suggests a switch in investor appetite away from diversification. As a response to this shift, managers focused on expanding the firm's core business through horizontal and vertical acquisitions. Nine deals (7.9%) were vertical while 75 deals (65.8%) were horizontal. Thirty deals (26.3%) were conglomerate diversifications.

The mean prior ownership in the target (toehold) was only 7.1 per cent with a median of zero, as shown in Table 7.8. These statistics are consistent with the statistics reported by Psychogios (2001), who found a mean pre-acquisition ownership of 11.96 per cent and a median of zero for a sample of Australian publicly listed acquirers operating from 1988 to 1997.

As the descriptive statistics for the wave variable reveal, 77 deals in the sample (67.5%) were performed during the merger wave from 1995 to 2000. Only 37 deals (32.5%) were performed before or after.

The descriptive statistics for the relative size variable (relsize) are consistent with those reported by Da Silva Rosa et al. (2004b) for their subsample of Australian publicly listed acquirers. Their statistics were 0.53 and 0.34 respectively. The mean and median reported in Table 7.7 are also only slightly bigger than the statistics obtained by Psychogios (2001), who reported a mean relative size of 0.46 and a median of 0.21 for
acquisitions from 1988 to 1997. Both previously mentioned studies use the market values to proxy for the size of the acquirer and the target.

The frequency distribution of related and unrelated acquisitions in the sample is presented at Panel 2 of Table 7.8 together with the frequency distribution of the sample obtained based on the three initial criteria (Panel 1). The frequency distributions were found to be consistent across these two samples, so the final sample is representative in terms of related and unrelated acquisitions. In the final sample, 38 deals (33.33% of the sample) were classified as unrelated based on the two-digit SIC codes assigned to them by the SDC Platinum database. The rest of the deals—that is, 76 deals (66.67%)—were considered to be related.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of deals</td>
<td>Percentage</td>
</tr>
<tr>
<td>Yes</td>
<td>61</td>
<td>30.81</td>
</tr>
<tr>
<td>No</td>
<td>137</td>
<td>69.19</td>
</tr>
<tr>
<td>Total</td>
<td>198</td>
<td>100.00</td>
</tr>
</tbody>
</table>

**Notes:** An acquisition is classified as unrelated if the primary industry SIC code of the target is not the same as the acquirer’s primary industry SIC code. It is classified as related otherwise. Panel 1 describes the distribution of the initial sample of Australian publicly listed domestic acquirers from 1992-2001. Panel 2 presents the distribution of all one-time Australian publicly listed domestic acquisitions with enough information (i.e. the final sample).

The mean percentage of cash (\%of\text{cash}) included in Table 7.7 was found to be consistent with the 38 per cent obtained by Allen et al. (2004) for their sample of US takeovers from 1995 to 2000. Previous research on the method of payment in Australian M&As does not consider the continuous variable regarding the percentage of cash used. Da Silva Rosa et al. (2004b) reported that 37 per cent of Australian public acquisitions in their sample from 1990 to 1998 used only cash while 41 per cent used only stock. The sample studied in this thesis shows 49 acquisitions (43\%) were financed only with cash and 47 (41\%) used only stock. While the statistics are slightly different, they may be explained by the higher preference for cash offers in the later years that were not included in the analysis conducted by Da Silva Rosa et al. (2004b).

78 The distribution based on the *unrelated* variable of the intermediary sample obtained before excluding the cases with missing data is included in Appendix A2. No bias can be identified.
7.5.3. Descriptive statistics of the control variables

Based on the industry groupings from the *SDC Platinum* database, the distribution of acquirers by their primary industry is shown at Table 7.9. To test if the final sample was representative of the initial sample of Australian public acquisitions from 1992 to 2001 in terms of the industry profile, the table also includes the distribution of the initial sample by industry. The distribution of the final sample was found to be consistent with the initial distribution.\(^79\)

Table 7.9 Descriptive statistics for the industry dummy variables

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of deals</td>
<td>Percentage</td>
</tr>
<tr>
<td>resources</td>
<td>77</td>
<td>38.89</td>
</tr>
<tr>
<td>financial</td>
<td>56</td>
<td>28.28</td>
</tr>
<tr>
<td>services</td>
<td>29</td>
<td>14.65</td>
</tr>
<tr>
<td>manufacturing</td>
<td>28</td>
<td>14.14</td>
</tr>
<tr>
<td>trade</td>
<td>8</td>
<td>4.04</td>
</tr>
<tr>
<td>Total</td>
<td>198</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Notes: An acquirer is classified as affiliated to one of the industries based on the primary industry listed on SDC database. Panel 1 describes the distribution of the initial sample of Australian publicly listed domestic acquirers from 1992-2001 in terms of their primary industry. Panel 2 presents the distribution of all one-time Australian publicly listed acquisitions with enough information (i.e. the final sample).

The acquirers belonging to the resources industry group are the most numerous followed by financial, services and manufacturing acquirers. These industry sectors were the most active sectors in the Australian M&A market during the period under study.

This section concludes the description of the sample and the variables used in this study, suggesting that the deals selected for analysis are representative of the population of Australian publicly listed acquirers. Also, the descriptive statistics of the variables of interest are consistent with the results in previous research. The next section presents the methodology used to empirically test the propositions based on the data collected.

Chapter 8 and 9 presents the results obtained from the analyses described in section 7.4. Chapter 8 deals with the individual effects on performance of agency risks, synergistic and opportunistic motivations (that together describe phase 1 of the

\(^{79}\) Appendix A3 shows the distribution based on primary industry of the intermediary sample obtained before excluding the cases with missing data. No bias can be observed.
acquisition process), phase 2, phase 3 and phase 4. Section 8.1 describes the analysis performed in order to test propositions 1 to 3, while sections 8.2 to 8.4 present the results obtained for propositions 4 to 6. Chapter 9 deals with the simultaneous effects and interactions between phases, presenting the results of the multiple regression model designed to test propositions 1 to 6 together and the results of the contingency analyses employed in order to test proposition 7.
Chapter 8. Individual effects on performance

This chapter reports the results of the tests of the first six propositions formulated in Chapters 2 to 6, as summarised at Table 8.1, using the first part of the methodology described in Chapter 7 that considers the effects of acquisition motivations and process phases individually. As previously indicated, these tests are mainly to provide a better understanding for interpreting the multivariate results and a basis for comparison with prior studies.

Table 8.1 Summary of the propositions to be tested

<table>
<thead>
<tr>
<th>Proposition</th>
<th>Categories of variables that are likely to influence performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposition 1</td>
<td>Agency risk</td>
</tr>
<tr>
<td>Proposition 2</td>
<td>Synergistic motivation</td>
</tr>
<tr>
<td>Proposition 3</td>
<td>Opportunistic motivation</td>
</tr>
<tr>
<td>Proposition 4</td>
<td>Phase 2: Selection of the target</td>
</tr>
<tr>
<td>Proposition 5</td>
<td>Phase 3: Method of payment</td>
</tr>
<tr>
<td>Proposition 6</td>
<td>Phase 4: Integration level</td>
</tr>
</tbody>
</table>

8.1. Agency risks and acquisition motivations

Three sets of proxies are considered in this section—for agency risks and for synergistic and opportunistic motivations. The variables used to capture the agency risks and motivations are independently tested in this section to determine their relationship with post-acquisition performance. At the end of the section, they are included in a multiple regression to test for misleading influences.

8.1.1. Agency risks

Proposition 1 deals with the influence of agency risk on post-acquisition performance. As discussed in Chapter 2, the agency risk of the acquirer is estimated using the following variables—board structure (in terms of board size, board leadership structure and non-executive proportion); ownership structure (in terms of insider and blockholder ownership); financial leverage; and free cash flow.

Based on previous research reviewed in section 2.3.2.1, this thesis predicts a non-linear relationship between board size and acquisition performance. However, in the univariate analysis, a linear relationship is tested: at small levels of board size, the performance of acquisition in particular is likely to be low because the
board cannot provide monitoring for the managers’ decisions and also cannot provide enough knowledge and other resources that the firm may need to manage the acquisition process. The performance of the firm is likely to grow at the higher levels of board size.

Based on the theoretical arguments in previous research reviewed in section 2.3.2.2, a negative relationship between board leadership duality and post-acquisition performance is predicted.

The literature reviewed in section 2.3.2.3 helps predict a positive relationship between the proportion of outside directors on the board and performance. When the proportion of outsiders on the board is low, the board is dominated by managers who can impose their decisions. This possibility will make the board more likely to take wrong decisions. When the proportion of non-executives rises, the managers’ discretion is limited, creating the opportunity for better results in terms of performance.

A non-linear relationship between insider ownership and post-acquisition performance is predicted as suggested in section 2.3.3.1. However, a linear relationship is tested first. At the low levels of insider ownership, the interests of the outside owners and managers are likely to diverge, so the post-acquisition performance may be low. At high levels of insider ownership, the interest might be aligned and this might positively affect the performance.

The literature reviewed in section 2.3.3.2 suggests the possibility of a non-linear relation between blockholders’ ownership and performance. However, a linear relationship is tested first. The firm’s value is predicted to increase with the ownership of large shareholders, consistent with monitoring effects.

Following the literature review in section 2.3.4, it is predicted that lower post-acquisition performance is more likely to arise at low levels of financial leverage than at higher levels of financial leverage.

Similar to the hypothesis in the case of the relationship between leverage and performance, based on previous literature reviewed in section 2.3.5, it is predicted that lower post-acquisition performance is more likely to arise when there is the agency risk of higher free cash flow than in the cases in which free cash flow levels are low.

The analysis employed to test those hypotheses here uses Equations 7.7 and 7.8 and the Wilcoxon non-parametric test described in section 7.3.1. The results of this analysis show how high and low levels of agency risk variables influence the post-acquisition performance. They are presented in Table 8.2.
Table 8.2 Regression results based on the mean and median splits of agency risk variables

Panel 1. Mean split

<table>
<thead>
<tr>
<th>Abnormal returns on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>bs CEOChair nex dirsh sh5 finlev freecf</td>
<td>bs CEOChair nex dirsh sh5 finlev freecf</td>
</tr>
</tbody>
</table>
| **Below_mean** | | **0.004 0.006 0.011 -0.008 0.000 0.013 -0.031**
| (0.852) | (0.702) (0.584) (0.663) (0.953) (0.393) (0.252) |
| **Above_mean** | | **-0.005 -0.040 -0.006 0.018 0.001 -0.040 0.017**
| (0.725) | (0.310) (0.736) (0.351) (0.943) (0.190) (0.259) |
| **R-squared** | | **0.001 0.010 0.003 0.010 0.000 0.024 0.025**
| | (0.017) (0.633) (0.989) (0.755) (0.404) |
| **Wilcoxon test** | | **-2.750 -0.656 -1.193 -0.805 -0.635 -2.100 -1.544**
| (0.006) | (0.512) (0.233) (0.421) (0.525) (0.036) (0.123) |

Panel 2. Median split

<table>
<thead>
<tr>
<th>Abnormal returns on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>bs CEOChair nex dirsh sh5 finlev freecf</td>
<td>bs CEOChair nex dirsh sh5 finlev freecf</td>
</tr>
</tbody>
</table>
| **Below_median** | | **0.004 0.006 -0.009 0.001 0.000 0.018 -0.031**
| (0.852) | (0.702) (0.627) (0.951) (0.953) (0.415) (0.167) |
| **Above_median** | | **-0.005 -0.040 0.014 -0.001 0.001 -0.018 0.032**
| (0.725) | (0.310) (0.455) (0.958) (0.943) (0.316) (0.033) |
| **R-squared** | | **0.001 0.010 0.006 0.000 0.000 0.014 0.047**
| | (0.211) (0.201) (0.000) (0.770) (0.986) (0.723) (0.038) |
| **Wilcoxon test** | | **-2.750 -0.656 -1.127 -1.108 -0.635 -3.182 -2.080**
| (0.006) | (0.512) (0.899) (0.930) (0.525) (0.001) (0.038) |

Notes: bs is the acquirer's board size in terms of the number of directors. CEOChair is a dummy variable that equals 1 if the acquirer's CEO is the same person as the Chairman of the board. nex represents the proportion of non-executives on acquirer's board. dirsh is the percentage of shares owned by the directors of the acquirer. sh5 represents the percentage of acquirer's shares owned by shareholders holding more than five per cent of the company's stock. finlev and freecf are the acquirer's financial leverage and free cash flow respectively scaled by the book value of total assets. The P-values are included in the parentheses below the coefficient value or the Wilcoxon test value for which they are computed. The Wilcoxon rank-sum test is used to assess the significance of the difference in mean performance of the cases with high versus low levels of the explanatory variable. The values displayed in bold are significant at the 0.100 level.
The regression results for the accounting based performance measure do not show evidence of a significant influence of high or low levels of board size on performance. The Wilcoxon test results, however, provide some weak evidence that acquirers with a small number of directors on the board performed better in terms of post-acquisition adjusted returns on assets than the acquirers with large boards of directors, in the case of both the mean and median splits.

The results for the market based performance measure do not show a significant difference between acquirers with large boards of directors and acquirers with small boards, based on either the mean or median splits. However, the significant result for the dummy variable for high levels of board size suggests that acquirers with larger boards were better performers in terms of adjusted market returns. This is consistent with the argument that a large board limits managerial discretion in pursuing personal objectives (Ocasio 1994; Golden & Zajac 2001; Kiel & Nicholson 2003; Ruigrok, Peck & Keller 2006). The divergence between this result and the one obtained for the accounting performance shows that even if the market forecasts decreased agency costs in the case of large boards, the negative effects of large numbers of directors still manifest on post-acquisition accounting performance.

The reason for these weak results for board size might be that the relationship between board size and performance is non-linear as predicted in section 2.3.2.1. This possibility will be tested under the multiple variables analyses in Chapter 9.

Given that board leadership duality is a dummy variable, the mean and median splits do not make sense here. The dummy variables for the high and low levels of board leadership duality are the variable itself and its inverse (that equals 1 when the original variable is equal to 0 and 0 when the original variable is equal to 1). They are included in the regression model at Equations 7.7 and 7.8 in place of Above_mean (Above_median) and Below_mean (Below_median) respectively. The results do not show evidence of a significant relationship between either the existence or inexistence of board leadership duality and the adjusted measures of post-acquisition performance. The results are consistent with, among others, those of Daily and Dalton (1993), Baliga, Moyer and Rao (1996) and the results of the meta-analytic review by Dalton et al. (1998). More recently, Cosh, Guest and Hughes (2006) reported a non-significant relationship between board duality and the two categories of the post-acquisition performance measure—that is, accounting and market based for their sample of UK acquisitions completed in the period 1995-1996. This non-significant result can be
explained by the existence of other mechanisms that can mitigate the agency risks implied by board leadership duality. This will be addressed when considering the correlations between agency risks variables and when using the multiple variables regression that includes all the agency risks variables.

The significant results for the mean and median splits in the case of the variable describing the proportion of non-executive directors on the board with the market based performance measure suggest that the market rewards boards with a relatively higher proportion of non-executive directors. This is consistent with arguments suggesting that a high proportion of non-executives on the board limits the ability of managers to pursue personal objectives because non-executives can exercise their monitoring functions (Walsh & Seward 1990; Wright, Kroll & Elenkov 2002; Roberts, McNulty & Stiles 2005). With more non-executives on the board comes a greater likelihood that the board of directors will be seen as independent from the management, allowing it to be an efficient monitoring mechanism that may refrain management from taking actions that are in conflict with shareholder interests. However, in terms of accounting performance, the proportion of non-executives does not matter independently of other variables. The results are consistent with those of Kiel and Nicholson (2003). These authors found that the proportion of outside directors had a significant correlation with the market-based measure of performance but no significant correlation with the accounting-based measure. One implication of these results, as Kiel and Nicholson (2003) suggest, is that board composition may be more important for the stock market than as a determinant of accounting performance. The non-significant relationship between accounting performance and the proportion of outside directors supports the findings of Baysinger and Butler (1985), Bhagat and Black (2002), and Ghosh (2006).

The results of show no evidence of a significant relationship between the insider ownership variable and either accounting or market-based post-acquisition performance. This is consistent with the results of Cubbin and Leech (1986), Agrawal and Mandelker (1990) and Breazeale (2004), among others. It may mean that other mechanisms are in place to monitor insiders and ensure they do not act in their own interests when engaging in an acquisition. Other explanations include deficiencies in the proxy for insider ownership or that the relationship is non-linear (as predicted in section 2.2.2.1).  

80 Another explanation for this result is that firms in general tend to add non-executive directors during periods of poor accounting performance (Bhagat & Black 2002). Thus, non-executive directors may become more prevalent in poorly performing firms after acquisitions and may lead to improved performance, and thus the relationship with the accounting performance is obscured (Hermalin & Weisbach 2003).
The lack of evidence for any influence of blockholder ownership on performance also may be due to weaknesses in the measure or a non-linear relationship (section 2.2.2.2). These possibilities are addressed by analysing the correlations between agency risks variables and in the multivariate analyses in Chapter 8.

The results of the Wilcoxon test for the financial leverage of the acquirer show evidence of a weak negative relationship between this variable and returns on assets. However, there appears to be no significant relationship with market returns. The result obtained here is consistent with evidence provided by Cosh, Guest and Hughes (2006) in their takeover sample of UK acquisitions completed in the period 1995-1996.

The results of the median split regression model and of the Wilcoxon test show that acquirers with low free cash flow perform significantly worse than acquirers with high levels. This is valid for both performance measures. One explanation for this result is that while free cash flow may encourage a value decreasing acquisition, it will disappear after the acquisition along with the corresponding agency risks. This reduction in agency risks is likely to influence managers to make decisions that will increase shareholder value and compensate for initial agency behaviour. The results are consistent with the evidence provided by Gregory (2005) using a sample of UK acquirers. Contrary to the free cash flow hypothesis, there is evidence that acquirers with high free cash flow perform better than acquirers with low free cash flow.

High correlation between agency variables may result in confounding effects with regard to their influence on post-acquisition performance. The Pearsonian correlations among the agency variables are presented in Table 8.3.

Board size is significantly correlated with the proportion of non-executive directors on the board, insider ownership (inversely), financial leverage and free cash flow. The positive correlation between board size and non-executive directors confirm Yermack (1996)'s prediction and is consistent with Boone et al. (forthcoming).

The negative correlation between board size and insider ownership is contrary to the prediction that an increase in the number of directors would produce an increase in the total number of shares owned by those individuals. One explanation for this result is that directors on large boards usually do not have an incentive to own a significant portion of the company's shares because unless it gives them absolute control (which is possible only for a few), they cannot impose their interests over others. Another argument by Berry et al. (2006) is that as insider ownership decreases, alternative
governance mechanisms are involved to help mitigate the corresponding increase in agency costs.

Table 8.3 Correlations among the agency variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>bs</th>
<th>CEOChair</th>
<th>nex</th>
<th>dirsh</th>
<th>sh5</th>
<th>finlev</th>
<th>freecf</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEOChair</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nex</td>
<td>0.239</td>
<td></td>
<td>-0.265</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dirsh</td>
<td>-0.162</td>
<td>0.052</td>
<td>-0.215</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sh5</td>
<td>0.013</td>
<td>-0.001</td>
<td>-0.156</td>
<td>0.260</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>finlev</td>
<td>0.321</td>
<td>0.065</td>
<td>0.123</td>
<td>-0.065</td>
<td>-0.156</td>
<td></td>
<td></td>
</tr>
<tr>
<td>freecf</td>
<td>0.204</td>
<td>-0.172</td>
<td>0.028</td>
<td>-0.136</td>
<td>-0.004</td>
<td>0.070</td>
<td></td>
</tr>
</tbody>
</table>

Notes: bs is the acquirer’s board size in terms of the number of directors. CEOChair is a dummy variable that equals 1 if the acquirer’s CEO is the same person as the Chairman of the board. nex represents the proportion of non-executives on acquirer’s board. dirsh is the percentage of shares owned by the directors of the acquirer. sh5 represents the percentage of acquirer’s shares owned by shareholders holding more than five per cent of the company’s stock. finlev and freecf are the acquirer’s financial leverage and free cash flow respectively scaled by the book value of total assets. The significance of the correlation coefficient is included in the parentheses below the statistics value. The values displayed in bold are significant at the 0.100 level.

A large number of directors is likely to coincide with a high level of leverage and free cash flow, as the correlation results show. These results can be explained by the increased access to resources provided by large boards, which includes easy access to cash or other means of financing. The result for financial leverage is consistent with the result found by Jensen (1986).

The board leadership duality variable is negatively correlated with the proportion of non-executives on the board. This means that when non-executives are present in a large proportion on the board, it is more likely that one of the non-executives will fulfil the role of chairman of the board. This result is consistent with that of Beiner et al. (2004), which indicates that non-executives seek independence from the CEO and prohibit the CEO to take the role of chairman of the board. The negative correlation between board leadership duality and free cash flow can be explained by the negative relationship between board size and board leadership duality together with the positive relationship between board size and free cash flow. Boards with leadership duality are generally small and companies with small boards have high levels of free cash flow.
The negative correlation between the proportion of non-executives on the board and insider ownership is consistent with the hypothesis put forward by Logan and Dunstan (1999), which predicts such a relationship between these variables. Logan and Dunstan (1999) argue that the greater the proportion of equity owned by managers, the more likely management interests are aligned with those of shareholders so no alternative monitoring is necessary. On the other hand, the managers, who bear the costs if shareholders resort to price protection, are more likely to institute increased levels of monitoring as their fractional claim on the firm decreases. Logan and Dunstan (1999) submit that the lower the management’s relative share of the firm, the greater the likelihood that the board of directors will be dominated by non-executive directors. That hypothesis is supported by the results of this study.

Logan and Dunstan (1999) also predict a negative relationship between the proportion of non-executives and blockholder ownership, which they also attribute to the need for monitoring. This relationship is also supported by the results of the current study.

The significant positive correlation between insider and blockholder ownership is consistent with the results obtained by Welch (2003) for Australian companies between 1999 and 2000. Welch (2003) found a correlation coefficient of 0.44, which is a little higher than the one obtained in the current study. However, in Welch (2003), the measure of insider ownership (called ‘Close’ ownership after Demsetz & Villalonga 2001) included, in addition to directors’ shares, the shareholdings of other parties closely related to the management.

The negative correlation between the acquirer’s blockholder ownership and financial leverage is also consistent with the results obtained by Welch (2003), who reported a correlation coefficient of -0.26.

Most of the agency variables are mostly correlated. Based on the arguments presented in Chapter 2, with regard to the particulars of Australian companies and the descriptive statistics included in section 7.5.2, some agency variables are not expected to be good predictors of post-acquisition performance. Given that the preliminary analysis revealed that not all agency variables influence performance and the correlations among some of them are strong, a condensing technique is used to reduce the agency variables used for further analysis to only those that have a significant influence on post-acquisition performance (see section 7.3.1). This technique compares a regression model of all the agency variables with partial models obtained by removing
only one agency risks variables at a time. The variable excluded first is the proportion of non-executives on the board \((nex)\) which is highly correlated with board size. The rest of the agency variables were regressed together against the performance variables in the full regression model described in Equation 8.1. The squared values were included to test for the quadratic relationships predicted in Chapter 2.

\[
\text{performance} = \alpha + \beta_1 bs + \beta_2 bs\_sq + \beta_3 CEOChair + \beta_4 dirsh + \beta_5 dirsh\_sq + \beta_6 sh5 + \beta_7 sh5\_sq + \beta_8 finlev + \beta_9 freecf
\]  
(8.1)

where:

- \(performance\) - the performance measures described in section 7.2.1.
- \(bs\) - the acquirer’s board size.
- \(bs\_sq\) - the squared value of the acquirer’s board size \((bs)\).
- \(CEOChair\) - dummy variable that equals 1 if the acquirer’s CEO is the same person as the Chairman of the board.
- \(nex\) - the proportion of non-executives on acquirer’s board.
- \(dirsh\) - the percentage of shares owned by the directors.
- \(dirsh\_sq\) - the squared value of the percentage of shares owned by the directors \((dirsh)\).
- \(sh5\) - the percentage of acquirer’s shares owned by shareholders holding more than 5% of the acquirer’s stock (blockholder ownership).
- \(sh5\_sq\) - the squared value of the blockholder ownership \((sh5)\).
- \(finlev\) - the acquirer’s financial leverage scaled by the book value of total assets.
- \(freecf\) - the acquirer’s free cash flow scaled by the book value of total assets.

The full regression model and the six partial regressions are reported in Table 8.4.

---

81 For board size, insider ownership and blockholder ownership, non-linear relationships with performance are predicted (see Chapter 2). In those cases, the full regression model includes the proxies and their squared values. Thus, when removing one of these proxies, the actual number of variables excluded is two.
Table 8.4 Basic regression results based on the mean split of agency risk variables

<table>
<thead>
<tr>
<th></th>
<th>Abnormal return on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Partial model 1</td>
<td>Partial model 2</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.004 0.946</td>
<td>-0.136 0.306</td>
</tr>
<tr>
<td>bs</td>
<td>0.035 0.080</td>
<td>0.036 0.052</td>
</tr>
<tr>
<td>bs_sq</td>
<td>-0.002 0.072</td>
<td>-0.002 0.036</td>
</tr>
<tr>
<td>CEOChair</td>
<td>-0.045 0.353</td>
<td>-0.048 0.304</td>
</tr>
<tr>
<td>dirsh</td>
<td>-0.001 0.490</td>
<td>-0.001 0.502</td>
</tr>
<tr>
<td>dirsh_sq</td>
<td>0.000 0.426</td>
<td>0.000 0.395</td>
</tr>
<tr>
<td>sh5</td>
<td>0.002 0.507</td>
<td>0.001 0.651</td>
</tr>
<tr>
<td>sh5_sq</td>
<td>-0.000 0.568</td>
<td>-0.000 0.730</td>
</tr>
<tr>
<td>finlev</td>
<td>-0.009 0.222</td>
<td>-0.011 0.205</td>
</tr>
<tr>
<td>freecf</td>
<td>-0.086 0.469</td>
<td>-0.079 0.497</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.043 0.073</td>
<td>0.073 0.080</td>
</tr>
<tr>
<td>F-test</td>
<td>2.680 0.073</td>
<td>1.165 0.283</td>
</tr>
<tr>
<td></td>
<td>0.459 0.027</td>
<td>0.144 0.761</td>
</tr>
<tr>
<td></td>
<td>(0.002)</td>
<td>(0.761)</td>
</tr>
<tr>
<td></td>
<td>0.082 0.441</td>
<td>0.087 0.407</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td>(0.447)</td>
</tr>
<tr>
<td></td>
<td>-0.004 0.489</td>
<td>-0.004 0.447</td>
</tr>
<tr>
<td></td>
<td>(0.006)</td>
<td>(0.477)</td>
</tr>
</tbody>
</table>

Notes: bs is the acquirer’s board size in terms of the number of directors. CEOChair is a dummy variable that equals 1 if the acquirer’s CEO is the same person as the Chairman of the board. nex represents the proportion of non-executives on acquirer’s board. dirsh is the percentage of shares owned by the directors of the acquirer. sh5 represents the percentage of acquirer’s shares owned by shareholders holding more than five per cent of the company’s stock. finlev and freecf are the acquirer’s financial leverage and free cash flow respectively scaled by the book value of total assets. The F-test assesses the difference in R-squares between the full model, including all the agency variables, and the partial model. The values displayed in bold are significant at the 0.100 level.
The size of the board of directors has a non-linear relationship with the accounting measure of post-acquisition performance. This result confirms the arguments by Jensen (1993) but only for accounting performance.

The results do not support the arguments predicting a negative relationship between board leadership duality and performance. The predicted non-linear relationship between the proportion of non-executives and performance was also not found. This result is consistent with the results obtained by Breazeale (2004).

The results of the full regression model do not show any evidence of a non-linear relationship between blockholder ownership and post-acquisition adjusted market return. This is contrary to the evidence provided by Claessens et al. (2002) and Bai et al. (2004) for firm performance in general and Breazeale (2004) and Ben-Amar and Andre (2006) for acquisition performance. Claessens et al. (2002) and Bai et al. (2004) found that a firm’s value increases with the ownership of the largest shareholder, consistent with monitoring effects. However, when the largest shareholder controls a very large share of the firm, its value falls, which is consistent with expropriation effects. Ben-Amar and Andre (2006) found a non-linear relationship between ownership by the largest shareholder and announcement date cumulated abnormal returns. The result does not hold for the accounting returns either, which is consistent with the findings of Demsetz and Lehn (1985). The results also indicate that financial leverage and free cash flow do not appear to influence performance.

It can be observed from Table 8.4 that, removing the variables associated with board size, the R-squared for the regression for the accounting based performance was significantly reduced. Therefore, board size is used in further analysis to proxy for the agency risks. The other agency risk variables did not make a significant contribution to explaining the variance in performance and are not included in further analysis.

### 8.1.2. Synergistic motivation

Proposition 2 deals with the influence of synergistic motivation on performance. Given that the variables that proxy for synergistic motivation are dummy variables, conducting mean and median splits did not make sense, as was the case with the board leadership duality variable. The dummy variables for the high and low levels of each of the variables of interest for synergistic motivation were in fact the variable itself and its inverse (which equals 1 when the original variable is equal to 0, and 0 when the original...
variable is equal to 1). They are included in the regression model presented in Equation 7.7 in place of Above_mean and Below_mean respectively and are presented in Table 8.5 with the symbols ‘Yes’ and ‘No’.

Table 8.5 The results of the analysis of the synergistic motivation variables

<table>
<thead>
<tr>
<th></th>
<th>Abnormal return on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>horizontal</td>
<td>vertical</td>
</tr>
<tr>
<td>No</td>
<td>-0.003</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>(0.899)</td>
<td>(0.794)</td>
</tr>
<tr>
<td>Yes</td>
<td>0.001</td>
<td>-0.043</td>
</tr>
<tr>
<td></td>
<td>(0.932)</td>
<td>(0.529)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.000</td>
<td>0.007</td>
</tr>
<tr>
<td>Wilcoxon test</td>
<td>-0.750</td>
<td>-0.657</td>
</tr>
<tr>
<td></td>
<td>(0.454)</td>
<td>(0.511)</td>
</tr>
</tbody>
</table>

Notes: horizontal is a dummy variable that equals 1 for horizontal acquisitions and 0 otherwise. vertical and conglomerate are also dummy variables for which 1 is assigned to the vertical and conglomerate acquisitions respectively. The P-values are included in the parentheses below the coefficient value or the Wilcoxon value for which they are computed. The Wilcoxon test is used to assess the significance of the difference in mean performance of the cases with high versus low levels of the explanatory variable. The values displayed in bold are significant at the 0.100 level.

The results show no significant difference in terms of abnormal post-acquisition performance between the deals that have the motive of horizontal or vertical integration or conglomerate diversification and the overall sample when the influences of other process variables are not controlled for. The Wilcoxon non-parametric rank-sum test result confirmed this result. The results show that the variables capturing synergistic motivation explain a very small proportion of the variance in post-acquisition performance (the best cases are the vertical integration dummies that explain 0.7% of the post-acquisition abnormal returns on assets and the conglomerate dummies that also explain 0.7% of the variance in post-acquisition abnormal market returns). More reliable results may be obtained when controlling for other process variables in the multiple variables analyses in Chapter 8.

8.1.3. Opportunistic motivation

Proposition 3 deals with the influence of opportunistic motivation on performance. As with the synergistic motivation variables and the board leadership duality variable, the opportunistic motivation variable which deals with the timing of the acquisition in relation to the merger wave is a dummy variable, so performing a
mean or median split would not make sense. Consequently, the wave variable and its inverse were used in Equation 7.7 to test the influence of high and low levels of this variable on post-acquisition performance. The results are presented in Table 8.6.

Table 8.6 The results of the analysis for the opportunistic motivation variables

<table>
<thead>
<tr>
<th></th>
<th>Abnormal return on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>wave</td>
<td>toehold</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
</tr>
<tr>
<td>Low</td>
<td>0.020</td>
<td>-0.003</td>
</tr>
<tr>
<td></td>
<td>(0.358)</td>
<td>(0.852)</td>
</tr>
<tr>
<td>High</td>
<td>-0.010</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>(0.573)</td>
<td>(0.650)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.009</td>
<td>0.001</td>
</tr>
<tr>
<td>Wilcoxon test</td>
<td>-0.588</td>
<td>-0.373</td>
</tr>
<tr>
<td></td>
<td>(0.556)</td>
<td>(0.709)</td>
</tr>
</tbody>
</table>

Notes: wave is a dummy variable that equals 1 for the acquisitions during the period 1995-2000, and 0 otherwise. toehold represents the percentage of target’s shares owned by the acquirer one year prior to the acquisition. The P-values are included in the parentheses below the coefficient value or the Wilcoxon value for which they are computed. The Wilcoxon test is used to assess the significance of the difference in mean performance of the cases with high versus low levels of the explanatory variable. The values displayed in bold are significant at the 0.100 level.

Although the results of the regression model are not significant, the results of the non-parametric Wilcoxon test that assesses the difference between the performance of acquisitions during the merger wave versus those outside the wave show that market performance is more likely to be high in the case of acquisitions occurring outside the merger wave. This result is consistent with those found by Moeller, Sclingemann and Stulz (2005) but inconsistent with the findings of Bhagat, Hirshleifer and Noah (2005). One explanation for this result is that merger waves usually coincide with high capital market cycles, so the post-acquisition period may to coincide with a recession.

For the pre-acquisition acquirer’s ownership of the target’s shares (toehold), the results in Table 8.6 are in the predicted direction but are not significant. None of the regression models provides significant results. The Wilcoxon test also does not offer evidence of a significant difference in performance between acquirers with low and high levels of prior ownership in the target. This result is consistent with the one found by Gaspar, Massa and Matos (2005). It may be explained using the arguments that predict a positive influence of prior toehold on performance (through its discouraging effect on bidding competition) and arguments that predict a negative influence on performance (though its effect on encouraging the ‘winner course’).
8.1.4. Comparison of agency risks and acquisition motivations

The agency risks and acquisition motivations for acquisitions needed to be tested together since they may manifest simultaneously. For this, a regression model that considers all the variables for agency risks (\(bs\) and \(bs_{sq}\)), synergistic (horizontal, vertical, conglomerate) and opportunistic (wave and toehold) motivations was considered (see section 7.3.1, Equation 7.11). Given that the regression model contains a constant, the conglomerate motivation dummy was excluded. Also, there was a strong likelihood of resource companies pursuing horizontal acquisitions. As such, instead of having the resources industry dummy and the horizontal motivation dummy together in the same regression model, two other dummies were computed and included in the multiple regression model—\(hres\) and \(hnores\). \(Hres\) equals 1 if the acquisition was horizontal and the acquirer belonged to the resources industry, 0 otherwise. \(Hnores\) was equals 1 if the acquisition was horizontal or the acquirer did not belong to the resources industry, 0 otherwise. The regression model included all the other industry affiliation dummies.

The full regression model that includes the variables for agency risks and both categories of motivations is described by the following equation:

\[
\text{performance} = \alpha + \beta_1 bs + \beta_2 bs_{sq} + \beta_3 \text{vertical} + \beta_4 \text{wave} + \beta_5 \text{toehold} + \\
+ \beta_6 \text{financials} + \beta_7 \text{manufacturing} + \beta_8 \text{services} + \beta_9 \text{trade} + \\
+ \beta_{10} \text{hres} + \beta_{11} \text{hnores}. \quad (8.2)
\]

The results of the full model presented in Table 8.7 confirm the non-linear relationship between the board size and post-acquisition abnormal returns on assets. The other variables were not found to have significant relationships with performance.

The agency risks and acquisition motivations model is compared with partial regression models that include only one motivation at a time to test the combined influence of agency risks and acquisition motivations on post-acquisition performance and whether some of the acquisition motivations influenced performance independently of each other. The agency and opportunistic motivation regressions did not include the dummy variables \(hres\) and \(hnores\) because these regressions do not deal with the horizontal integration variable. The method used is described in section 7.3.1.

The differences in variance in performance explained by each of the partial motivation models on one hand and the full model on the other give an indication of the
degree of independence of the acquisition motivations in influencing performance. No significant difference in variance in performance explained by each of the three partial motivation models and the full model indicates that the motivation corresponding to the partial model did not influence post-acquisition performance independently of the other two motivations. As Table 8.7 shows, no type of motivation was independent of the others.

### Table 8.7 Acquisition motivations: Multiple regression results

<table>
<thead>
<tr>
<th></th>
<th>Abnormal returns on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agency</td>
<td>Synergistic</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>-0.108</td>
<td>-0.030</td>
</tr>
<tr>
<td></td>
<td>(0.277)</td>
<td>(0.647)</td>
</tr>
<tr>
<td><strong>bs</strong></td>
<td>0.047</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.092)</td>
<td></td>
</tr>
<tr>
<td><strong>bs_sq</strong></td>
<td>-0.003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.063)</td>
<td></td>
</tr>
<tr>
<td><strong>vertical</strong></td>
<td>-0.056</td>
<td>-0.059</td>
</tr>
<tr>
<td></td>
<td>(0.471)</td>
<td>(0.412)</td>
</tr>
<tr>
<td><strong>wave</strong></td>
<td>-0.012</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>(0.660)</td>
<td>(0.568)</td>
</tr>
<tr>
<td><strong>toehold</strong></td>
<td>0.001</td>
<td>-0.011</td>
</tr>
<tr>
<td></td>
<td>(0.434)</td>
<td>(0.670)</td>
</tr>
<tr>
<td><strong>financials</strong></td>
<td>0.039</td>
<td>0.033</td>
</tr>
<tr>
<td></td>
<td>(0.268)</td>
<td>(0.632)</td>
</tr>
<tr>
<td><strong>manufacturing</strong></td>
<td>0.066</td>
<td>0.072</td>
</tr>
<tr>
<td></td>
<td>(0.030)</td>
<td>(0.246)</td>
</tr>
<tr>
<td><strong>services</strong></td>
<td>0.038</td>
<td>0.037</td>
</tr>
<tr>
<td></td>
<td>(0.350)</td>
<td>(0.636)</td>
</tr>
<tr>
<td><strong>trade</strong></td>
<td>0.035</td>
<td>0.050</td>
</tr>
<tr>
<td></td>
<td>(0.522)</td>
<td>(0.557)</td>
</tr>
<tr>
<td><strong>hres</strong></td>
<td>-0.005</td>
<td>-0.008</td>
</tr>
<tr>
<td></td>
<td>(0.951)</td>
<td>(0.911)</td>
</tr>
<tr>
<td><strong>hnores</strong></td>
<td>0.011</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.687)</td>
<td>(0.906)</td>
</tr>
<tr>
<td><strong>R-squared</strong></td>
<td>0.048</td>
<td>0.048</td>
</tr>
<tr>
<td><strong>F-test</strong></td>
<td>0.419</td>
<td>0.524</td>
</tr>
</tbody>
</table>

**Notes:** bs is the acquirer’s board size in terms of the number of directors, bs sq is the squared value. vertical is a dummy variable for which 1 is assigned to the vertical acquisitions. wave is a dummy variable equal to 1 for the acquisitions during the period 1995-2000, and 0 otherwise. toehold represents the percentage of target’s shares owned by the acquirer one year prior to the acquisition. financials, manufacturing, services and trade are dummy variables for industry affiliation and equal 1 if the acquirer had the corresponding industry as its primary industry and 0 otherwise. hres equals 1 if the acquisition is horizontal and the acquirer is affiliated to the “Resources” industry and 0 otherwise, while hnores designated an horizontal acquisition with the acquirer non-affiliated to the “Resources” industry. The P-values are included in the parentheses below the coefficient value or the F-test value for which they are computed. The F-tests consider the difference in R-squares between the partial models including only variables that characterise a type of motivation, and the full acquisition motivations model. The values displayed in bold are significant at the 0.100 level.
8.2. Phase 2: Selection of the target

The influence of phase 2 on post-acquisition performance, predicted by proposition 4, was tested using the two proxies that were discussed in the literature review for this phase: relatedness and relative size. This thesis tests a linear relationship between relatedness and relative size, on the one hand, and post-acquisition performance, on the other using the methods described in section 7.3.1.

The variable for relatedness is a dummy variable, conducting mean and median splits did not make sense, as was the case with the board leadership duality and synergistic motivation variables. The dummy variables for the high and low levels of relatedness were in fact the variable itself and its inverse (which equals 1 when the original variable is equal to 0, and 0 when the original variable is equal to 1). They are included in the regression model presented in Equation 7.7 in place of Above_mean and Below_mean respectively. The regression model outlined in Equation 7.6 was also used to control for industry affiliation. For the relative size, the regression models presented at Equations 7.7 and 7.8 are used, together with the model described at Equation 7.12.

The results in Table 8.8 show that relatedness did not significantly influence performance. This is consistent with the results obtained by, among others, Christensen and Montgomery (1981), McDougall and Round (1984), Montgomery (1985), Grant, Jamine and Thomas (1988), Fowler and Schmidt (1989), Seth (1990), Hill, Hitt and Hoskisson (1992) and Cosh, Guest and Hughes (2006).

The results of the Wilcoxon test show no significant difference between related and unrelated acquisitions in terms of post-acquisition adjusted performance, regardless of whether the accounting or market based measure was used. When using the dummy variable for unrelated acquisitions together with the dummy variables for primary industry affiliation in the regression model against each of the two performance measures, the results did not show evidence of a relationship between the related/unrelated status of the target and post-acquisition performance. These results may be explained by using the arguments that predict benefits as well as costs for each of the two types of acquisitions based on the degree of relatedness between the acquirer and the target. They are consistent with the evidence provided by, for example, Breazeale (2004).
Table 8.8 Basic regression results for the unrelated/related variables

<table>
<thead>
<tr>
<th>unrelated</th>
<th>Abnormal return on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Linear</td>
<td>Linear + Industry</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.029 (0.363)</td>
<td>-0.155 (0.314)</td>
</tr>
<tr>
<td>related</td>
<td>0.005 (0.760)</td>
<td>-0.017 (0.860)</td>
</tr>
<tr>
<td>unrelated</td>
<td>-0.011 (0.621)</td>
<td>0.034 (0.860)</td>
</tr>
<tr>
<td>financials</td>
<td>0.052 (0.175)</td>
<td>0.325 (0.090)</td>
</tr>
<tr>
<td>manufacturing</td>
<td>0.089 (0.012)</td>
<td>0.198 (0.330)</td>
</tr>
<tr>
<td>services</td>
<td>0.052 (0.248)</td>
<td>0.122 (0.673)</td>
</tr>
<tr>
<td>trade</td>
<td>0.060 (0.273)</td>
<td>0.392 (0.261)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.003</td>
<td>0.001</td>
</tr>
<tr>
<td>F-test/Wilcoxon test</td>
<td>-1.328 (0.184)</td>
<td>0.337 (0.736)</td>
</tr>
</tbody>
</table>

Notes: related is a dummy variable that equals 1 if the target has been classified as related to the acquirer (i.e. if the primary industry SIC code of the target is the same as the acquirer’s primary industry SIC code) and 0 otherwise. unrelated is a dummy variable that equals 1 if the target has been classified as unrelated to the acquirer (i.e. if the primary industry SIC code of the target is not the same as the acquirer’s primary industry SIC code) and 0 otherwise. financials, manufacturing, services and trade are dummy variables for industry affiliation and equal 1 if the acquirer had the corresponding industry as its primary industry and 0 otherwise. The Wilcoxon test is computed for related versus unrelated acquirers. The F-test is computed for the regression with industry dummy variables. The P-values are included in the parentheses below the coefficient value or the F-test/Wilcoxon test value for which they are computed. The values displayed in bold are significant at the 0.100 level.

The results in Table 8.8 show a positive relationship between the affiliation to the manufacturing industry group and post-acquisition abnormal accounting returns. It should be noted that this is present even though the performance was adjusted for the post-acquisition industry performance. This result may mean that acquirers affiliated with the manufacturing industry perform better on average than their industry counterparts after acquisition while other acquirers are likely to perform worse than their competitors in terms of returns on assets. There is also evidence of a positive relationship between the affiliation with the financial industry and post-acquisition market returns.

For relative size, the results in Table 8.9 show a positive linear relationship between this variable and post-acquisition accounting based performance. This result is consistent with those of Kitching (1967), Biggadike (1979), Waldman (1983), Shelton
(1988) and Bhagat, Hirshleifer and Noah (2005). However, for market based performance, no significant relationship with relative size can be observed. This result is consistent with, for example, Breazeale (2004). The results also confirm the positive relationships between the affiliation with the manufacturing industry and accounting performance and between the affiliation with the financials industry and market performance.

Table 8.9 Basic regression results for the relative size variables

<table>
<thead>
<tr>
<th>Relative size</th>
<th>Abnormal return on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean split</td>
<td>Median split</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.050</td>
<td>(0.123)</td>
</tr>
<tr>
<td>Below</td>
<td>-0.011</td>
<td>(0.521)</td>
</tr>
<tr>
<td>Above</td>
<td>0.023</td>
<td>(0.362)</td>
</tr>
<tr>
<td>relsize</td>
<td>0.022</td>
<td>(0.063)</td>
</tr>
<tr>
<td>financials</td>
<td>0.048</td>
<td>(0.197)</td>
</tr>
<tr>
<td>manufacturing</td>
<td>0.073</td>
<td>(0.034)</td>
</tr>
<tr>
<td>services</td>
<td>0.050</td>
<td>(0.287)</td>
</tr>
<tr>
<td>trade</td>
<td>0.053</td>
<td>(0.341)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.011</td>
<td>0.000</td>
</tr>
<tr>
<td>F-test/Wilcoxon test</td>
<td>-1.902*</td>
<td>(0.057)</td>
</tr>
</tbody>
</table>

Notes: financials, manufacturing, services and trade are dummy variables for industry affiliation and equal 1 if the acquirer had the corresponding industry as its primary industry and 0 otherwise. relsize represents the relative size of the target compared to the acquirer in terms of the book value of their total assets. The Wilcoxon test is computed in the case of the mean and median splits. The F-test is computed for the regression with industry dummy variables. The P-values are included in the parentheses below the coefficient value or the F-test/Wilcoxon test value for which they are computed. The values displayed in bold are significant at the 0.100 level. * The Wilcoxon test value of the difference in mean performance of the cases with high versus low levels of the variable of interest.

8.3. Phase 3: Method of payment

The influence of phase 3 on post-acquisition performance, as predicted by proposition 5, was tested using the regression models outlined at Equations 7.7, 7.8 and 7.12. The results in Table 8.10 shows that the method of payment influences the post-
acquisition accounting performance regardless of whether the continuous variable of the percentage of cash is used or the dummy variables based on the mean or median value are used. The evidence shows that acquirers that use more cash are more likely to perform better after acquisition in terms of accounting returns. This result is consistent with, among others, those of Linn and Switzer (2001) and Ghosh (2001). However, the results are not significant for the market based performance measure. This is consistent with the findings of Franks, Harris and Titman (1991) and Sullivan, Jensen and Hudson (1994).

The results confirm the positive relationships between the affiliation to the manufacturing industry and accounting performance and between the affiliation to the financials industry and market performance.

Table 8.10 Basic regression results for the method of payment variables

<table>
<thead>
<tr>
<th>Percentage of cash</th>
<th>Abnormal return on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean split</td>
<td>Median split</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.053</td>
<td>(0.141)</td>
</tr>
<tr>
<td>Below</td>
<td>-0.024</td>
<td>(0.301)</td>
</tr>
<tr>
<td>Above</td>
<td>0.031</td>
<td>(0.000)</td>
</tr>
<tr>
<td>% of cash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>financials</td>
<td>0.045</td>
<td>(0.231)</td>
</tr>
<tr>
<td>manufacturing</td>
<td>0.060</td>
<td>(0.065)</td>
</tr>
<tr>
<td>services</td>
<td>0.039</td>
<td>(0.387)</td>
</tr>
<tr>
<td>trade</td>
<td>0.042</td>
<td>(0.421)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.035</td>
<td>0.045</td>
</tr>
<tr>
<td>F-test/Wilcoxon test</td>
<td>-0.611⁴</td>
<td>-0.723⁴</td>
</tr>
</tbody>
</table>

Notes: % of cash is the percentage of consideration for the target paid in cash and is equal to the value paid in cash divided by total value. financials, manufacturing, services and trade are dummy variables for industry affiliation and equal 1 if the acquirer had the corresponding industry as its primary industry and 0 otherwise. The Wilcoxon test is computed in the case of the mean and median splits. The F-test is computed for the regression with industry dummy variables. The P-values are included in the parentheses below the coefficient value or the F-test/Wilcoxon test value for which they are computed. The values displayed in bold are significant at the 0.100 level.

⁴ The Wilcoxon test value of the difference in mean performance of the cases with high versus low levels of the variable of interest.
8.4. Phase 4: Level of integration

The influence of phase 4 on post-acquisition performance, as predicted by proposition 6, was tested using the regression models described at Equations 7.7, 7.8 and 7.12. The results in Table 8.11 show that level of integration does not appear to influence post-acquisition accounting based performance. A weak relationship was found between post-acquisition market returns and the dummy variable for the values of the level of integration below the mean. This result is consistent with the findings of Zollo and Singh (2004). A stronger relationship may be observed when other factors are controlled for, especially relatedness between the target and acquirer. This moderating influence was further tested and is reported later in this chapter.

The results also show a positive relationship between affiliation with the manufacturing industry and accounting performance. However, there is no significant relationship between affiliation with the financials industry and market performance.

Table 8.11 Basic regression results for the level of integration variables

<table>
<thead>
<tr>
<th>Level of integration</th>
<th>Abnormal return on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean split</td>
<td>Median split</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.039</td>
<td>(0.232)</td>
</tr>
<tr>
<td>Below</td>
<td>-0.028</td>
<td>(0.320)</td>
</tr>
<tr>
<td>Above</td>
<td>0.004</td>
<td>(0.787)</td>
</tr>
<tr>
<td>$r_{int}$</td>
<td>-0.001</td>
<td>(0.252)</td>
</tr>
<tr>
<td>financials</td>
<td>0.050</td>
<td>(0.198)</td>
</tr>
<tr>
<td>manufacturing</td>
<td>0.077</td>
<td>(0.028)</td>
</tr>
<tr>
<td>services</td>
<td>0.048</td>
<td>(0.307)</td>
</tr>
<tr>
<td>trade</td>
<td>0.048</td>
<td>(0.394)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.005</td>
<td>0.000</td>
</tr>
<tr>
<td>F-test/Wilcoxon test</td>
<td>-1.798*</td>
<td>(0.072)</td>
</tr>
</tbody>
</table>

Notes: $r_{int}$ is the integration ratio and was computed based on data on property, plant and equipment (PPE). financials, manufacturing, services and trade are dummy variables for industry affiliation and equal 1 if the acquirer had the corresponding industry as its primary industry and 0 otherwise. The Wilcoxon test is computed in the case of the mean and median splits. The F-test is computed for the regression with industry dummy variables. The P-values are included in the parentheses below the coefficient value or the F-test/Wilcoxon test value for which they are computed. The values displayed in bold are significant at the 0.100 level.

* The Wilcoxon test value of the difference in mean performance of the cases with high versus low levels of the variable of interest.
The results presented in sections 8.1 to 8.4 provide some preliminary evidence that the M&A process is related to post-acquisition performance. More specifically, for the accounting based measure of performance, there is evidence of a non-linear relationship with board size and a positive relationship with relative size and percentage of cash used. For market performance, there is evidence of a negative relationship with merger wave. However, these results should be interpreted with caution since the interaction between phases may determine performance effects that cancel out the effects of individual phases. The multivariate analyses in Chapter 9 will provide evidence of the interaction effects and the results obtained can be considered the major contribution of this thesis.
Chapter 9. Simultaneous effects on performance

The results of the tests presented in Chapter 8 that considered the effects of agency risks, acquisition motivations and process phases individually should be interpreted with caution since the interaction between agency risks, all the motivations and phases may determine performance effects that cancel out the effects of individual motivations and phases, thus the results might be biased. The multivariate analyses in this chapter will provide evidence of the interaction effects between all the agency risks, motivations and phases. The results obtained from those analyses can be considered the major contribution of this thesis. Also, those analyses help testing proposition 7 that deals with the effect of phase interactions on post-acquisition performance.

9.1. The influence of phase interactions on performance

This section provides a formal analysis of the influence of the acquisition process on post-acquisition performance in a multivariate framework as described in section 7.3.2. To account for the joint influence of the process factors on post-acquisition performance, a multiple regression model including all factors was tested. Multiple regression, however, only tests the influence of a phase or process factor when others are considered constant. To test the moderated influences of process factors and phases on performance, a series of contingency analyses is performed.

9.1.1. Correlations between the variables

The first step in multivariate analysis is studying the correlations among the variables. Correlations among the variables used as proxies for the acquisition process factors in each phase were performed to control for confounding influences on performance. The correlations among the acquisition process variables are presented in Table 9.1. The correlations among the agency risk variables were reported in section 8.1.1 (Table 8.3). It can be observed in Table 9.1 that there is a positive significant correlation between the conglomerate motivation for acquisition and the level of insider ownership. This result may be due to the fact that in the case of high insider ownership the firm is more likely to pursue conglomerate diversification to allow insiders to diversify their portfolio.
Table 9.1 Correlations among the acquisition process variables

<table>
<thead>
<tr>
<th>Phase</th>
<th>Variable</th>
<th>Agency risk</th>
<th>Synergistic</th>
<th>Opportunistic</th>
<th>Phase 2</th>
<th>Phase 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>bs CEOChair</td>
<td>horizontal</td>
<td>vertical</td>
<td>conglomerate</td>
<td>wave</td>
</tr>
<tr>
<td>horizontal</td>
<td></td>
<td>0.027 (0.780)</td>
<td>-0.021 (0.827)</td>
<td>-0.016 (0.867)</td>
<td>-0.247 (0.008)</td>
<td>0.158 (0.093)</td>
</tr>
<tr>
<td>Synergistic</td>
<td></td>
<td>0.044 (0.638)</td>
<td>-0.110 (0.246)</td>
<td>0.019 (0.840)</td>
<td>-0.012 (0.900)</td>
<td>0.046 (0.626)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.003 (0.974)</td>
<td>-0.015 (0.871)</td>
<td>0.013 (0.893)</td>
<td>-0.073 (0.441)</td>
<td>-0.093 (0.328)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.140 (0.137)</td>
<td>-0.046 (0.625)</td>
<td>0.179 (0.056)</td>
<td>-0.063 (0.694)</td>
<td>0.065 (0.491)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.111 (0.240)</td>
<td>0.213 (0.023)</td>
<td>-0.011 (0.621)</td>
<td>0.013 (0.694)</td>
<td>0.047 (0.621)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.068 (0.474)</td>
<td>-0.17 (0.860)</td>
<td>-0.063 (0.906)</td>
<td>0.025 (0.794)</td>
<td>0.081 (0.508)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.041 (0.668)</td>
<td>0.002 (0.298)</td>
<td>0.05 (0.508)</td>
<td>-0.098 (0.298)</td>
<td>0.140 (0.521)</td>
</tr>
<tr>
<td>Phase 2</td>
<td></td>
<td></td>
<td>0.245 (0.009)</td>
<td>0.207 (0.027)</td>
<td>0.745 (0.000)</td>
<td>0.140 (0.017)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.046 (0.424)</td>
<td>0.067 (0.000)</td>
<td>0.072 (0.000)</td>
<td>0.162 (0.084)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.093 (0.504)</td>
<td>0.020 (0.002)</td>
<td>0.292 (0.008)</td>
<td>0.234 (0.012)</td>
</tr>
<tr>
<td>% of cash</td>
<td></td>
<td></td>
<td>0.225 (0.016)</td>
<td>0.172 (0.006)</td>
<td>0.282 (0.002)</td>
<td>0.246 (0.008)</td>
</tr>
<tr>
<td>Phase 3</td>
<td>r int</td>
<td>0.018 (0.942)</td>
<td>0.007 (0.942)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.012 (0.935)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of cash</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: bs is the acquirer’s board size in terms of the number of directors. CEOChair is a dummy variable that equals 1 if the acquirer’s CEO is the same person as the Chairman of the board. nex represents the proportion of non-executives on acquirer’s board. dirsh is the percentage of shares owned by the directors of the acquirer. sh5 represents the percentage of acquirer’s shares owned by shareholders holding more than five per cent of the company’s stock. finlev and free cf are the acquirer’s financial leverage and free cash flow respectively scaled by the book value of total assets. horizontal is a dummy variable equal to 1 for horizontal acquisitions and 0 otherwise. vertical and conglomerate are also dummy variables for which 1 is assigned to the vertical and conglomerate acquisitions respectively. wave is a dummy variable that equals 1 for the acquisitions during the period 1995-2000, and 0 otherwise. toehold represents the percentage of target’s shares owned by the acquirer one year prior to the acquisition. unrelated is a dummy variable that equals 1 if the target has been classified as unrelated to the acquirer (i.e. if the primary industry SIC code of the target is not the same as the acquirer’s primary industry SIC code) and 0 otherwise. relsize represents the relative size of the target compared to the acquirer in terms of the book value of their total assets. % of cash is the percentage of consideration for the target paid in cash and is equal to the value paid in cash divided by total value. r int is the integration ratio and was computed based on data on property, plant and equipment (PPE). The significance of the correlation coefficient is included in the parentheses below the statistics value. The values displayed in bold are significant at the 0.100 level.
Blockholder ownership is positively correlated with vertical integration. This means that blockholders have a stronger preference for vertical integrations than owner-directors, who may prefer conglomerate motivation, as earlier results show. The difference comes from the identity of these two types of owners. While blockholders are usually organisations that most probably have their wealth invested in a diversified portfolio, directors may have a very significant part of their wealth invested in one firm only (the one for which they are sitting on the board). Thus, directors are mainly trying to diversify their portfolio by pursuing conglomerate diversification while blockholders are happier to take over a vertical related company.

The results in Table 9.1 show a significant negative relationship between board size and the likelihood of being involved in an acquisition during the merger wave. This may mean that large boards help reduce the agency problem caused by the separation between ownership and management that may propel an acquirer to pursue an acquisition during a merger wave. Also, there is a positive relationship between board size and acquirer’s prior ownership in the target, showing that when the board is large, the acquirer is more likely to pursue the acquisition if it has a toehold in the target.

A significant negative correlation between the two opportunistic motivation variables can also be observed in Table 9.1. This suggests that during the merger wave the acquirers are less likely to own shares in the target prior to the acquisition. It also means that the acquirers pursue acquisitions even though they do not own shares in the targets prior to the acquisitions. Given that during the merger wave acquisition activity is highly increased, this result is to be expected.

Table 9.1 also shows a positive correlation between insider ownership and the *unrelated* dummy variable. This result mirrors the results obtained for the correlation between insider ownership and conglomerate diversification. On the other hand, blockholder ownership is not significantly correlated to the *unrelated* dummy variable, confirming the non-significant correlation between blockholder ownership and conglomerate diversification.

The results also show a significant negative correlation between board size and relative size. Given that large acquirers tend to have large boards of directors, this result can be easily explained by the relation between the acquirer’s size and relative size, which is negative by definition.
The results show a significant positive relationship between conglomerate diversification motivation and relative size. This means that relatively large acquisitions are more likely to be conglomerate diversification acquisitions. This result can be explained by the fact that an acquirer is more likely to decide to enter into a new business in a significant way by buying a relative large unrelated target. Also, this correlation result suggests that large acquirers are less likely to engage in conglomerate acquisitions. One explanation for this result is that large firms are more likely to be already diversified so any further acquisition is less likely to be considered conglomerate. As firms tend to increase in size, they also tend to diversify. As such, larger firms may exhibit a higher level of diversification than smaller firms (Christensen & Montgomery 1981).

A significant positive correlation can be observed between acquisition timing with regard to the merger wave and relative size. This result shows that during the merger wave the size of the target relative to the acquirer is rather large. This result is consistent with the evidence provided by Goergen and Renneboog (2004). It may be explained by the fact that during the merger wave the share prices are inflated, which may allow acquirers to take over other relatively large firms using stock as currency. The business environment during a merger wave is also more likely to assure easy access to funds to finance a relatively large acquisition. The weak negative correlation between the percentage of the target’s shares owned before the acquisition by the acquirer and relative size shows that the acquirer is not willing to invest a large amount in a firm before the acquisition.

Table 9.1 shows a positive correlation between board size and the percentage of cash used to pay for the acquisition. This result may be a consequence of the fact that firms with more directors on the board tend to have more easy access to financial resources to pay for the target’s shares. The board of directors is a monitoring mechanism. Given that stock offers are likely to have a negative impact on shareholder wealth, directors are more likely to choose cash to finance acquisitions. This result is confirmed by the positive correlation between the proportion of non-executives and the percentage of cash. No significant correlation was found between the percentage of cash on the one hand and insider or blockholder ownership, financial leverage or free cash flow on the other. A positive correlation appears to exist between the unrelated dummy variable and the percentage of cash used as payment. This supports the hypothesis that unrelated acquisitions are more likely to be financed with cash because of the
unwillingness of target’s shareholders to accept stock in an unrelated firm. The negative correlation between horizontal integration motivation and percentage of cash can be explained by the fact that the partners in a horizontal integration acquisition are by definition related firms. Given that in related acquisitions stock is more likely to be used to pay for the target, it is expected that acquirers motivated by horizontal integration will use a low proportion of cash to pay for their acquisitions. The correlation matrix in Table 9.1 also shows that the conglomerate diversification motive is positive correlated with the percentage of cash used to pay for the target. These results are to be expected because a conglomerate diversification acquisition is by definition likely to involve unrelated firms and, according to the earlier discussion, in the case of unrelated acquisitions, the method of payment is very likely to include a high proportion of cash.

The results show a significant positive relationship between the toehold variable and the percentage of cash used to pay for the acquisition. This may mean that the acquirers, having a good knowledge of the value of the target firm in which they own shares, are more likely to use cash to acquire the rest of the shares. Given that cash is predicted to deter competition, it can be expected that the acquirers will use cash to deter competing offers if they believe the target is worth owning. Cotter and Zenner (1994) and Bugeja (2005), among others, argue that acquisitions with toeholds are more likely to be rejected. To compensate for this and given that cash offers are more likely to be accepted, acquirers decide to use cash.

The results also show a significant negative correlation between relative size and percentage of cash used to pay for the acquisition. This means that relatively big targets tend to be acquired using mainly stock due to the unavailability of large amounts of cash.

The results show a significant negative relationship between the percentage of cash used to pay for the target and the level of integration after acquisition.\(^\text{82}\) This suggests that, in order to recover the cash paid for the target, acquirers tend to dispose of larger amounts of PPE, which translates into a higher integration level.

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\(^{82}\) This may be a result of the particular formula used to calculate the level of integration. Given that the level of integration in this study is based on the difference between the cash received for property, plant and equipment (PPE) post-acquisition versus pre-acquisition, the level of integration is a negative function of cash spent on PPE post-acquisition. In this study, the post-acquisition period includes the year of the acquisition, so it can be expected that the level of integration calculated using this study’s formula will be an inverse function of the amount of cash used to pay for the PPE acquired as part of the target. However, if the post-acquisition period is considered to begin from the first year after acquisition, the result does not change.
The correlations among the process variables and the industry dummies are included in Table 9.2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>financials</th>
<th>manufacturing</th>
<th>services</th>
<th>trade</th>
<th>bres</th>
<th>hnores</th>
</tr>
</thead>
<tbody>
<tr>
<td>bs</td>
<td>0.093</td>
<td>0.086</td>
<td>0.217</td>
<td>-0.020</td>
<td>-0.246</td>
<td>0.247</td>
</tr>
<tr>
<td></td>
<td>(0.324)</td>
<td>(0.362)</td>
<td>(0.021)</td>
<td>(0.837)</td>
<td>(0.008)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>CEOChair</td>
<td>-0.012</td>
<td>-0.040</td>
<td>-0.040</td>
<td>0.016</td>
<td>0.141</td>
<td>-0.083</td>
</tr>
<tr>
<td></td>
<td>(0.897)</td>
<td>(0.673)</td>
<td>(0.673)</td>
<td>(0.869)</td>
<td>(0.136)</td>
<td>(0.377)</td>
</tr>
<tr>
<td>nex</td>
<td>0.207</td>
<td>0.013</td>
<td>0.042</td>
<td>-0.149</td>
<td>-0.193</td>
<td>0.170</td>
</tr>
<tr>
<td></td>
<td>(0.027)</td>
<td>(0.889)</td>
<td>(0.660)</td>
<td>(0.113)</td>
<td>(0.040)</td>
<td>(0.070)</td>
</tr>
<tr>
<td>Agency risk</td>
<td>-0.067</td>
<td>-0.093</td>
<td>0.075</td>
<td>0.252</td>
<td>-0.158</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>(0.478)</td>
<td>(0.326)</td>
<td>(0.429)</td>
<td>(0.007)</td>
<td>(0.092)</td>
<td>(0.943)</td>
</tr>
<tr>
<td>dirsh</td>
<td>-0.067</td>
<td>-0.093</td>
<td>0.075</td>
<td>0.252</td>
<td>-0.158</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>(0.478)</td>
<td>(0.326)</td>
<td>(0.429)</td>
<td>(0.007)</td>
<td>(0.092)</td>
<td>(0.943)</td>
</tr>
<tr>
<td>sh5</td>
<td>-0.311</td>
<td>-0.028</td>
<td>0.080</td>
<td>0.118</td>
<td>0.024</td>
<td>-0.129</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.765)</td>
<td>(0.400)</td>
<td>(0.210)</td>
<td>(0.803)</td>
<td>(0.172)</td>
</tr>
<tr>
<td>finlev</td>
<td>0.282</td>
<td>-0.053</td>
<td>-0.050</td>
<td>-0.011</td>
<td>-0.140</td>
<td>0.192</td>
</tr>
<tr>
<td></td>
<td>(0.002)</td>
<td>(0.574)</td>
<td>(0.594)</td>
<td>(0.904)</td>
<td>(0.136)</td>
<td>(0.041)</td>
</tr>
<tr>
<td>freecf</td>
<td>0.015</td>
<td>-0.069</td>
<td>0.152</td>
<td>0.037</td>
<td>-0.089</td>
<td>0.119</td>
</tr>
<tr>
<td></td>
<td>(0.872)</td>
<td>(0.465)</td>
<td>(0.106)</td>
<td>(0.699)</td>
<td>(0.347)</td>
<td>(0.206)</td>
</tr>
<tr>
<td>horizontal</td>
<td>-0.005</td>
<td>-0.230</td>
<td>0.104</td>
<td>-0.124</td>
<td>0.431</td>
<td>0.582</td>
</tr>
<tr>
<td></td>
<td>(0.961)</td>
<td>(0.014)</td>
<td>(0.270)</td>
<td>(0.190)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Synergetic motivation</td>
<td>-0.159</td>
<td>0.113</td>
<td>0.029</td>
<td>0.196</td>
<td>-0.175</td>
<td>-0.236</td>
</tr>
<tr>
<td></td>
<td>(0.091)</td>
<td>(0.233)</td>
<td>(0.762)</td>
<td>(0.037)</td>
<td>(0.063)</td>
<td>(0.011)</td>
</tr>
<tr>
<td>vertical</td>
<td>0.102</td>
<td>0.179</td>
<td>-0.130</td>
<td>0.013</td>
<td>-0.357</td>
<td>-0.483</td>
</tr>
<tr>
<td></td>
<td>(0.278)</td>
<td>(0.057)</td>
<td>(0.169)</td>
<td>(0.890)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Opportunistic motivation</td>
<td>-0.181</td>
<td>-0.039</td>
<td>-0.087</td>
<td>-0.047</td>
<td>0.221</td>
<td>-0.250</td>
</tr>
<tr>
<td></td>
<td>(0.054)</td>
<td>(0.681)</td>
<td>(0.360)</td>
<td>(0.622)</td>
<td>(0.018)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>toehold</td>
<td>-0.039</td>
<td>0.063</td>
<td>-0.086</td>
<td>0.093</td>
<td>0.022</td>
<td>0.106</td>
</tr>
<tr>
<td></td>
<td>(0.684)</td>
<td>(0.503)</td>
<td>(0.365)</td>
<td>(0.323)</td>
<td>(0.819)</td>
<td>(0.263)</td>
</tr>
<tr>
<td>unrelated</td>
<td>-0.030</td>
<td>0.240</td>
<td>0.000</td>
<td>0.129</td>
<td>-0.338</td>
<td>-0.419</td>
</tr>
<tr>
<td></td>
<td>(0.755)</td>
<td>(0.010)</td>
<td>(1.000)</td>
<td>(0.171)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>relsize</td>
<td>-0.007</td>
<td>0.081</td>
<td>-0.061</td>
<td>-0.081</td>
<td>-0.030</td>
<td>-0.080</td>
</tr>
<tr>
<td></td>
<td>(0.940)</td>
<td>(0.390)</td>
<td>(0.519)</td>
<td>(0.391)</td>
<td>(0.752)</td>
<td>(0.399)</td>
</tr>
<tr>
<td>Phase 3 % of cash</td>
<td>-0.070</td>
<td>0.220</td>
<td>0.045</td>
<td>-0.008</td>
<td>-0.156</td>
<td>-0.074</td>
</tr>
<tr>
<td></td>
<td>(0.462)</td>
<td>(0.019)</td>
<td>(0.634)</td>
<td>(0.930)</td>
<td>(0.096)</td>
<td>(0.436)</td>
</tr>
<tr>
<td>Phase 4 r_int</td>
<td>0.089</td>
<td>0.005</td>
<td>0.011</td>
<td>0.027</td>
<td>0.043</td>
<td>0.086</td>
</tr>
<tr>
<td></td>
<td>(0.345)</td>
<td>(0.959)</td>
<td>(0.905)</td>
<td>(0.779)</td>
<td>(0.652)</td>
<td>(0.361)</td>
</tr>
</tbody>
</table>

Notes: bs is the acquirer's board size in terms of the number of directors. CEOChair is a dummy variable that equals 1 if the acquirer's CEO is the same person as the Chairman of the board. nex represents the proportion of non-executives on acquirer's board. dirsh is the percentage of shares owned by the directors of the acquirer. sh5 represents the percentage of acquirer’s shares owned by shareholders holding more than five per cent of the company's stock. finlev and freecf are the acquirer's financial leverage and free cash flow respectively scaled by the book value of total assets. horizontal is a dummy variable that equals 1 for horizontal acquisitions and 0 otherwise. vertical and conglomerate are also dummy variables for which 1 is assigned to the vertical and conglomerate acquisitions respectively. wave is a dummy variable that equals 1 for the acquisitions during the period 1995-2000, and 0 otherwise. toehold represents the percentage of target's shares owned by the acquirer one year prior to the acquisition. unrelated is a dummy variable that equals 1 if the target has been classified as unrelated to the acquirer (i.e. if the primary industry SIC code of the target is not the same as the acquirer’s primary industry SIC code) and 0 otherwise. relsize represents the relative size of the target compared to the acquirer in terms of the book value of their total assets. %of cash is the percentage of consideration for the target paid in cash and is equal to the value paid in cash divided by total value. r_int is the integration ratio and was computed based on data on property, plant and equipment (PPE). The significance of the correlation coefficient is included in the parentheses below the statistics value. The values displayed in bold are significant at the 0.100 level.
The results in Table 9.2 show that, although some of the independent variables are correlated with some of the industry control dummies, the magnitude of the correlation coefficients is not likely to cause multicollinearity problems in the multivariate regressions (the exceptions are the correlations between conglomerate diversification and unrelated, on the one hand, and hres and hnores, on the other).

At this point, the results of the study show that some variables are related to performance and some are interrelated and most probably cause misleading results. The preceding analysis in sections 8.1 to 8.4 considered each phase independently. Based upon the results of the correlation analysis, there is evidence that the effects of some variables on company post-acquisition performance depend upon the levels of other variables. Therefore, it was decided to employ multivariate analysis to estimate their combined effects on post-acquisition performance.

Given that the correlation coefficients are generally lower than 0.3, they are not likely to cause problems in the multiple regressions. The only correlations considered likely to create problems are:

- \( bs \) and \( nex \)
- \( horizontal \) and \( conglomerate \)
- \( unrelated \) and each of the dummies \( horizontal \) and \( conglomerate \).

Therefore, this study does not use these groups of variables together in the multiple regression.

9.2. Multiple regression model

The multiple regression model is presented in section 7.3.2 (Equation 7.13) includes the agency variables (\( bs \) and \( bs_{sq} \)), the synergistic motivation variable \( vertical \), the opportunistic motivation variables (\( toehold \) and \( wave \)), the selection of the target variables (\( relsize \) and \( unrelated \)), the method of payment variable (\% of cash) and the level of integration variable (\( r_{int} \)). Given that primary industry can influence performance independent of the acquisition process phases, the regression model is augmented to include industry controls. The dummy variables for industry affiliation used in the regression model were financials, manufacturing, services, trade, hres and hnores. As the regression equation uses a constant, the dummy variable for the
conglomerate diversification motive was excluded. Under this specification, the coefficient of the constant is simply the coefficient for the conglomerate diversification motive.

The multiple regression model is expressed as follows:

\[ \text{performance} = \alpha + \beta_1 \text{vertical} + \beta_2 \text{bs} + \beta_3 \text{bs}_\text{sq} + \beta_4 \text{wave} + \beta_5 \text{toehold} + \]
\[ + \beta_6 \text{unrelated} + \beta_7 \text{relsize} + \beta_8 \%\text{ofcash} + \beta_9 r_{\text{int}} + \beta_{10} \text{financials} + \]
\[ + \beta_{11} \text{manufacturing} + \beta_{12} \text{services} + \beta_{13} \text{trade} + \beta_{14} \text{hres} + \beta_{15} \text{hnores} \quad (9.1) \]

The results of the multiple regression with post-acquisition returns on assets and market returns are presented in Table 9.3. There is a non-linear relationship between board size and post-acquisition returns on assets. This confirms that the result of the previous analysis remains significant, even in the presence of the other phase variables.

Relative size and percentage of cash used to pay for the acquisition show significant positive relationships with both the accounting based and the market based measures of performance. While the significant relationship with the accounting based measure of performance confirms the results reported in sections 8.2 and 8.3, the significant relationships with market based performance show that, by controlling for other variables, significant relationships that were not observed in the univariate analyses were identified.

Other significant results are the negative relationships between the unrelated dummy variable and post-acquisition accounting returns and between the wave dummy variable and market returns. These results mean that unrelated acquisitions are likely to show worse returns on assets than related acquisitions and that acquisitions performed during the merger wave result in worse market returns than acquisitions performed outside the merger wave.
Table 9.3 Multiple regression results

<table>
<thead>
<tr>
<th></th>
<th>Abnormal returns on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.091 (0.022)</td>
<td>0.584 (0.348)</td>
</tr>
<tr>
<td>bs</td>
<td>0.018 (0.015)</td>
<td>0.033 (0.748)</td>
</tr>
<tr>
<td>bs_sq</td>
<td>-0.001 (0.015)</td>
<td>-0.002 (0.780)</td>
</tr>
<tr>
<td>vertical</td>
<td>-0.048 (0.495)</td>
<td>-0.319 (0.472)</td>
</tr>
<tr>
<td>wave</td>
<td>-0.033 (0.164)</td>
<td>-0.352 (0.087)</td>
</tr>
<tr>
<td>toehold</td>
<td>0.000 (0.781)</td>
<td>-0.002 (0.687)</td>
</tr>
<tr>
<td>unrelated</td>
<td>-0.065 (0.097)</td>
<td>-0.209 (0.327)</td>
</tr>
<tr>
<td>relsize</td>
<td>0.034 (0.023)</td>
<td>0.117 (0.076)</td>
</tr>
<tr>
<td>% of cash</td>
<td>0.001 (0.007)</td>
<td>0.004 (0.035)</td>
</tr>
<tr>
<td>$r_{int}$</td>
<td>-0.000 (0.780)</td>
<td>0.029 (0.129)</td>
</tr>
<tr>
<td>financials</td>
<td>0.042 (0.490)</td>
<td>-0.542 (0.167)</td>
</tr>
<tr>
<td>manufacturing</td>
<td>0.062 (0.268)</td>
<td>-0.622 (0.065)</td>
</tr>
<tr>
<td>services</td>
<td>0.048 (0.471)</td>
<td>-0.693 (0.119)</td>
</tr>
<tr>
<td>trade</td>
<td>0.070 (0.316)</td>
<td>-0.262 (0.549)</td>
</tr>
<tr>
<td>hres</td>
<td>-0.014 (0.834)</td>
<td>-0.846 (0.032)</td>
</tr>
<tr>
<td>hnores</td>
<td>-0.025 (0.557)</td>
<td>0.004 (0.986)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.148</td>
<td>0.139</td>
</tr>
<tr>
<td>F-test</td>
<td>1.220 (0.273)</td>
<td>1.280 (0.227)</td>
</tr>
</tbody>
</table>

Notes: bs is the acquirer’s board size in terms of the number of directors, bs_sq is the squared value. vertical is a dummy variable for which 1 is assigned to the vertical acquisitions. wave is a dummy variable that equals 1 for the acquisitions during the period 1995-2000, and 0 otherwise. toehold represents the percentage of target’s shares owned by the acquirer one year prior to the acquisition. unrelated is a dummy variable that equals 1 if the target has been classified as unrelated to the acquirer (i.e. if the primary industry SIC code of the target is not the same as the acquirer’s primary industry SIC code) and 0 otherwise. relsize represents the relative size of the target compared to the acquirer in terms of the book value of their total assets. %ofcash is the percentage of consideration for the target paid in cash and is equal to the value paid in cash divided by total value. $r_{int}$ is the integration ratio and was computed based on data on property, plant and equipment (PPE). financials, manufacturing, services and trade are dummy variables for industry affiliation and equal 1 if the acquirer had the corresponding industry as its primary industry and 0 otherwise. hres equals 1 if the acquisition is horizontal and the acquirer is affiliated to the “Resources” industry and 0 otherwise, while hnores designated an horizontal acquisition with the acquirer non-affiliated to the “Resources” industry. The P-values are included in the parentheses below the coefficient value or the F-test value for which they are computed. The values displayed in bold are significant at the 0.100 level.
Tests were also performed to determine if the influence of one process phase or motivation or agency risks on performance was independent of the influence of the other. The F-tests consider the difference in the variance in performance explained by each of the agency risks, synergistic or opportunistic motivations, phase 1 (including agency risks and acquisition motivations), phase 2, phase 3 or phase 4 versus the variance in performance explained by the full model. Under the null hypothesis, the phases are not independent. That is, the phases individually add no explanation over that offered by the full model. The values are computed based on Equation 7.10 from section 7.3.1 and presented in Table 9.4.

Table 9.4 Results of the regression models with each of the acquisition motivation and process phase variables

<table>
<thead>
<tr>
<th></th>
<th>Abnormal returns on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R-squared</td>
<td>F-test (full model)</td>
</tr>
<tr>
<td>Agency risk</td>
<td>0.048</td>
<td>1.506 (0.156)</td>
</tr>
<tr>
<td>Synergistic motivation</td>
<td>0.048</td>
<td>1.693 (0.109)</td>
</tr>
<tr>
<td>Opportunistic motivation</td>
<td>0.042</td>
<td>1.586 (0.130)</td>
</tr>
<tr>
<td>Phase 1</td>
<td>0.063</td>
<td>2.926 (0.024)</td>
</tr>
<tr>
<td>Phase 2</td>
<td>0.067</td>
<td>1.244 (0.277)</td>
</tr>
<tr>
<td>Phase 3</td>
<td>0.059</td>
<td>1.220 (0.288)</td>
</tr>
<tr>
<td>Phase 4</td>
<td>0.040</td>
<td>1.451 (0.169)</td>
</tr>
<tr>
<td>Full model</td>
<td>0.148</td>
<td>1.220 (0.273)</td>
</tr>
</tbody>
</table>

Notes: The F-tests for the full model consider the difference in R-squares between the full model, including all the phases, and the partial models. The P-values are included in the parentheses below the F-test value for which they are computed. The values displayed in bold are significant at the 0.100 level.

The results show that none of the acquisition motivations, phase 2, phase 3 and phase 4 influenced accounting performance independent of the other process phases. Only phase 1 as a whole (including agency risks and the acquisition motivations) is independent of the other process phases in its influence on returns on assets. In conclusion, there is a strong interaction between the motivations and process phases in determining the post-acquisition accounting performance in the presence of industry controls, thus providing initial evidence to support proposition 7. This proposition will be formally tested later in the contingency analyses section.
9.3. Contingency analyses

The multiple regressions reported in section 9.2 tested the influence on post-acquisition performance of various characteristics of the acquisition process at the same time. However, they did not consider the moderating effects of the interaction between some of the characteristics predicted in proposition 7. It was predicted that the interactions between the variables describing the process were important determinants of post-acquisition performance. Proposition 7, which concerns the influence of phase interactions on post-acquisition performance, was tested in the form of the hypotheses listed in Table 9.5.

Table 9.5 Summary of the phase interaction hypotheses to be tested

<table>
<thead>
<tr>
<th>Proposition</th>
<th>Categories of variables</th>
<th>Hypothesis</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposition 7</td>
<td>Interactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agency risk + Phase 2</td>
<td>7.1</td>
<td>Insider ownership + Relatedness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.2</td>
<td>Blockholder ownership + Relatedness</td>
</tr>
<tr>
<td></td>
<td>Agency risk + Phase 3</td>
<td>7.3</td>
<td>Insider ownership + Method of payment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.4</td>
<td>Blockholder ownership + Method of payment</td>
</tr>
<tr>
<td></td>
<td>Phase 2 + Phase 3</td>
<td>7.5</td>
<td>Financial leverage + Method of payment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.6</td>
<td>Free cash flow + Method of payment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.7</td>
<td>Relatedness + Method of payment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.8</td>
<td>Relative size + Method of payment</td>
</tr>
<tr>
<td></td>
<td>Agency risk + Phase 2 + Phase 3</td>
<td>7.9</td>
<td>Insider ownership + Relative size + Method of payment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.10</td>
<td>Blockholder ownership + Relative size + Method of payment</td>
</tr>
<tr>
<td></td>
<td>Phase 2 + Phase 4</td>
<td>7.11</td>
<td>Relatedness + Integration level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.12</td>
<td>Relative size + Integration level</td>
</tr>
<tr>
<td></td>
<td>Phase 3 + Phase 4</td>
<td>7.13</td>
<td>Method of payment + Integration level</td>
</tr>
<tr>
<td></td>
<td>Phase 2 + Phase 3 + Phase 4</td>
<td>7.14</td>
<td>Relatedness + Method of payment + Integration level</td>
</tr>
</tbody>
</table>
To test proposition 7 and the hypotheses derived from it—that is, hypotheses 7.1 to 7.14—a series of contingency analyses were performed. Three main variables were considered for these analyses, each representing a phase in the acquisition process:

- the relatedness between acquirer and the target (phase 2)
- the percentage of cash used to pay for the acquisition (phase 3)
- the level of post-acquisition integration (phase 4).

Some agency risk variables were included in the analysis to test their combined influence on performance together with the phase 2 and phase 3 variables. Ownership structure, in terms of insider and blockholder ownership, was tested in combination with the variables from each of the two phases and with both phases at the same time. The combined influence on performance of the phase 3 variable and financial leverage or free cash flow levels was also tested.

9.3.1. Phase 2: Selection of the target (Relatedness)

This section analyses the combined effect of ownership structure and relatedness on post-acquisition performance. The results of the mean t-tests used to determine the influence of the moderated relationships of ownership structure and relatedness on post-acquisition performance are presented in Table 9.6 (see section 7.3.2 for the method used for contingency analyses).

It can be observed that none of the combinations of high/low levels of insider ownership and relatedness are significantly different in terms of accounting or market performance as compared to the overall performance. This result implies that the hypothesis predicting a combined influence of insider ownership and relatedness on post-acquisition performance can be rejected regardless of how the performance is measured. The performance of acquirers with either high or low insider ownership that acquired either related or unrelated targets was no different from the average performance across the sample. The non-significant effect on performance for low insider ownership and relatedness can be explained by the conflicting influence of the effects of agency risks implied by low insider ownership and the effects of business relatedness. For diversification at low insider ownership, the non-significant effect on performance may be a result of the influence of alternate monitoring mechanisms (i.e. board size and non-executives proportion, as shown in the results of the correlation analysis with agency risk variables) that may decrease the agency risks and the negative
influence on performance. At high levels of insider ownership, an unrelated acquisition may be performed for shareholder value creation or insider’s risk diversification. These two motives may have conflicting effects on performance. Related acquisitions at high insider ownership may not significantly influence the performance because the later phases of the acquisition process may not be efficiently managed.

Table 9.6 The combined influence of ownership structure and relatedness on post-acquisition performance

<table>
<thead>
<tr>
<th>Ownership structure</th>
<th>unrelated</th>
<th>N</th>
<th>Abnormal return on assets Mean (Sig.)</th>
<th>Abnormal market returns Mean (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>High</td>
<td>20</td>
<td>0.004 (0.453)</td>
<td>0.102 (0.301)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>37</td>
<td>-0.004 (0.453)</td>
<td>-0.111 (0.275)</td>
</tr>
<tr>
<td>dirsh</td>
<td>High</td>
<td>18</td>
<td>-0.027 (0.227)</td>
<td>-0.042 (0.432)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>39</td>
<td>0.014 (0.290)</td>
<td>0.073 (0.285)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>18</td>
<td>-0.052 (0.122)</td>
<td>-0.050 (0.425)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>39</td>
<td>0.036 (0.030)</td>
<td>0.035 (0.408)</td>
</tr>
<tr>
<td>sh5</td>
<td>High</td>
<td>20</td>
<td>0.026 (0.113)</td>
<td>0.109 (0.265)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>37</td>
<td>-0.012 (0.345)</td>
<td>-0.048 (0.380)</td>
</tr>
</tbody>
</table>

Notes: dirsh is the percentage of shares owned by the directors of the acquirer. sh5 represents the percentage of acquirer’s shares owned by shareholders holding more than five per cent of the company’s stock. unrelated is a dummy variable that equals 1 if the target has been classified as unrelated to the acquirer (i.e. if the primary industry SIC code of the target is not the same as the acquirer’s primary industry SIC code) and 0 otherwise. The table displays for each of the two ownership structure variables the four subsamples obtained from the combination of high/low levels of insider or blockholder ownership and unrelated, the number of cases, the mean performance and the significance values of the difference between the subsample mean and the overall mean performance. High/low levels of ownership structure variables are determined based on the variable median while for unrelated, ‘1’ is considered ‘high’ and ‘0’ is ‘low’. The values displayed in bold are significant at the 0.100 level.

The results in Table 9.6 of the influence of the moderated relationship of blockholder ownership and relatedness on post-acquisition performance show that acquirers with high levels of blockholder ownership that pursued related acquisitions were significantly better performers in terms of the accounting measure as compared to the overall sample. This result provides limited support for the hypothesis that predicted a combined influence of blockholder ownership and relatedness on post-acquisition performance but only for the abnormal returns on assets. The good accounting performance of acquirers with high blockholder ownership that acquired related targets may be explained by the low agency risks likely to be present in these acquirers given
the monitoring mechanism of blockholdings. This result adds to the multiple regression results by providing evidence that only when high blockholders were present in the target, business relatedness had a positive relationship with post-acquisition accounting performance. The difference in the results for insider ownership versus blockholder ownership may be explained by the fact that blockholders may be better monitors of the acquisition process than insiders in the case of related acquisition.

In conclusion, only blockholder ownership together with the relatedness between the acquirer and the target had a significant combined influence on accounting based post-acquisition performance.

9.3.2. Phase 3: Method of payment

This section analyses the influence on post-acquisition performance of the agency risk and phase 2 variables combined with the percentage of the acquisition price paid with cash. The results are presented in Tables 9.7 and 9.8.

When considering the moderating influences of insider ownership and percentage of cash on post-acquisition performance, the results in Table 9.7 show that acquirers with high levels of insider ownership that paid mainly with cash performed better in terms of accounting returns compared with the overall sample. This result provides limited support for the hypothesis predicting a combined influence of insider ownership and percentage of cash but only for the abnormal returns on assets. At high insider ownership, acquirers prefer to use cash in order to protect themselves against the risk of losing the control that they had prior to the acquisition through the ownership dilution implied by stock offers, because they correctly anticipate good performance.

When the moderating influences of blockholder ownership and percentage of cash on post-acquisition performance are considered, the results show that acquirers with high levels of blockholder ownership that paid mainly with cash performed better in terms of accounting returns compared with the overall sample. Acquirers with low blockholder ownership that used a high percentage of cash performed better than average in terms of accounting returns. These results provide limited support for the hypothesis predicting a combined influence of blockholder ownership and the percentage of the acquisition price paid in cash but only for the returns on assets.
Table 9.7 The combined influence of agency risk and method of payment on post-acquisition performance

<table>
<thead>
<tr>
<th>Agency risk</th>
<th>% of cash</th>
<th>N</th>
<th>Abnormal return on assets</th>
<th>Mean (Sig.)</th>
<th>Abnormal market returns</th>
<th>Mean (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
<td>20</td>
<td>0.063</td>
<td>(0.000)</td>
<td>0.183</td>
<td>(0.172)</td>
</tr>
<tr>
<td>dirsh</td>
<td>Low</td>
<td>37</td>
<td>-0.036</td>
<td>(0.147)</td>
<td>-0.155</td>
<td>(0.201)</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>20</td>
<td>-0.023</td>
<td>(0.325)</td>
<td>0.032</td>
<td>(0.398)</td>
</tr>
<tr>
<td>High</td>
<td>High</td>
<td>29</td>
<td>0.033</td>
<td>(0.022)</td>
<td>0.016</td>
<td>(0.469)</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>28</td>
<td>-0.034</td>
<td>(0.201)</td>
<td>-0.013</td>
<td>(0.472)</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>28</td>
<td>-0.030</td>
<td>(0.063)</td>
<td>0.143</td>
<td>(0.186)</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>29</td>
<td>-0.030</td>
<td>(0.219)</td>
<td>-0.138</td>
<td>(0.213)</td>
</tr>
<tr>
<td>High</td>
<td>High</td>
<td>35</td>
<td>0.022</td>
<td>(0.115)</td>
<td>0.044</td>
<td>(0.397)</td>
</tr>
<tr>
<td>finlev</td>
<td>Low</td>
<td>22</td>
<td>-0.080</td>
<td>(0.030)</td>
<td>0.026</td>
<td>(0.435)</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>22</td>
<td>0.047</td>
<td>(0.006)</td>
<td>0.161</td>
<td>(0.192)</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>35</td>
<td>-0.001</td>
<td>(0.492)</td>
<td>-0.162</td>
<td>(0.186)</td>
</tr>
<tr>
<td>High</td>
<td>High</td>
<td>32</td>
<td>0.046</td>
<td>(0.004)</td>
<td>0.273</td>
<td>(0.030)</td>
</tr>
<tr>
<td>freecf</td>
<td>Low</td>
<td>24</td>
<td>0.014</td>
<td>(0.347)</td>
<td>0.076</td>
<td>(0.317)</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>25</td>
<td>0.012</td>
<td>(0.265)</td>
<td>-0.146</td>
<td>(0.246)</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>33</td>
<td>-0.064</td>
<td>(0.058)</td>
<td>-0.210</td>
<td>(0.129)</td>
</tr>
</tbody>
</table>

Notes: \( \text{dirsh} \) is the percentage of shares owned by the directors of the acquirer. \( \text{sh5} \) represents the percentage of acquirer's shares owned by shareholders holding more than five per cent of the company's stock. \( \text{finlev} \) and \( \text{freecf} \) are the acquirer's financial leverage and free cash flow respectively scaled by the book value of total assets. \% of cash \ is the percentage of the target's value paid in cash. The table displays for each of the four subsamples obtained from the combination of high/low levels of each agency risk variable and percentage of cash used the number of cases, the mean performance and the significance values of the difference between the subsample mean and the overall mean performance. High/low levels of agency risk variables and percentage of cash are based on the variable’s median. The values displayed in bold are significant at the 0.100 level.

The results of the t-tests for the influence of the interaction between financial leverage levels and percentage of cash on post-acquisition performance are also
presented in Table 9.7. Acquirers with high financial leverage that used low levels of cash to pay for acquisitions performed worse than average in terms of accounting returns. Acquirers with low financial leverage that used a high percentage of cash performed better than average in terms of accounting returns. The results provide limited support for the hypothesis that predicts a combined influence on post-acquisition performance of financial leverage and method of payment but only for the abnormal accounting returns.

The results of the t-tests for the influence of the interaction between free cash flow levels and percentage of cash on the post-acquisition performance are also included in Table 9.7. Acquirers with high free cash flow that used a high percentage of cash to pay for the acquisitions performed better than average. Acquirers that used their free cash flow to pay for the acquisition performed better than average because of the monitoring effects of board size that was correlated with free cash flow. The information about valuation revealed by the cash offer, together with the decrease in free cash flow levels as a result of it being used to pay for the target may determine the market returns to increase after acquisition. Acquirers with low free cash flow that used a low percentage of cash performed worse than average in terms of the accounting returns. These results support the hypothesis for a combined effect on post-acquisition performance of free cash flow levels and percentage of the acquisition price paid with cash regardless of the performance measure used.

In summary, agency risk and the percentage of cash used had a combined influence on accounting performance. However, for market performance, only free cash flow levels seemed to have a combined effect with the percentage of cash.

The combined effects of phase 2 and phase 3 are scrutinised in Table 9.8.

From Table 9.8 it can be observed that unrelated acquisitions with a high percentage of cash performed significantly better in terms of post-acquisition accounting than the overall sample. Related acquisitions with a high percentage of cash also performed better in terms of post-acquisition accounting than average. Unrelated acquisitions paid using a low percentage of cash performed worse than average. These results confirm the hypothesis that predicts a combined effect of relatedness on post-acquisition performance but only for the accounting based measure. To summarise, the results show that phase 2 has a combined effect with phase 3 on post-acquisition accounting performance. An unrelated acquisition paid with less cash performed worse than average in terms of accounting returns, due to negative implication of
diversification combined with the negative implication of stock offers. However, the agency risks might also play a role here, since unrelated acquirers that paid with less cash had a smaller board size than average (the mean board size was six, compared with the overall mean of 6.675). Also, a higher incidence of board leadership duality (23.08% of acquirers in the subsample had CEO that was also the chairman of the board, as compared to only 12.28% for the whole sample) and a lower proportion of non-executives on the board (the mean proportion for the subsample was 56.06%, whereas in the whole sample, the mean proportion was 65.79%) was observed.

Table 9.8 The combined influence of phase 2 variables and method of payment on post-acquisition performance

<table>
<thead>
<tr>
<th>Phase 2</th>
<th>% of cash</th>
<th>N</th>
<th>Abnormal return on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mean (Sig.)</td>
<td>Mean (Sig.)</td>
</tr>
<tr>
<td>unrelated</td>
<td>High</td>
<td>25</td>
<td>0.027 (0.079)</td>
<td>0.134 (0.244)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>13</td>
<td>-0.084 (0.081)</td>
<td>-0.159 (0.268)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>32</td>
<td>0.035 (0.028)</td>
<td>0.054 (0.371)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>44</td>
<td>-0.016 (0.313)</td>
<td>-0.069 (0.325)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>19</td>
<td>0.058 (0.002)</td>
<td>0.153 (0.194)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>38</td>
<td>-0.026 (0.227)</td>
<td>-0.155 (0.189)</td>
</tr>
<tr>
<td>relsize</td>
<td>High</td>
<td>38</td>
<td>0.018 (0.150)</td>
<td>0.058 (0.366)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>19</td>
<td>-0.042 (0.198)</td>
<td>0.042 (0.394)</td>
</tr>
</tbody>
</table>

Notes: unrelated is a dummy variable that equals 1 if the target has been classified as unrelated to the acquirer (i.e. if the primary industry SIC code of the target is not the same as the acquirer's primary industry SIC code) and 0 otherwise. relsize represents the relative size of the target compared to the acquirer in terms of the book value of their total assets. %ofcash is the percentage of consideration for the target paid in cash and is equal to the value paid in cash divided by total value. The table displays for each of the four subsamples obtained from the combination of high/low levels of phase 2 variables and percentage of cash used, the number of cases, the mean performance and the significance values of the difference between the subsample mean and the overall mean performance. High/low levels of relative size and percentage of cash were based on the variable median while for unrelated, '1' is considered 'high' and '0' is 'low'. The values displayed in bold are significant at the 0.100 level.

The results do not show that related acquisitions paid with less cash performed significantly different from average. This result might be explained by the positive influence of relatedness, together with the negative influence of stock offers on post-acquisition performance.

The results in Table 9.8 shows that acquirers that decided to take over a target with a high relative size using a high percentage of cash performed better than average
in terms of accounting returns. This result provides limited support for the hypothesis that predicts a combined effect of relative size and percentage of cash used on performance and only for the accounting based measure of performance.

The combined effect on performance of agency risk (in terms of ownership structure), phase 2 (in terms of the relative size of the acquisition), and phase 3 (in terms of the percentage of cash used) was then analysed. The results of this analysis are presented in Table 9.9.

The results show that acquirers with high insider ownership that paid for their targets with a high percentage of cash performed better than average in terms of accounting returns regardless of whether they acquired a relatively large or small target. Acquirers with low insider ownership who chose a relatively large target and paid with a high percentage of cash performed better than average in terms of accounting returns. These results provide support for the hypothesis predicting a combined effect of insider ownership, relative size and percentage of cash on post-acquisition performance but only in terms of accounting returns.

However, acquirers with low insider ownership who chose a relatively small target and paid with a high percentage of cash performed no different than average in terms of accounting returns. This different result in the case of acquirers with low versus high insider ownership that paid for their relatively small target mainly with cash may be explained by the fact that at low insider ownership the targets that were acquired with cash were very small and they did not have the ‘critical mass’ to influence performance. Indeed, the mean relative size of the targets paid with cash at low insider ownership was 0.072, much smaller than the mean relative size of the target paid with cash at high insider ownership - 0.163 (the difference is significant with p-value=0.004).

As shown in Table 9.9, acquirers with high blockholder ownership that paid for their target with a high percentage of cash performed better than average in terms of accounting returns regardless of whether they acquired a relatively large or small target. Acquirers with low blockholder ownership who chose a relatively large target and paid with a high percentage of cash also performed better than average in terms of accounting returns. With regard to market based performance, the results in Table 9.9 show that acquirers with high blockholder ownership that chose a relatively large target which they paid for with a high percentage of cash performed better than average. These results provide support for the hypothesis that predicted a combined effect of
blockholder ownership, relative size and percentage of cash used to pay for the acquisition on post-acquisition performance.

Table 9.9 The combined influence of ownership structure, relative size and method of payment on post-acquisition performance

<table>
<thead>
<tr>
<th>Ownership structure</th>
<th>relsize</th>
<th>% of cash</th>
<th>N</th>
<th>Abnormal return on assets Mean (Sig.)</th>
<th>Abnormal market returns Mean (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Panel 1: Insider ownership</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>High</td>
<td>0.079</td>
<td>9</td>
<td>0.225</td>
<td>0.190</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>-0.028</td>
<td>26</td>
<td>-0.269</td>
<td>0.130</td>
</tr>
<tr>
<td></td>
<td>(0.252)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>0.050</td>
<td>11</td>
<td>0.149</td>
<td>0.298</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>-0.053</td>
<td>11</td>
<td>0.113</td>
<td>0.298</td>
</tr>
<tr>
<td></td>
<td>(0.144)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>High</td>
<td>0.039</td>
<td>10</td>
<td>0.088</td>
<td>0.356</td>
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<tr>
<td></td>
<td>(0.074)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>-0.020</td>
<td>12</td>
<td>0.090</td>
<td>0.249</td>
</tr>
<tr>
<td></td>
<td>(0.354)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Low</td>
<td>0.005</td>
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<td>0.021</td>
<td>0.458</td>
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<tr>
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<td>(0.394)</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Low</td>
<td>-0.027</td>
<td>8</td>
<td>0.055</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.395)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panel 2: Blockholder ownership</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>High</td>
<td>0.060</td>
<td>8</td>
<td>0.358</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td>(0.014)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>-0.035</td>
<td>18</td>
<td>-0.070</td>
<td>0.379</td>
</tr>
<tr>
<td></td>
<td>(0.250)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>0.026</td>
<td>21</td>
<td>-0.074</td>
<td>0.380</td>
</tr>
<tr>
<td></td>
<td>(0.060)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>-0.031</td>
<td>10</td>
<td>0.140</td>
<td>0.310</td>
</tr>
<tr>
<td></td>
<td>(0.275)</td>
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</tr>
<tr>
<td></td>
<td>High</td>
<td>0.057</td>
<td>12</td>
<td>0.080</td>
<td>0.361</td>
</tr>
<tr>
<td></td>
<td>(0.006)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>-0.019</td>
<td>19</td>
<td>-0.217</td>
<td>0.185</td>
</tr>
<tr>
<td></td>
<td>(0.332)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>0.010</td>
<td>16</td>
<td>0.190</td>
<td>0.183</td>
</tr>
<tr>
<td></td>
<td>(0.338)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>-0.048</td>
<td>10</td>
<td>-0.003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.248)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: relsize represents the relative size of the target compared to the acquirer in terms of the book value of their total assets. %ofcash is the percentage of consideration for the target paid in cash and is equal to the value paid in cash divided by total value. The table displays for each of the eight subsamples obtained from the combination of high/low levels of ownership structure variables, relative size and percentage of cash used, the number of cases, the mean performance and the significance values of the difference between the subsample mean and the overall mean performance. High/low levels of ownership structure variables, relative size and percentage of cash are based on the variable median. The values displayed in bold are significant at the 0.100 level.
Using mainly cash to pay for a relatively small acquisition did not significantly influence the performance of acquirers with low blockholder ownership as the targets were very small compared to acquirers. Indeed, the mean relative size of targets paid with cash at low blockholder ownership was 0.065, much smaller than the mean relative size of targets paid with cash at high blockholder ownership - 0.254 (the difference is significant with p-value=0.001).

Overall, from Table 9.9 it can be observed that acquirers of relatively large targets that paid mainly with cash performed better than average in terms of accounting returns, regardless of whether they had high or low levels of insider or blockholder ownership. If the relative size of the target is large, but the acquirer still chooses to finance the deal using a high proportion of cash, the deal is likely to create value since cash is considered as pre-empting competitive bidding and managers or blockholders prefer to prevent competitive bidding for large targets when they believe that the target will create value.

In conclusion, the ownership structure combined with relative size and percentage of cash used to pay for the deal affected post-acquisition accounting based performance. For the market based measure of performance, however, only blockholder ownership had a combined effect with relative size and percentage of cash.

The results in this section show that the agency risks and phase 2 had a combined effect with phase 3 on post-acquisition accounting based performance. For the market based performance measure, the results only show the existence of a combined effect of blockholder ownership, relative size and percentage of cash.

9.3.3. Phase 4: The level of integration

The combined influence on post-acquisition performance of phase 4 together with phase 2 or phase 3 is analysed in this section. The results of this analysis are presented in Table 9.10.

The results of the tests that investigate the predicted influence on performance of relatedness moderated by integration level show no difference in performance among the four types of acquirers as a result of the combination of these two characteristics. These results reject the hypothesis that predicted a combined influence of relatedness and integration level on post-acquisition performance.
Table 9.10 The combined influence of the phase 2 and phase 3 variables and integration level on post-acquisition performance

<table>
<thead>
<tr>
<th></th>
<th>Abnormal return on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (Sig.)</td>
<td>Mean (Sig.)</td>
</tr>
<tr>
<td>Panel 1: The combined influence of phase 2 and integration level</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>r_int</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unrelated</td>
<td>Low</td>
<td>21</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>40</td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relsize</td>
<td>High</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panel 2: The combined influence of phase 3 and integration level</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>r_int</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of cash</td>
<td>Low</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: unrelated is a dummy variable that equals 1 if the target has been classified as unrelated to the acquirer (i.e. if the primary industry SIC code of the target is not the same as the acquirer’s primary industry SIC code) and 0 otherwise. relsize represents the relative size of the target compared to the acquirer in terms of the book value of their total assets. % of cash is the percentage of consideration for the target paid in cash and is equal to the value paid in cash divided by total value. r_int is the integration ratio and was computed based on data on property, plant and equipment (PPE). The table displays for each of the four subsamples obtained from the combination of high/low levels of phase 2 and phase 3 variables and integration level the number of cases, the mean performance and the significance values of the difference between the subsample mean and the overall mean performance. High/low levels of relative size and phase 2 and phase 3 variables are based on the variable median while for unrelated, ‘1’ is considered ‘high’ and ‘0’ is ‘low’. The values displayed in bold are significant at the 0.100 level.

The results of testing the influence on performance of the target’s relative size moderated by the integration level do not support a combined effect of relative size and integration level on post-acquisition performance regardless of the performance measure used. These results reject the hypothesis that predicted a combined influence of relative size and integration level on post-acquisition performance.

Percentage of cash and the level of integration were also used together to test the difference in performance. The results in Table 9.10 show that, in terms of accounting
performance, acquirers that used more cash and integrated to a lesser extent were more likely to perform better than average. If the acquirer used cash, but limited integration was pursued, in the absence of high agency risks (the mean board size was over seven and only 3% of the subsample had board leadership duality), the acquisition generated value due to the positive effects of cash and the low likelihood of problems in the post-acquisition management phase implied by low integration. Acquirers that used less cash and chose a low integration performed worse than average. These results provide support for the hypothesis that predicted a combined effect on post-acquisition performance of percentage of cash used and integration level.

In conclusion, there is no evidence for a combined influence of phase 2 and phase 4 on post-acquisition performance. However, there is some evidence that phase 3 and phase 4 have a combined effect on post-acquisition performance.

The combined influence on post-acquisition performance of phase 2 (relatedness), phase 3 and phase 4 were also scrutinised. The results of this analysis are displayed in Table 9.11.

<table>
<thead>
<tr>
<th>Table 9.11 The combined influence of relatedness, method of payment and integration level on post-acquisition performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>unrelated</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>High</td>
</tr>
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<td>High</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>Low</td>
</tr>
</tbody>
</table>

Notes: *unrelated* is a dummy variable that equals 1 if the target has been classified as unrelated to the acquirer (i.e. if the primary industry SIC code of the target is not the same as the acquirer’s primary industry SIC code) and 0 otherwise. %ofcash is the percentage of consideration for the target paid in cash and is equal to the value paid in cash divided by total value. $r_{int}$ is the integration ratio and was computed based on data on property, plant and equipment (PPE). The table displays, for each of the eight subsamples obtained from the combination of high/low levels of *unrelated*, percentage of cash and integration level, the number of cases, the mean performance and the significance values of the difference between the subsample mean and the overall mean performance. High/low levels of percentage of cash and integration level are based on the variable median while for *unrelated*, ‘1’ is considered ‘high’ and ‘0’ is ‘low’. The values displayed in bold are significant at the 0.100 level.
The eight subsamples created by the interaction between relatedness, percentage of cash used and level of integration show that, for accounting performance, unrelated acquirers that used cash and integrated to a lesser extent, together with related acquirers that used cash and integrated to a greater or lesser extent, were more likely to perform better than average. Related targets are acquired normally using high percentage of stock. However, if an acquirer wants to obtain pre-emptive bidding benefits, it will use more cash and this happens more likely when the target is likely to have a positive impact on acquirer's performance. In this case, the post-acquisition integration does not seem to matter.

For market performance, unrelated acquirers that used less cash and integrated to a lesser extent were more likely to perform worse than average. An unrelated acquisition paid with less cash and followed by a low level of integration gave an indication to the market that the acquirer may not give proper attention to the acquisition, due to, for example, the presence of agency risks. Indeed, acquirers engaged in unrelated acquisitions paid with less cash and followed by a low level of integration had on average less than five members of the board of directors, a higher likelihood of board leadership duality with almost 60 per cent of the subsample having the same person as CEO and chairman of the board and a lower proportion of non-executives than the overall sample (on average, only 49.83% of the directors were non-executives). All these mean values are significantly different from the mean values for the whole sample at 0.100 level. On the other hand, an acquirer engaged in a related acquisition paid with less cash and followed by a low integration level had not significantly different levels of agency risks variables from the overall sample and therefore not likely to imply a negative influence of the acquisition on performance.

The results provide support for the hypothesis that predicts a combined influence on post-acquisition performance of relatedness, percentage of cash used and integration level. In conclusion, the results show a combined influence of phases 2, 3 and 4 of the acquisition process on post-acquisition performance.

Overall, proposition 7 appears to be supported. In particular, the results summarised in Table 9.12 support the existence of a combined influence on post-acquisition accounting performance for:

- blockholder ownership and relatedness
- ownership structure, financial leverage or free cash flow and method of payment
- relative size or relatedness and method of payment
- ownership structure, relative size and method of payment
- method of payment and integration level
- relatedness, method of payment and integration level.

Table 9.12 Multiple variables analysis: Summary of the proposition 7 results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Variables</th>
<th>Abnormal return on assets</th>
<th>Abnormal market returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 Agency risk + Phase 2</td>
<td>Insider ownership + Relatedness</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>7.2 Blockholder ownership + Relatedness</td>
<td>Accepted</td>
<td>Rejected</td>
<td></td>
</tr>
<tr>
<td>7.3</td>
<td>Insider ownership + Method of payment</td>
<td>Accepted</td>
<td>Rejected</td>
</tr>
<tr>
<td>7.4 Agency risk + Phase 3</td>
<td>Blockholder ownership + Method of payment</td>
<td>Accepted</td>
<td>Rejected</td>
</tr>
<tr>
<td>7.5</td>
<td>Financial leverage + Method of payment</td>
<td>Accepted</td>
<td>Rejected</td>
</tr>
<tr>
<td>7.6 Free cash flow + Method of payment</td>
<td>Accepted</td>
<td>Accepted</td>
<td></td>
</tr>
<tr>
<td>7.7 Phase 2 + Phase 3</td>
<td>Relatedness + Method of payment</td>
<td>Accepted</td>
<td>Rejected</td>
</tr>
<tr>
<td>7.8 Relative size + Method of payment</td>
<td>Accepted</td>
<td>Rejected</td>
<td></td>
</tr>
<tr>
<td>7.9 Agency + Phase 2 + Phase 3</td>
<td>Insider ownership + Relative size + Method of payment</td>
<td>Accepted</td>
<td>Rejected</td>
</tr>
<tr>
<td>7.10 Blockholder ownership + Relative size + Method of payment</td>
<td>Accepted</td>
<td>Accepted</td>
<td></td>
</tr>
<tr>
<td>7.11 Phase 2 + Phase 4</td>
<td>Relatedness + Integration level</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>7.12 Relative size + Integration level</td>
<td>Rejected</td>
<td>Rejected</td>
<td></td>
</tr>
<tr>
<td>7.13 Phase 3 + Phase 4</td>
<td>Method of payment + Integration level</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>7.14 Relatedness + Method of payment + Integration level</td>
<td>Accepted</td>
<td>Accepted</td>
<td></td>
</tr>
</tbody>
</table>

For the market based performance measure, the significant combined influences are as follows:

- free cash flow and method of payment
• blockholder ownership, relative size and method of payment

• method of payment and integration level

• relatedness, method of payment and integration level.

The implications of these results are discussed in the final chapter.
Chapter 10. Conclusions

This chapter presents the main findings of the thesis and discusses the conclusions and implications. The theoretical contributions made by this research as well as the contributions to practice are then presented. In the last section of the chapter the limitations of the research are discussed and finally, some suggestions for future research on this topic are presented.

10.1. Implications of the study

The prior literature concerning M&A performance is limited in relation to the direct and moderated influences of process factors on performance and there is no available evidence of the influence of acquisition process on performance for Australian M&As. This study provides a deeper understanding of the acquisition process and its influence on the long-term post-acquisition performance by developing a model of the acquisition process. Based on the conceptualisation of the phases and their role in influencing performance, as described in Chapters 2 to 6, seven research propositions were developed. These addressed the direct influence of each process phase on post-acquisition performance (propositions 1 to 6) and the moderated influences of process phases on post-acquisition performance (proposition 7). The results of testing these propositions, which are presented in Chapter 8 and Chapter 9, reveal the importance of considering the moderated influences in studying the impact of the various process phases on post-acquisition performance. Overall, the four phases of the acquisition process (pre-deal, selection of the target, payment and post-acquisition management) influenced the post-acquisition performance. However, no phase influenced performance in isolation. The interactions between the process variables were important determinants of post-acquisition performance. The implication of this result is that a decision taken in one process phase is likely to influence the decisions that will be taken in other process phases and together influence the performance.

Post-acquisition performance is measured as both accounting and market returns and was adjusted for prior performance, post performance of the primary industry of the
acquirer and the combined size after acquisition to separate the effects of confounding influences on performance. The results of the adjustment regression imply that on average Australian acquirers perform worse after acquisition than before acquisition and that larger companies manage the acquisition process more profitably than their smaller counterparts.

10.1.1. Correlations within phases

The significant correlations between the variables that proxy for each motivation or process phase are presented in Table 10.1. With regards to the correlation between the agency motivation variables, a large board size and a non-executive chairman are likely to be present in acquirers with high levels of free cash flow. These board characteristics will decrease the agency risks likely to manifest in acquirers that have free cash flow. The results of the correlation analyses in Table 10.1 also imply that the variables related to the board composition reinforced each other and that large boards ensure easy access to financial resources—that is, financial leverage and free cash flow. It can also be concluded that board size and insider ownership are complementary corporate governance mechanisms. Non-executive directors and insider or blockholder ownership are also complementary corporate governance mechanisms. When blockholders are present, insiders also have high ownership, probably to counteract the influence of blockholders. Financial leverage and blockholder ownership are also complementary corporate governance mechanisms. It can also be argued that blockholders do not invest in highly leveraged companies because otherwise they might transfer a part of their wealth to debtholders.

The results above imply that the monitoring and interest alignment mechanisms reinforce each other and limit the agency risks implied by high free cash flow. Therefore, agency risks are not likely to result in agency motivated acquisitions that will negatively influence the performance. Given these results, the implication is that a condensing technique is necessary to exclude the agency risk variables that were not likely to influence performance.

The variables for synergistic motivation are mutually exclusive, so the correlations between them do not make sense. With regard to the opportunistic motivation, the results show that during the merger wave from 1995 to 2000, acquirers were less likely to own shares in the target prior to the acquisition; that is, targets were usually acquired without the need to own a high percentage of the target’s shares.
beforehand. An explanation for this result is that acquirers may not be willing to disclose to the market that they are interested in acquiring a target by buying large blocks of shares beforehand since this disclosure will most likely increase the acquisition price. Acting fast may have been the key to acquire targets in this dynamic period of economic prosperity represented by a high market cycle.

Table 10.1 Summary of the results: Correlations within phases

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board size</td>
<td>Negative with board leadership duality; Positive with the proportion of non-executives on the board; Negative with insider ownership; Positive with financial leverage; Positive with free cash flow.</td>
</tr>
<tr>
<td>Board leadership duality</td>
<td>Negative with board size; Negative with the proportion of non-executives on the board; Negative with free cash flow.</td>
</tr>
<tr>
<td>Proportion of non-executive directors on the board</td>
<td>Positive with board size; Negative with board leadership duality; Negative with insider and blockholder ownership.</td>
</tr>
<tr>
<td>Insider ownership</td>
<td>Negative with board size; Negative with the proportion of non-executives on the board; Positive with blockholder ownership.</td>
</tr>
<tr>
<td>Blockholder ownership</td>
<td>Negative with the proportion of non-executives on the board; Positive with insider ownership; Negative with financial leverage.</td>
</tr>
<tr>
<td>Financial leverage</td>
<td>Positive with board size; Negative with blockholder ownership.</td>
</tr>
<tr>
<td>Free cash flow</td>
<td>Positive with board size; Negative with board leadership duality.</td>
</tr>
<tr>
<td>Merger wave</td>
<td>Negative with toehold.</td>
</tr>
<tr>
<td>Toehold</td>
<td>Negative with merger wave.</td>
</tr>
</tbody>
</table>

The correlation between the two variables used to proxy for phase 2—relatedness and relative size, is not significant. For each of the phase 3 and phase 4, only one variable was used, so no correlation analysis was performed within these phases.

10.1.2. Direct effects on performance

The results of the direct influences of the process factors on performance are presented in Table 10.2. The non-linear relationship between board size and accounting performance suggests that at very low levels of board size the post-acquisition accounting returns were low on average. This result confirms the arguments by Jensen (1993) but only for accounting performance. At very high levels, conflict between board members and a lack of cohesion are likely to manifest and thus lead to a negative effect
on accounting performance. However, the accounting returns were high at medium levels of board size. Market performance tends to be better when the size of the board is large and the proportion of non-executives on the acquirer’s board is high. This suggests that large board size and more non-executives on the board may be seen by the market as insurance for choosing good investment projects. The result for the board size is consistent with those of Kiel and Nicholson (2003) for Australian companies in 1996. The negative relationship between financial leverage and accounting performance indicates that financial leverage may have generated underinvestment problems in the acquirer that ultimately affected the returns on assets. However, there appears to be no significant relationship with market returns. The result is consistent with evidence provided by Cosh, Guest and Hughes (2006) in their takeover sample of UK acquisitions completed in the period 1995-1996. Companies with high free cash flow are likely to use the cash on profitable ventures. This may have happened due to the monitoring provided by a large board size and a non-executive chairman since these board characteristics are likely to be present in acquirers with high free cash flow as the correlation results in Table 10.1 show. The result is consistent with the evidence provided by Gregory (2005) using a sample of UK acquirers, and do not support the free cash flow hypothesis formulated by Jensen (1986).

Table 10.2 Summary of the results: Direct influences on performance

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Dependent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Accounting performance</td>
</tr>
<tr>
<td></td>
<td>Market performance</td>
</tr>
<tr>
<td>Agency risk</td>
<td>Non-linear</td>
</tr>
<tr>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>Synergistic motivation</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>Opportunistic motivation</td>
<td>Negative - only in multiple regression</td>
</tr>
<tr>
<td>Selection of the target</td>
<td>Positive - only in multiple regression</td>
</tr>
<tr>
<td>Payment</td>
<td>Positive</td>
</tr>
<tr>
<td></td>
<td>Positive - only in multiple regression</td>
</tr>
</tbody>
</table>

The results for the synergistic motivation provide evidence that conglomerate diversification by acquisitions in Australia resulted in low accounting returns. These results are consistent with the arguments of, for example, Porter (1987), Singh and
Montgomery (1987), Datta (1991) and Oster (1994). However, horizontal or vertical integration by acquisition did not performed differently from average in terms of accounting or market returns.

As shown in Table 10.2, merger wave was found to have a negative effect on performance. This result is consistent with those found by Moeller, Scingenemann and Stulz (2005) but inconsistent with the findings of Bhagat, Hirshleifer and Noah (2005) for US acquirers. During the period 1995-2000, market performance of Australian publicly listed acquirers was low on average. However, in terms of accounting performance, the acquisitions during this period did not perform any worse than others.

The results in Table 10.2 suggest that an unrelated acquisition had negative effects on accounting returns, but only when the influence of other process factors was controlled. This confirms the arguments by, for example, Palich, Cardinal and Miller (2000) and Denis, Denis and Yost (2002). Due to the positive effect of risk diversification on market returns, the overall effect was non-significant for market performance. Relative size had a positive influence on accounting and market performance. However, for the market performance measure, relative size was significant only when controlling for other factors. This result is consistent with those of Kitching (1967), Biggadike (1979), Waldman (1983), Shelton (1988) and Bhagat, Hirshleifer and Noah (2005), but it is not consistent with, for example, Breazeale (2004) in the case of market returns.

The acquirers that used more cash were more likely to perform better after acquisition in terms of accounting returns, as shown in Table 10.2. This result is consistent with, among others, those of Linn and Switzer (2001) and Ghosh (2001). For the market performance, the percentage of cash showed a positive influence only when the influence of other factors was controlled, complementing the results of the Australian short-term studies of Bellamy and Lewin (1992) and Bugeja and Walter (1995).

A low integration level did not improve the performance, because no synergy or other benefits could be extracted as suggested by the absence of significant results in Table 10.2 for integration level. Nevertheless, high integration did not deteriorate the performance either.

The results obtained until this point implied that some process factors are likely to influence the performance directly, while others are not. The second part of the
analysis deals with the interaction between phases and their moderated influences on post-acquisition performance.

### 10.1.3. Correlations between phases

To provide an initial test of the potential for moderating effects of process phases on performance, a correlation analysis was performed between the variables that proxy for the phases. The significant results are presented in Table 10.3.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agency risk</strong></td>
<td></td>
</tr>
<tr>
<td>Board size</td>
<td>Negative with merger wave; Positive with toehold; Negative with relative size; Positive with percentage of cash.</td>
</tr>
<tr>
<td>Insider ownership</td>
<td>Positive with conglomerate diversification; Negative with business relatedness.</td>
</tr>
<tr>
<td>Blockholder ownership</td>
<td>Positive with vertical integration.</td>
</tr>
<tr>
<td>Horizontal motivation</td>
<td>Positive with business relatedness; Negative with percentage of cash.</td>
</tr>
<tr>
<td>Vertical motivation</td>
<td>Positive with blockholder ownership; Negative with business relatedness.</td>
</tr>
<tr>
<td>Conglomerate motivation</td>
<td>Positive with insider ownership; Negative with business relatedness; Positive with relative size; Positive with percentage of cash.</td>
</tr>
<tr>
<td><strong>Opportunistic motivation</strong></td>
<td></td>
</tr>
<tr>
<td>Merger wave</td>
<td>Negative with board size; Positive with relative size.</td>
</tr>
<tr>
<td>Toehold</td>
<td>Positive with board size; Negative with relative size; Positive with percentage of cash.</td>
</tr>
<tr>
<td><strong>Selection of the target</strong></td>
<td></td>
</tr>
<tr>
<td>Business relatedness</td>
<td>Negative with insider ownership; Negative with percentage of cash.</td>
</tr>
<tr>
<td>Relative size</td>
<td>Negative with board size; Positive with conglomerate diversification; Positive with merger wave; Negative with toehold; Negative with percentage of cash.</td>
</tr>
<tr>
<td><strong>Payment</strong></td>
<td></td>
</tr>
<tr>
<td>Percentage of cash</td>
<td>Positive with board size; Positive with the proportion of non executives on the board; Negative with horizontal integration; Positive with conglomerate diversification; Positive with toehold; Negative with business relatedness; Negative with relative size; Negative with level of integration.</td>
</tr>
<tr>
<td><strong>Post-acquisition management</strong></td>
<td></td>
</tr>
<tr>
<td>Integration level</td>
<td>Negative with percentage of cash.</td>
</tr>
</tbody>
</table>

The results in Table 10.3 suggest that large boards help reduce the agency problems that may motivate an acquirer to pursue an acquisition during a merger wave, to acquire a target without a significant toehold before the acquisition or to acquire a
relatively large target. Acquirers with high insider ownership select unrelated targets that allow their entrenched managers to diversify their portfolios, whereas acquirers with low insider ownership are more likely to select related targets. Blockholders prefer vertical integration while inside owners prefer conglomerate diversification. The difference comes from the identity of these two types of shareholders. While insiders may have a very significant part of their wealth invested in the firm, blockholders are usually organisations that probably have their wealth invested in a diversified portfolio. Thus, blockholders are more willing to take over a vertically related company, a strategy that is more likely to deliver the increase in value they expect through operating and collusive synergies.

The correlation results in Table 10.3 indicate that acquirers normally entered a new business by taking over a company of relatively large size. Given that an unrelated acquisition is likely to have a conglomerate diversification motivation and a conglomerate motivated acquisition is likely to involve a relatively large target, an unrelated acquisition is likely to involve a relatively large target. When considering the influence on performance of one of these two factors—that is, relatedness and relative size—without controlling for the other, the positive influence of relative size will cancel the negative influence of diversification, making the simple results invalid as shown in Table 10.1. When considering both factors together, the results in Table 10.1 showed that they both influenced the performance.

During the merger wave, large targets are normally being taken over as the correlation result in Table 10.3 suggests. One explanation for this result is that a merger wave is characterised by easy access to funds. Relative size and the acquirer’s toehold were negatively related, showing that acquirers did not invest much in a target prior to the acquisition.

The correlation results in Table 10.3 provide interesting results in terms of the method of payment. A firm with a large board and more non-executives on the board uses more cash to pay for the target either because the large board and the presence of non-executive directors provide easier access to cash or because the large board is correlated with firm size and large firms are more likely to have sufficient cash available. With regard to the toehold, to avoid the competition for a good target (acquirers know more about the target if they previously owned a toehold), acquirers use more cash if they own a large portion of target’s shares before the acquisition. There was no significant relationship between merger wave and percentage of cash. On the
one hand, acquirers prefer to use more stock because their shares are usually overvalued during this period. On the other hand, they will try to use cash to deter competition for the target. In general, however, the method of payment seems to be chosen to satisfy the target’s shareholders. If the acquisition is unrelated, they will prefer more cash because they refuse to hold shares in an unknown business. In a relatively large acquisition, the target’s shareholders might prefer stock in order to gain a substantial share of the acquirer. Also, the acquisition of a target with a relatively small size is easier to finance with cash. Acquirers that used cash were more likely to have information about the good value of targets and they normally left the targets as stand alone firms, opting for a low integration level.

The process factors are inter-related as shown in Tables 10.1 and 10.3 and likely to determine some joint effects on post-acquisition performance. The next section presents the significant results of the contingency analyses that studied the moderated influences.

10.1.4. Contingency effects on performance

The contingency results in Table 10.4 showed that some moderated influences are significant and provided a more comprehensive picture of the effects of process phases on post-acquisition performance. These results are discussed over the next paragraphs.

The results in Table 10.4 showed that high insider ownership had a positive effect on accounting performance only if the acquirer paid with more cash for its target, regardless of whether the target was relatively large or small. However, if the acquirer with high insider ownership paid with less cash, it did not perform worse. The relative size of the target did not influence the performance in this case. At low levels of insider ownership, an acquirer also performed better if it paid with more cash for a relatively large target. In other cases, when the acquirer paid with less cash regardless of the relative size of the target or when the acquirer paid with more cash for a relatively small target, the acquirer did not improve the performance, but did not deteriorate it either.

Acquirers with high blockholder ownership performed better in terms of accounting returns if they acquired related acquirers or if they paid for their targets mainly with cash. Acquirers with low blockholder ownership also performed better if they acquired relatively large targets which they paid for mainly with cash.
Table 10.4 Summary of the results: Moderated influences on performance

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Dependent variable</th>
<th>Accounting performance</th>
<th>Market performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agency risk +</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Selection of the</strong></td>
<td>High blockholder ownership, related</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>target</strong></td>
<td>High insider ownership, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>Method of payment</strong></td>
<td>High and low blockholder ownership, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>Agency risk +</strong></td>
<td>High leverage, low percentage of cash</td>
<td>Worse than average</td>
<td></td>
</tr>
<tr>
<td><strong>Method of payment</strong></td>
<td>Low leverage, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>Selection of the</strong></td>
<td>High free cash flow, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>target + Method of</strong></td>
<td>Low free cash flow, low percentage of cash</td>
<td>Worse than average</td>
<td></td>
</tr>
<tr>
<td><strong>payment</strong></td>
<td>Unrelated or related, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>Selection of the</strong></td>
<td>Unrelated, low percentage of cash</td>
<td>Worse than average</td>
<td></td>
</tr>
<tr>
<td><strong>target + Method of</strong></td>
<td>High relative size, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>payment</strong></td>
<td>Low insider ownership, high and low relative size, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>Agency risk +</strong></td>
<td>Low insider ownership, high relative size, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>Selection of the</strong></td>
<td>High blockholder ownership, high relative size, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>target + Method of</strong></td>
<td>High blockholder ownership, low relative size, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>payment</strong></td>
<td>Low blockholder ownership, low relative size, high percentage of cash</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>Method of payment +</strong></td>
<td>High percentage of cash, low level of integration</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>Post-acquisition</strong></td>
<td>Low percentage of cash, low level of integration</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>management</strong></td>
<td>Related, high percentage of cash, high and low level of integration</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>Selection of the</strong></td>
<td>Related, high percentage of cash, low and low level of integration</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>target + Method of</strong></td>
<td>Unrelated, high percentage of cash, low level of integration</td>
<td>Better than average</td>
<td></td>
</tr>
<tr>
<td><strong>payment + Post</strong></td>
<td>Unrelated, low percentage of cash, low level of integration</td>
<td>Worse than average</td>
<td></td>
</tr>
<tr>
<td><strong>acquisition</strong></td>
<td>Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>management</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 10.2, related acquisitions had on average a positive effect on accounting performance. However, as shown in Table 10.4, if they were pursued by acquirers with low blockholder ownership, the positive effects disappeared and the resulting influence was non-significant. Also, if they were paid with less cash, they did not improve the performance, but they did deteriorate it either. The level of integration did not influence the results. On average, unrelated acquisitions had a negative effect on post-acquisition accounting performance as reported in Table 10.2. The results in Table 10.4 showed that insider or blockholder ownership did not influence this relationship. However, if the acquirer decided to use high percentage of cash, the unrelated acquisition had a positive impact on accounting performance. If it further integrated the target to a high extent, the positive influence on performance disappeared. For unrelated
acquisition paid for with less cash, the level of integration did not influence the negative effect on accounting performance.

Also, the results in Table 10.2 showed that high relative size had on average a positive effect on performance. However, if the acquirer paid with less cash, the positive effects disappeared as reported in Table 10.4. Moreover, the negative effect of small relative size disappeared when acquirers with high blockholder ownership paid with more cash for their relatively small targets. The effect in this case was even positive, but only for accounting performance. The negative effect also disappeared if the acquirer had high blockholder ownership and paid with less cash or had low blockholder ownership. In these last cases, the small relative size did not influence the performance.

As shown in Table 10.2, acquirers that used a high percentage of cash performed better than average in terms of accounting returns. However, the results in Table 10.4 suggested that the positive effect of high percentage of cash disappeared if the acquirer had low insider ownership, high leverage or low free cash flow, or if the target was relatively small and if the acquirer had low blockholder ownership. The negative effect of low percentage of cash disappeared if the acquirer had low leverage, high free cash flow, if the target was related or the integration level was high. In terms of market returns, only acquirers with high free cash flow or with high blockholder ownership that acquired a relatively large target performed better if they used more cash. This result does not appear if acquirers had low free cash flow, low blockholder ownership, regardless of the relative size of the target or high blockholder ownership, but decided to pay mainly with cash for their relative small target. If they used less cash, they performed worse only if their targets were unrelated and they integrated their targets to a lesser extent. The negative effect did not appear if the targets were related or the acquirers integrated them to a higher extent.

The results in Table 10.4, when compared to the results in Table 10.2, confirmed the importance of studying the contingencies between process factors and their joint effects on performance. While the direct effects were studied extensively in prior research, the moderated influences were not addressed with proper attention. This thesis has provided evidence that helps fill this gap in the M&A literature.

In general, the weak results obtained in the case of market performance compared to accounting performance seem to suggest that the market predicts some of the effects and most probably included them in the assessment of the value of the acquirer before the execution of the deal. Another explanation for the difference in
results for accounting and market performance is that the market predicts that in the future the positive or negative effects on accounting performance of the contingent strategies will reverse.

This study has provided new insights for practical business management. As this study was conducted from the acquirer's perspective, the findings of this thesis may provide suggestions to companies that are adopting or considering adopting a strategy of public acquisition. The results help the companies identify the nature of the opportunities and the challenges involved in such deals. The fundamental effects of acquisition process complexity have strong implications for acquisition decision making and integration preparation. It is critical for companies to understand what has worked, what has not and most importantly, why. This study helps provide such understanding and may contribute to the improvement in performance of acquisitions in the future. Also, the results may have implications on the investment decisions of investors interested in companies involved in acquisitions.

The results of this study may also help investors make decisions regarding investment in a particular firm that undertakes an acquisition. Knowing how some of the characteristics of the deal and of the acquirer's decisions regarding the acquisition process influence the performance, an investor can make a profitable investment or abstain from making a value destroying one.

10.2. Theoretical contributions

The main field of research that this study aims at contributing to is the fragmented field of M&As and post-acquisition performance. This study of the influence of the acquisition process on post-acquisition performance makes several contributions to the literature, at both theoretical and methodological levels.

This research contributes significantly to knowledge and offers new insights of M&As by developing and testing a theoretical framework to describe, conceptualise and analyse the acquisition process factors and their direct and moderated influence on post-acquisition performance. This thesis has provided a rather unconventional perspective on the complexities of M&A process. The acquisition process is described in a series of phases that influence performance independently and in combination. Most importantly, the theme addressed in this study has added to the literature the importance of understanding the interactions between acquisition process phases. By considering the
interaction between the process phases as determinants of performance, this study fills a major gap in existing M&A literature. As was argued in theoretical discussions presented in Chapter 1, current M&A research has not paid enough attention to these interactions in studying the post-acquisition performance. While the earlier literature has treated the process phases independently, this thesis investigated the relationships among them and their joint effects. This theoretical approach helps clarify the trade-offs made not only within but also between variables. This study also fills a gap in the Australian research on M&As since no previous research addressed the influence of acquisition processes on post-acquisition performance in the Australian context.

In addition to its theoretical contributions, this study provides methodological insights. It introduces a way to empirically operationalise the study of contingent strategies employed in an acquisition process. The contingency analyses identified the moderated relationships of two or three process factors. Integration level was measured using a formula based on cash paid and received on PPE. This measure allows the unbiased measurement of integration level in a large scale study. This study does not consider human and other cultural aspects of the integration since the size of the sample and the historical approach does not allow focusing on these aspects. By comparing the implications for accounting and market performance, this study provided a better understanding of the effects that the acquisition process had on performance. The next step will be to include in the comparison the market performance effects at the announcement of the deal. This study separates the confounding effects on performance of other factors—prior performance, industry performance and combined size—that are not related to the acquisition process per se by using a regression model. This method is used as an alternative to creating control samples that may be biased.

10.3. Limitations of the study

There are some limitations that need to be acknowledged and addressed regarding the present study. The limitations need to be taken into account when considering the results of this study and its implications.

The empirical context of this study has been the Australian M&As, and more specifically, the domestic public acquisitions performed by Australian companies over 1992-2001. The selection of the single national market naturally brings forth limitations as far as the generalisation of the results of the study is concerned. Thus, the empirical
setting, the Australian company and the situation it faced in the acquisition, can only be seen as a pilot context of the acquisition process. On the other hand, this also represents the whole idea of conducting an innovative study. By understanding something about this particular context in more depth, eventually more can also be learnt about the general phenomena.

Another limitation of this study is its historical approach. It is presumed that past relationships among the factors under investigation and post-acquisition performance will continue in the future. However, over time, changes in the economy take place which affect the environment for acquisitions. Nonetheless, factors which were associated with the increase in performance in the recent past can be expected to have the same effect in the future.

The sample size is also a limitation of this study. One consequence of the small sample is the limitation imposed on the number of independent variables that can be tested simultaneously to provide meaningful results. Limiting the sample only to acquirers that made only one acquisition during a period of six years may have created a bias. The sample acquirers might not be active acquirers because they do not perform as well as frequent acquirers. Also, because they were not involved in acquisitions in the three years prior to the sample acquisitions, they might have not possessed the knowledge to effectively manage the acquisition process. However, the focus of the study was the acquirers that were involved only in one acquisition process in order to limit the confounding effects of other acquisitions.

As acknowledged in Chapter 2 (section 2.2), managerial compensation may influence the performance of acquisitions by inducing agency risks (Datta, Iskandar-Datta & Raman 2001). However, the lack of available data for the period under study due to disclosure limitations in Australia does not allow the examination of this mechanism in the context of this thesis. However, as shown in the results, the agency risks were not likely to have a strong influence on performance in Australia since many monitoring and interest alignment mechanisms were available.

This thesis could not control for the price paid because, for the majority of transactions, price information could be found in the available databases. According to the ‘winner’s curse’ hypothesis of acquisitions (Giliberto & Varaiya 1989), managers might pay a premium for a firm that the market has correctly valued. This premium can be an important driver of post-acquisition performance.
One limitation comes from the measurement of the integration level. This thesis used a ratio based on the amount of cash paid and received for PPE. It did not consider the human and cultural aspects of the integration activities that may influence the performance post-acquisition (Teerikangas & Very 2006). Most importantly, the study did not address some potentially important influences, such as employee reactions (e.g. Schweiger & Walsh 1990) or customer reactions to M&A. However, addressing those influences would be very difficult, if not impossible, in the context of this study.

10.4. Further research

The conclusions as well as the limitations of this study highlight the need for further research to advance our understanding of M&As. An important avenue for future research lies in continuing the elaboration of the elements of the acquisition process.

The empirical analysis of the Australian market conducted in this study represents only a single case. To study the acquisition process through a multiple markets design is clearly one of the future research challenges in this area. A multiple markets design would enable researchers to test the conceptual framework of the study further. Also, comparing the results across countries and time periods will add to the overall understanding of the influence of acquisition process on performance and may give rise to specific recommendations on acquisition management in various contexts.

A limitation of the current study is the small sample used. A larger sample size may allow for alternative modelling approaches and more refined assessment of the impact of acquisition process phases. Future Australian research will benefit from a larger sample size as the time period under study expands with the passing years. The increase in the number of deals that can be selected for this type of study may give researchers enough discretion to exclude financial companies from the analysis. Previous US research does not consider this type of acquirer together with the non-financial companies due to significant differences in their respective business environments and practices. However, this thesis controlled for industry affiliation to limit the bias imposed by affiliation to a particular industry.

The sample used in this thesis includes only public firms that made domestic acquisitions and thus provided only a limited picture of the acquisition process.
Additional studies including private firms and cross-border acquisitions will be needed to explore the generalisability of the conclusions and reveal further insights.

The weak results obtained in the case of market performance compared to accounting performance seem to suggest that the market included some of the effects in the assessment of the value of the acquirer at the announcement of the deal. One aspect of interest would be to compare expectations at the outset of the acquisition with actual performance. This could be accomplished by comparing the abnormal market returns of acquirer at the time of the announcement, representing investor expectations, with actual financial performance. This would shed light on how useful the commonly used abnormal returns measure is to evaluate acquisitions.

As acknowledged in the limitations of this study in section 10.3, the implication on performance of some potentially important factors—like managerial compensation as an agency risk variable and the price paid as a process variable—were not addressed. Managerial compensation is an indicator of the agency risk present in a company that may influence its performance (Datta, Iskandar-Datta & Raman 2001). Also, the price paid can be an important driver of post-acquisition performance and there is previous empirical evidence suggesting that the price paid (and the premium included) affects post-acquisition performance (Sirower 1997; Sirower & O'Byrne 1998; Abhyankar, Ho & Zhao 2005). According to the 'hubris' hypothesis of acquisitions (Roll 1986), and the 'winner’s curse' hypothesis of acquisitions (Varaiya 1989), managers might pay a premium for a firm that the market has already correctly valued and thus transfer value to target’s shareholders instead of creating value for their firms. For the majority of Australian transactions, the price information is not publicly available. A survey method could be employed to obtain feedback from managers about the price paid. Also, by translating the research in other markets, the researcher may find it easier to collect data on price paid. Furthermore, this study did not control for the hostility of negotiations leading up to the acquisitions since hostility in not an important factor in the context of the study. Only six acquisitions from the sample were hostile. However, if the framework is applied to other contexts, hostility might influence the acquisition process and thus needs to be considered in the analysis.
## Appendix 1. Distribution of the sample and of the intermediary subsamples obtained during the filtering process

### Table A.1 Distribution of sample deals by years

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<td>Cumulative percentage</td>
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<td>1.01</td>
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<td>15.66</td>
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</tr>
<tr>
<td>2002</td>
<td>13</td>
<td>6.57</td>
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<tr>
<td>Total</td>
<td>198</td>
<td>100.00</td>
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</tr>
</tbody>
</table>

**Notes:** The year of the acquisition is the first financial year in which the target is listed as a controlled entity in the acquirer's annual report. Panel 1 describes the distribution of the initial sample of Australian public listed domestic acquirers from 1992-2001 in terms of their acquisition year. Panel 2 excludes the acquirers that made more than one successful firm acquisition during three years prior or post another firm acquisition. Panel 3 presents the distribution of all one-time Australian public listed acquisitions from 1992-2001 with enough information (i.e. the final sample).
Table A.2 Descriptive statistics: unrelated

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<tr>
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<td>Number of deals</td>
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<td>30.81</td>
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<tr>
<td>No</td>
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<td>69.19</td>
<td>111</td>
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<tr>
<td>Total</td>
<td>198</td>
<td>100.00</td>
<td>163</td>
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</tbody>
</table>

Notes: A target is classified as unrelated if the primary industry SIC code is not the same as the acquirer's primary industry SIC code and as related otherwise. Panel 1 describes the distribution of the initial sample of Australian public listed domestic acquirers from 1992-2001 in terms of relatedness with the target. Panel 2 excludes the acquirers that made more than one successful firm acquisition during three years prior or post another firm acquisition. Panel 3 presents the distribution of all one-time Australian public listed acquisitions from 1992-2001 with enough information (i.e. the final sample).

Table A.3 Descriptive statistics: Industry dummy variables

<table>
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<tr>
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<tr>
<td>Total</td>
<td>198</td>
<td>100.00</td>
<td>163</td>
</tr>
</tbody>
</table>

Notes: Panel 1 describes the distribution of the initial sample of Australian public listed domestic acquirers from 1992-2001 in terms of their primary industry. Panel 2 excludes the acquirers that made more than one successful firm acquisition during three years prior or post another firm acquisition. Panel 3 presents the distribution of all one-time Australian public listed acquisitions with enough information (i.e. the final sample).
## Appendix 2. Deals included in the sample

### Table A.4 Deals included in the sample

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<thead>
<tr>
<th>Deal no.</th>
<th>Year</th>
<th>Acquirer</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1996</td>
<td>Acacia Resources Ltd</td>
<td>Solomon Pacific Resources NL</td>
</tr>
<tr>
<td>2</td>
<td>1996</td>
<td>Accel Industrial &amp; Mineral Processes Ltd</td>
<td>Action Gold Development NL</td>
</tr>
<tr>
<td>3</td>
<td>1996</td>
<td>Alliance Properties Ltd</td>
<td>Prudential Investment Company Ltd</td>
</tr>
<tr>
<td>4</td>
<td>1999</td>
<td>Amity Oil NL</td>
<td>Great Southern Oil NL</td>
</tr>
<tr>
<td>5</td>
<td>1997</td>
<td>Aqua Vital Australia Ltd</td>
<td>Callina NL</td>
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<tr>
<td>6</td>
<td>2000</td>
<td>Atkins Carlyle Ltd</td>
<td>Parbury Ltd</td>
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<tr>
<td>7</td>
<td>2000</td>
<td>Austar United Communications Ltd</td>
<td>TVSN Ltd</td>
</tr>
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<td>8</td>
<td>2000</td>
<td>Australand Holdings Ltd</td>
<td>Walker Corporation Ltd</td>
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<td>9</td>
<td>2000</td>
<td>Australian Infrastructure Fund</td>
<td>Infratil Australia Ltd</td>
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<td>1994</td>
<td>Australian National Industries Ltd</td>
<td>Palmer Tube Mills Ltd</td>
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<td>1994</td>
<td>Australian Provincial Newspapers Holdings Ltd</td>
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<td>1999</td>
<td>Ballarat Goldfields NL</td>
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<td>Intermin Resources Corporation Ltd</td>
<td>Black Mountain Gold NL</td>
</tr>
<tr>
<td>62</td>
<td>2000</td>
<td>Jupiters Ltd</td>
<td>AWA Ltd</td>
</tr>
<tr>
<td>63</td>
<td>1998</td>
<td>Kilkenny Gold NL</td>
<td>Kalmet Resources NL</td>
</tr>
<tr>
<td>64</td>
<td>1996</td>
<td>Lachlan Resources NL</td>
<td>Archaean Gold NL</td>
</tr>
<tr>
<td>65</td>
<td>2002</td>
<td>Lend Lease Corporation Ltd</td>
<td>Delfin Ltd</td>
</tr>
<tr>
<td>66</td>
<td>2002</td>
<td>Lion Nathan Ltd</td>
<td>Petaluma Ltd</td>
</tr>
<tr>
<td>67</td>
<td>1996</td>
<td>Mayne Nickless Ltd</td>
<td>Australian Medical Enterprises Ltd</td>
</tr>
<tr>
<td>68</td>
<td>2000</td>
<td>Meridian Investment Trust</td>
<td>Tyndall Property Trust</td>
</tr>
<tr>
<td>69</td>
<td>2002</td>
<td>Milton Corporation Ltd</td>
<td>Cambooya Investments Ltd</td>
</tr>
<tr>
<td>70</td>
<td>1997</td>
<td>Mining Corporation of Australia Ltd</td>
<td>Target Resources NL</td>
</tr>
<tr>
<td>71</td>
<td>2001</td>
<td>My Money Group Ltd</td>
<td>Channel E Ltd</td>
</tr>
<tr>
<td>72</td>
<td>2001</td>
<td>Norgard Clohessy Equity Ltd</td>
<td>Arthur Yates &amp; Co Ltd</td>
</tr>
<tr>
<td>73</td>
<td>1996</td>
<td>Pacific Magazines and Printing Ltd</td>
<td>Shomega Ltd</td>
</tr>
<tr>
<td>74</td>
<td>2001</td>
<td>PaperlinX Ltd</td>
<td>Spicers Paper Ltd</td>
</tr>
<tr>
<td>75</td>
<td>1996</td>
<td>Parbury Ltd</td>
<td>Toby Industries Ltd</td>
</tr>
<tr>
<td>76</td>
<td>1999</td>
<td>Pasminco Ltd</td>
<td>Savage Resources Ltd</td>
</tr>
<tr>
<td>77</td>
<td>1993</td>
<td>Plutonic Resources Ltd</td>
<td>Forsyth NL</td>
</tr>
<tr>
<td>78</td>
<td>2000</td>
<td>Prime Credit Property Trust</td>
<td>Armstrong Jones Office Fund</td>
</tr>
<tr>
<td>79</td>
<td>2000</td>
<td>Prime Industrial Property Trust</td>
<td>Armstrong Jones Industrial Fund</td>
</tr>
<tr>
<td>80</td>
<td>1999</td>
<td>Property Income Investment Trust</td>
<td>Celsius House Trust</td>
</tr>
<tr>
<td>81</td>
<td>1999</td>
<td>Publishing and Broadcasting Ltd</td>
<td>Crown Ltd</td>
</tr>
<tr>
<td>82</td>
<td>2001</td>
<td>Ramsay Health Care Ltd</td>
<td>Alpha Healthcare Ltd</td>
</tr>
<tr>
<td>83</td>
<td>1996</td>
<td>Resolute Samantha Group Ltd</td>
<td>Associated Gold Fields NL</td>
</tr>
<tr>
<td>84</td>
<td>1993</td>
<td>Resource and Mineral Equities Ltd</td>
<td>Chelsea Securities Ltd</td>
</tr>
<tr>
<td>85</td>
<td>1996</td>
<td>Ross Mining NL</td>
<td>Auralia Resources NL</td>
</tr>
<tr>
<td>86</td>
<td>1993</td>
<td>Sabmrico NL</td>
<td>Barrack Mines Ltd</td>
</tr>
<tr>
<td>87</td>
<td>1995</td>
<td>Samantha Gold NL</td>
<td>Resolute Resources Ltd</td>
</tr>
<tr>
<td>88</td>
<td>1998</td>
<td>Sand Queen Gold Mines NL</td>
<td>Richfield Resources NL</td>
</tr>
<tr>
<td>89</td>
<td>2001</td>
<td>Santos Ltd</td>
<td>Natural Gas Australia Ltd</td>
</tr>
<tr>
<td>90</td>
<td>1995</td>
<td>Schaffer Corp Ltd</td>
<td>Delta Corporation Ltd</td>
</tr>
<tr>
<td>91</td>
<td>1999</td>
<td>Scientific Services Ltd</td>
<td>Gearhart Australia Ltd</td>
</tr>
<tr>
<td>92</td>
<td>2001</td>
<td>Senetas Corporation Ltd</td>
<td>Kusp Ltd</td>
</tr>
<tr>
<td>93</td>
<td>1996</td>
<td>Seven Network Ltd</td>
<td>Sunshine Broadcasting Network Ltd</td>
</tr>
<tr>
<td>94</td>
<td>1998</td>
<td>Simeon Wines Ltd</td>
<td>Australian Vintage Ltd</td>
</tr>
</tbody>
</table>
Table A.4 Deals included in the sample (continued)

<table>
<thead>
<tr>
<th>Deal no.</th>
<th>Year</th>
<th>Acquirer</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>95</td>
<td>1997</td>
<td>Sipa Resources Intl NL</td>
<td>Arcadia Minerals NL</td>
</tr>
<tr>
<td>96</td>
<td>2000</td>
<td>Smorgon Steel Group Ltd</td>
<td>Metalcorp Ltd</td>
</tr>
<tr>
<td>97</td>
<td>2002</td>
<td>Sons of Gwalia Ltd</td>
<td>PacMin Mining Corporation Ltd</td>
</tr>
<tr>
<td>98</td>
<td>1997</td>
<td>Southcorp Holdings Ltd</td>
<td>Coldstream Australasia Ltd</td>
</tr>
<tr>
<td>99</td>
<td>2000</td>
<td>Southcorp Ltd</td>
<td>Cuppa Cup Vineyards Ltd</td>
</tr>
<tr>
<td>100</td>
<td>2002</td>
<td>Southern Cross Broadcasting Ltd</td>
<td>Telecasters Australia Ltd</td>
</tr>
<tr>
<td>101</td>
<td>2001</td>
<td>St Barbara Mines Ltd</td>
<td>Taipan Resources NL</td>
</tr>
<tr>
<td>102</td>
<td>2002</td>
<td>St George Bank Ltd</td>
<td>Bourse Data Ltd</td>
</tr>
<tr>
<td>103</td>
<td>2000</td>
<td>Tabcorp Holdings Ltd</td>
<td>Star City Holdings Ltd</td>
</tr>
<tr>
<td>104</td>
<td>1998</td>
<td>Tanganyika Gold NL</td>
<td>Panorama Resources NL</td>
</tr>
<tr>
<td>105</td>
<td>2002</td>
<td>Tasmanian Trustees Ltd</td>
<td>Perpetual Trustees Tasmania Ltd</td>
</tr>
<tr>
<td>106</td>
<td>2001</td>
<td>Villa World Ltd</td>
<td>Cite Centre Ltd</td>
</tr>
<tr>
<td>107</td>
<td>1995</td>
<td>Village Roadshow Ltd</td>
<td>Austereo Ltd</td>
</tr>
<tr>
<td>108</td>
<td>2000</td>
<td>Vital Capital Ltd</td>
<td>Greenchip Emerging Growth Ltd</td>
</tr>
<tr>
<td>109</td>
<td>1998</td>
<td>Webster Ltd</td>
<td>Clements Marshall Consolidated Ltd</td>
</tr>
<tr>
<td>110</td>
<td>1993</td>
<td>Wesfarmers Ltd</td>
<td>Bunnings Ltd</td>
</tr>
<tr>
<td>111</td>
<td>1999</td>
<td>Western Metals NL</td>
<td>Aberfoyle Ltd</td>
</tr>
<tr>
<td>112</td>
<td>1999</td>
<td>Westfield Trust</td>
<td>Suncorp Property Trust</td>
</tr>
<tr>
<td>113</td>
<td>1997</td>
<td>WestGold Resources NL</td>
<td>Ramsgate Resources Ltd</td>
</tr>
<tr>
<td>114</td>
<td>1998</td>
<td>Westralian Sands Ltd</td>
<td>RGC Ltd</td>
</tr>
</tbody>
</table>
### Appendix 3. Variables description

Table A.5 Description of the variables used in this thesis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Name</th>
<th>Description</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel 1. Preliminary variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>lg(TApost_acq)</td>
<td>Acquirer’s size after the acquisition (logarithmic form)</td>
<td>The logarithmic value of acquirer’s total assets in the acquisition’s year</td>
</tr>
<tr>
<td>2</td>
<td>ROApre_acq</td>
<td>Acquirer’s accounting performance prior to the acquisition</td>
<td>Acquirer’s average return on assets over the three years prior to the acquisition’s year</td>
</tr>
<tr>
<td>3</td>
<td>ROApre_tg</td>
<td>Target’s accounting performance prior to the acquisition</td>
<td>Target’s average return on assets over the three years prior to the acquisition’s year</td>
</tr>
<tr>
<td>4</td>
<td>ROApost_ind</td>
<td>Acquirer’s industry accounting performance after the acquisition</td>
<td>Acquirer’s industry average return on assets over the three years after the acquisition’s year</td>
</tr>
<tr>
<td>5</td>
<td>ROA</td>
<td>Acquirer’s accounting performance after the acquisition</td>
<td>Acquirer’s average return on assets over the three years after the acquisition’s year</td>
</tr>
<tr>
<td>6</td>
<td>R*</td>
<td>Acquirer’s market performance after the acquisition</td>
<td>Acquirer’s average market return over the three years after the acquisition’s year</td>
</tr>
</tbody>
</table>

| **Panel 2. Dependent variables** | | | |
| 1 | Abnormal returns on assets | Acquirer’s abnormal accounting performance after the acquisition | Residuals from regressing acquirer’s accounting performance after the acquisition on pre-acquirer’s and target’s accounting performance, post-acquisition industry performance and acquirer’s size after the acquisition (logarithmic form) | |
| 2 | Abnormal market returns | Acquirer’s abnormal market performance after the acquisition | Residuals from regressing acquirer’s market performance after the acquisition on acquirer’s size after the acquisition (logarithmic form) | |

| **Panel 3. Agency variables** | | | |
| 1 | bs | Acquirer’s board size | Number of directors sitting on acquirer’s board one year prior to the acquisition year | 1 |
| 2 | CEOChair | Acquirer’s board leadership structure | Dummy variable that equals 1 if the CEO is also the chairman of the board in the year prior to the acquisition, 0 otherwise | 1 |
| 3 | nex | Acquirer’s proportion of non-executives on the board | The proportion of non-executives on the acquirer’s board of directors one year prior to the acquisition year | 1 |
| 4 | dirsh | Acquirer’s insider ownership | The proportion of the acquirer’s shares owned by its directors one year prior to the acquisition | 1 |
| 5 | sh5 | Acquirer’s blockholder ownership | The proportion of the acquirer’s shares owned by shareholders that individually own 5% or more one year prior to the acquisition year | 1 |

**Data sources:** ‘1’ = ‘Annual Report’; ‘2’ = ‘Aspect Financial’; ‘3’ = ‘Datastream’; ‘4’ = bidder’s and target’s statements; ‘5’ = ‘SDC Platinum Database’.
Table A.5 Description of the variables used in this thesis (continued)

<table>
<thead>
<tr>
<th>Panel 3. Agency variables (continued)</th>
<th>Variable</th>
<th>Name</th>
<th>Description</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 finlev</td>
<td>Acquirer’s financial leverage</td>
<td>The book value of the acquirer’s total assets divided by its shareholders equity one year prior to the acquisition year</td>
<td>1,2</td>
<td></td>
</tr>
<tr>
<td>7 freecf</td>
<td>Acquirer’s free cash flow</td>
<td>The value of acquirer’s free cash flow one year prior to the acquisition</td>
<td>1,2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel 4. Synergistic motivation variables</th>
<th>Dummy variable that equals 1 for horizontal motivated acquisitions, 0 otherwise</th>
<th>1,4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 horizontal</td>
<td>Horizontal integration motivation</td>
<td>Dummy variable that equals 1 for vertical motivated acquisitions, 0 otherwise</td>
</tr>
<tr>
<td>2 vertical</td>
<td>Vertical integration motivation</td>
<td>Dummy variable that equals 1 for conglomerate diversification acquisitions, 0 otherwise</td>
</tr>
<tr>
<td>3 conglomerate</td>
<td>Conglomerate diversification motivation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel 5. Opportunistic motivation variables</th>
<th>Dummy variable that equals 1 for acquisition years between 1995 and 2000, 0 otherwise</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 wave</td>
<td>Merger wave</td>
<td>The percentage of target’s shares owned by the acquirer one year prior to the acquisition</td>
</tr>
<tr>
<td>2 toehold</td>
<td>Acquirer’s toehold</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel 6. ‘Selection of the target’ variables</th>
<th>Dummy variable that equals 1 if the acquirer and the target do not belong to the same primary industry, 0 otherwise</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 unrelated</td>
<td>Business relatedness between acquirer and target</td>
<td>The size of the target relative to the acquirer one year prior to the acquisition year</td>
</tr>
<tr>
<td>2 relsize</td>
<td>Relative size</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel 7. ‘Method of payment’ variable</th>
<th>The proportion of the target’s value paid for using cash</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 % of cash</td>
<td>Percentage of cash used</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel 8. ‘Integration’ variable</th>
<th>Integration ratio based on the difference between net cash received on PPE after acquisition and prior to the acquisition</th>
<th>1,2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 rin</td>
<td>Integration level</td>
<td></td>
</tr>
</tbody>
</table>

**Data sources:** ‘1’ = ‘Annual Report’; ‘2’ = ‘Aspect Financial’; ‘3’ = ‘Datastream’; ‘4’ = bidder’s and target’s statements; ‘5’ = ‘SDC Platinum Database’.
Table A.5 Description of the variables used in this thesis (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Name</th>
<th>Description</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel 9. Control variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1  resources</td>
<td>‘Resources’ industry</td>
<td>Dummy variable that equals 1 if the acquirer belongs to the ‘Resources’ industry sector, 0 otherwise</td>
<td>5</td>
</tr>
<tr>
<td>2  financials</td>
<td>‘Financials’ industry</td>
<td>Dummy variable that equals 1 if the acquirer belongs to the ‘Financials’ industry sector, 0 otherwise</td>
<td>5</td>
</tr>
<tr>
<td>3  manufacturing</td>
<td>‘Manufacturing’ industry</td>
<td>Dummy variable that equals 1 if the acquirer belongs to the ‘Manufacturing’ industry sector, 0 otherwise</td>
<td>5</td>
</tr>
<tr>
<td>4  services</td>
<td>‘Services’ industry</td>
<td>Dummy variable that equals 1 if the acquirer belongs to the ‘Services’ industry sector, 0 otherwise</td>
<td>5</td>
</tr>
<tr>
<td>5  trade</td>
<td>‘Trade’ industry</td>
<td>Dummy variable that equals 1 if the acquirer belongs to the ‘Trade’ industry sector, 0 otherwise</td>
<td>5</td>
</tr>
<tr>
<td>6  hres</td>
<td>Horizontal – ‘Resources’ industry acquirer</td>
<td>Dummy variable that equals 1 if the acquirer belongs to the ‘Resources’ industry sector and the acquisition has a horizontal integration motivation, 0 otherwise</td>
<td>1,4,5</td>
</tr>
<tr>
<td>7  hnores</td>
<td>Horizontal – non ‘Resources’ industry acquirer</td>
<td>Dummy variable that equals 1 if the acquirer does not belong to the ‘Resources’ industry sector but the acquisition is horizontal integration motivated, 0 otherwise</td>
<td>1,4,5</td>
</tr>
</tbody>
</table>

References


Dundas, K. N. M. & Richardson, P. R., 1980. ‘Corporate strategy and the concept of market failure’, *Strategic Management Journal*, 1(2), pp. 177-188.


