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Citation:

GARROW, Nigel and AWOLOWO, Ifedapo (2022). Mergers and acquisitions and the CEO: tenure and outcomes. Corporate Board: role, duties and composition, 18 (1), 47-61. [Article]

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MERGERS AND ACQUISITIONS AND THE CEO: TENURE AND OUTCOMES

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Abstract

How to cite this paper: Garrow, N., & Awolowo, I. F. (2022). Mergers and acquisitions and the CEO: Tenure and outcomes. *Corporate Board: Role, Duties and Composition*, 18(1), 47–61. <https://doi.org/10.22495/cbv18i1art4>

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ISSN Online: 2312-2722

ISSN Print: 1810-8601

Received: 26.04.2022

Accepted: 04.07.2022

JEL Classification: G0, G3, G4, M1

DOI: 10.22495/cbv18i1art4

Tenure is an important component of mergers and acquisitions (M&A) outcomes, as highlighted in this study and recent studies by Zhao (2022) and Bilgili, Calderon, Allen, and Kedia (2017). Research on top management teams (TMTs) has found that a good work relationship between senior managers enhances team cohesiveness, communication, and firm performance. This study explores the impact of the joint tenure of the chairperson and the CEO on M&A outcomes. We utilised the resource-based view (RBV), upper echelon theory, and season of tenure theory as theoretical lenses to explore joint tenure's potential impact on M&A outcomes. Through a long-event window research methodology, which examines the cumulative abnormal returns to the acquirer's shareholders for a period of three years following the completion date, this study found that the length of the period of joint tenure of the chairperson and CEO in acquiring firms was significantly positively correlated with the cumulative abnormal return (CAR) to acquiring firm shareholders during the three years following completion of an acquisition (CARB). Although this study has utilised 47 acquisitions in Australia from the period from 1990 up to the global financial crisis, our findings are quite revealing. They have contributed to the limited study on joint tenure.

Keywords: Mergers and Acquisitions, Top Management, Joint Tenure, Leadership and Performance

Authors' individual contributions: Conceptualisation — N.G.; Resources — N.G. and I.F.A.; Writing — N.G. and I.F.A.; Supervision — N.G. and I.F.A.; Funding Acquisition — N.G.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

Mergers and acquisitions (M&A) is a significant global activity shaping many stakeholders' present and future (Zhao, 2022). In 2021, deal value, according to Refinitiv, Dealogic and PWC, amounted to approximately \$5000 billion.

There is substantial literature that indicates that, on average, M&A are value-destroying for acquiring firm shareholders (Agrawal, Jaffe, & Mandelker, 1992; Gregory, 1997; Tuch & O'Sullivan, 2007; Martynova & Renneboog, 2011). The consequences of this value destruction can be far-reaching in an economy, affecting not only

shareholders but also pension funds, employees, customers, suppliers, government tax revenue, and banks. Although most of the time stock market is not always seen as a sideshow for corporate investment decisions (Morck, Shleifer, & Vishny, 1990). Market-driven investment and acquisition decisions could result in a new type of agency problem, one that is driven by managerial hubris, empire-building, and incentive compensation (Fung, Jo, & Tsai, 2009).

Empirical evidence suggests that managers benefit from value-destroying diversification because of agency costs such as empire-building and managerial entrenchment (Jensen, 1986; Shleifer &

Vishny, 1989; Stulz, 1990). Masulis, Wang, and Xie (2007) observe that poor corporate governance encourages managers to engage in empire-building acquisitions, despite such acquisitions being subject to more negative announcement returns. Understanding the causes of M&A successes and failures is critical for incumbent and prospective stakeholders.

Research on top management teams (TMTs) has found that a good work relationship between senior managers (such as a chairperson and a CEO) enhances team cohesiveness, communication, and firm performance (Iaquinto & Fredrickson, 1997; Carson, Mosley, & Boyar, 2004; Chan, Cheng, & Leung, 2011; Bilgili, Calderon, Allen, & Kedia, 2017). The longer that team members work together, the greater their understanding of the pattern of decision-making and this, in turn, reduces uncertainty in understanding the behaviour of their colleagues.

This further enhances the ability to predict discussion outcomes and improves decision-making (Iaquinto & Fredrickson, 1997). The chairperson and the CEO are the key two players in an organisation. The chairperson tends to be an independent non-executive director leading a board that comprises a majority of non-executive directors (Productivity Commission, 2009). The CEO is the most senior executive member of a firm, responsible for the implementation of the firm's strategy, and is often the sole or one of only two executive members of the board of directors.

In Australia, the average board size is between 6.6 and 8.8 (in the firms in this study, it was 8.5), with three-quarters of directors being non-executive (Productivity Commission, 2009).

The chairperson and CEO, in partnership with the board of directors, have ultimate responsibility and accountability for a firm's performance. Occasionally the two roles are combined into one.

This study examined acquisitions where the two roles in the acquiring firm are performed by different people, which is typical in Australia (Productivity Commission, 2009). The Australian Stock Exchange (ASX) Corporate Governance Council recommends that the chairperson and the CEO should not be the same person (Productivity Commission, 2009).

CEO experience, or tenure, has previously been explored as an influence on firm performance with optimal periods identified for a range of industries (Henderson, Miller, & Hambrick, 2006). This paper also examines the effect of CEO tenure on shareholder value for the acquirer. It then expands the topic of tenure to include the joint influence of the chairperson and CEO on M&A performance from the day on which the acquisition is completed.

Determining the effect of joint tenure and agency problems on firm performance is important for corporate governance purposes, with regulators seeking to separate the roles of chairperson and CEO on boards, such as in the UK (Cadbury, 1992; Dedman, 2002). The roles of the chairperson and CEO are complementary. The ASX Corporate Governance Council recommends that the chairperson is an independent director, and the roles of the chairperson and CEO should not be performed by the same person (Productivity Commission, 2009).

The chairperson is responsible for the leadership of the board. The chairperson is also responsible for facilitating the effective contribution of all directors and promoting constructive and respectful relations between the directors, board, and management. The board should agree on the division of responsibilities between the chairperson and the CEO (ASX, 2010). The board's responsibility, led by the chairperson, includes identifying and approving an organisation's goals and strategy (including the approval and monitoring of acquisitions and divestitures) and appointing the CEO; it is management's responsibility (led by the CEO) to decide how to implement these strategies and achieve the business goals (Productivity Commission, 2009).

This paper explores the extent to which there is a positive or negative correlation between tenure and shareholder returns. This is because the analysis of the joint influence of the chairperson and CEO has not been tested in M&A literature.

This study examines a new factor in the M&A literature: the length of time that the two most senior managers (chair and CEO) have been in the office together and the benefit that this accrues to business in terms of performance for stakeholders.

This study contributes to the literature on executive tenure and its impact on M&A outcomes. The size of the sample is fairly modest, but this does not detract from the importance of the findings.

The remainder of this paper is structured as follows. Section 2 is a literature review, followed by the theoretical framework and then the research hypotheses. Section 3 presents the methodology applied in the study. Section 4 reveals the results. Section 5 concludes the paper.

2. LITERATURE REVIEW

2.1. Agency, stewardship, or hubris

Some authors attribute underperformance in acquisition to hubris or agency problems (Roll, 1986; Gregory, 1997; Sharma & Ho, 2002; Fung et al., 2009; Zeitoun, Nordberg, & Homberg, 2019). Jensen and Meckling (1976) defined an agency relationship as a contract under which one or more persons (the principal) engage another person (the agent) to perform some service on their behalf, which involves delegating some decision-making authority to the agent.

However, one of the problems in agency relationships is that the principal and the agent may prefer different actions because of the different risk preferences (Eisenhardt, 1989).

Agency theory argues that shareholder and management interests are not always aligned and that mechanisms need to be put in place (Awolowo, Garrow, Clark, & Chan, 2018), such as outcome-based contracts and improved information systems for stakeholders, to provide some protection for shareholders (Eisenhardt, 1989). Alternatively, stewardship theory holds that there is no inherent general problem with executive motivation and that the interests of shareholders and managers are aligned (Donaldson & Davis, 1991).

Roll (1986) cited hubris as an explanation for why M&A activity often fails to create shareholder value. Hubris is overconfidence, which potentially

manifests as pride or arrogance. The hubris hypothesis is that decision-makers in acquiring firms pay too much for their targets. If there are no gains in takeovers, hubris is necessary to explain why managers do not abandon these bids since reflection would suggest that such bids are likely to represent positive errors in valuation (Roll, 1986).

Roll (1986) explained that management intentions may be fully consistent with honourable stewardship of corporate assets but that mistakes can and will be made, an acknowledgement of the possibility that stewardship theory is more appropriate to explain managerial behaviour than agency theory.

Gregory (1997) concluded that hubris or “managerialist theories of behaviour” are possible explanations for M&A outcomes since the outcomes are inconsistent with shareholder maximisation behaviour by the acquiring firm’s management. In their Australian study, Sharma and Ho (2002) found that hubris cannot be disregarded as an explanation for M&A outcomes.

Berkovitch and Narayanan (1993) and Seth, Song, and Pettit (2000) argued that agency problems, not hubris seem to be the major reason for the existence of value-reducing acquisitions. They based this on the view that management is motivated by self-interest in acquisitions, that they are rent-seeking, and that there is a negative correlation between acquirer returns and acquired firm returns.

Tichy (2001) argued that hubris is fuelled by business or stock market cycles and the optimism that they generate. Even when managers know the probability of failure, their advisors, who typically earn fees based upon success in consummating an acquisition, will persuade managers to pursue and complete an acquisition. He observed that managers tend to overestimate savings that can be earned from acquisition and underestimate revenue losses. This process is made worse by the failure of “outside control”.

These findings reflect the generally high level of optimism associated with M&A activity and which is reflected in much of the literature that analyses it (Roll, 1986; Hayward & Hambrick, 1997; Malmendier & Tate, 2008; Zeitoun et al., 2019; Zhao, 2022).

2.2. Theoretical framework

This study utilised the resource-based view (RBV), upper echelon theory, and season of tenure theory as theoretical lenses to understand joint tenure’s potential impact on M&A outcomes. These three theories support the hypotheses that this study intends to test.

Resource-based view

Prahalad and Hamel (1990) asserted that the source of value creation within an organisation is its core competencies, the “collective learning of the organisation” and its skill in co-ordinating activities, especially technologies or other intellectual property, to achieve protectable, differentiated, value-enhancing outputs. The concept of core competencies is embraced in the RBV of the firm.

Barney (1991) classified firm resources into three categories: “physical” (such as technology or plant and equipment), “human” (including knowledge, experience, and relationships), and “organisational” (planning, reporting, and co-ordinating systems). A firm is considered to have a sustainable competitive advantage when executing a value-enhancing strategy that is not being adopted by either an existing or a potential competitor and that no competitor can duplicate the benefits of that strategy (Barney, 1991).

In this context, one of the unique resources within the firm will be the attributes of the people who, separately, occupy the positions of chairperson and CEO. Applying the earlier definitions, the chairperson and CEO are “human” capital yielding “organisational” capital depending on the period of positional tenure. An extended period of joint tenure for a chairperson and CEO will satisfy the RBV requirement for sustainable competitive advantage because it is:

1. Valuable — long periods in the situation will attest to this and the quality of their leadership.
2. Rare — the relationship and joint experience will be unique.
3. Inimitable — not directly capable of being copied. This applies particularly to the cultural environment created by the two business leaders.
4. Not easily substituted — recruitment and assimilation into a firm are time-consuming and distractive processes.

The combination of the cultural challenges of business integration (Chatterjee, Lubatkin, Schweiger, & Weber, 1992; Teerikangas & Very, 2006) and the difficulties of merging different management styles (Datta, 1991), in addition to the increased rate of senior executive turnover in the acquired firm (Krug & Shill, 2008), serve to enhance the value to the acquiring firm’s shareholders of long tenure together by their chairperson and CEO. Similarly, Zhao (2022) observes that “managers” cultural alignment is an important determinant of merger success.

Scholars have argued that different industries have different characteristics (such as capital intensity, growth rate, and type of technology), which will affect the analysis of the ideal tenure for senior executives (Datta, Guthrie, & Wright, 2005).

The concept of the RBV was developed by Teece, Pisano, and Shuen (1997) in their “dynamic capabilities” approach. In environments experiencing rapid technological change, they linked competitive advantage to distinctive processes, firm-specific assets, and the “evolution path the firm has adopted or inherited” (Teece et al., 1997, p. 509). Emphasis is given to learning, the management know-how, and implementation rather than just “strategizing” as the crucial components for sustaining competitive advantage.

“Capabilities” recognises the role of strategic management in adapting, configuring and integrating organisational skills and competencies. Teece et al. (1997) argued that capabilities are better understood in terms of organisational structures and managerial processes than in balance sheet items, enhancing the idea that core competencies may be more dependent on human capital than physical capital.

Upper echelon theory

Hambrick and Mason (1984) argued for a new emphasis in macro organisational research: an emphasis on the dominant coalition of the organisation, particularly top managers. Organisational outcomes — strategies and effectiveness are a reflection of organisational actors' values and cognitive base (Hambrick & Mason, 1984).

It is expected, to some extent, that such linkages can be detected empirically. Hambrick and Mason (1984) suggested that such an empirical examination may benefit those responsible for "selecting and developing upper-level executives" (p. 193).

In summary, Hambrick and Mason (1984) believed that "top executives matter" (p. 194).

The complexity of most businesses and their decision-making processes highlights the importance to those businesses of their two most senior managers (chairperson and CEO), and for shareholders to understand how they function behaviourally and perform.

Upper echelon theory asserts that executives' experiences, values, and personalities affect their choices and decisions (Hambrick, 2007). Upper echelon theory is predicated on an examination of a senior manager's background and observable characteristics (age, tenure, education, and career experiences) and their influence on performance; at the heart of this theory is the portrayal of upper-echelon characteristics as determinants of strategic choices and, through these choices, of organisational performance. Several propositions were developed by Hambrick and Mason (1984), notably those relating tenure to performance. This study examines M&A activity and cumulative abnormal returns (CAR) to shareholders as the measure of performance.

The chairperson and CEO may be considered the ultimate top board team (TBT) in any organisation. Hambrick (2007) emphasised the importance of the characteristics and behaviours of members of a top management team (TMT) and introduced the concept of "behavioural integration". He argued that TMTs have "few team properties" (Hambrick, 2007, p. 336).

However, behavioural integration has been shown to have direct positive effects on organisational performance (Hambrick, 2007), and he proposed that the characteristics of these subgroups (such as the chairperson and CEO) should be analysed to predict actions and performance. In concluding, he remarked that more attention needed to be paid to the "structure" of TMTs, to complement and improve our understanding of TMT composition and processes.

The proposition, therefore, is that TMTs such as the chairperson and CEO can positively affect firm performance, but relatively little is known about some of the potentially value-enhancing features of a TMT (specifically the chairman and CEO) and their influence on firm performance.

The seasons of tenure

No literature has been identified, which explores the nature and effectiveness of joint tenure and its influence on firm performance. This study draws on

literature that examines CEO tenure and how tenure may influence a firm's activity.

A starting point is provided by Hambrick and Fukutomi (1991), and the five "seasons" of a CEO's tenure covers the period from the CEO's commencement to departure from office.

This concept of "seasons" might operate in conjunction with the idea of joint tenure of the chairperson and CEO to explain the nature of the actions and decisions the chairman and CEO take together and the effect on a firm's performance, especially in M&A activity.

Hambrick and Fukutomi (1991) correlated the CEO seasons (Response to mandate, Experimentation, Selection of an enduring theme, Convergence, and Dysfunction) with dimensions of change (Commitment to a paradigm, Task knowledge, Information diversity, Task interest, and Power). For example, during the middle of their tenure period, the CEOs will typically be selecting the "enduring theme" or strategy by which the organisation will run for the remaining period of the CEO tenure. During this phase, "task knowledge" and "power" will be high in light of the period of tenure in office, and hence organisational influence will also be high. The outcome might be the pursuit of a successful acquisition during the "convergence" period; this study examines the optimal period of joint tenure for a successful acquisition, a finding which may be related to the "seasons" hypotheses.

Hambrick and Fukutomi (1991) concluded that a CEO's peak performance is likely to occur during the "convergence" stage.

Henderson et al. (2006) examined the effect of CEO tenure on performance using accounting measures of performance within the "stable" food industry compared with the "dynamic" computer industry. They found that in the "dynamic" environment, peak performance occurred in year 1 of their tenures, whereas in the "stable" food industry, peak performance occurred at about year 11 of tenure. The mean CEO tenure in their samples was 7.82 years in the food industry and 6.59 years in the computer industry.

Finkelstein (1992) studied the effect of different types of power (structural, ownership, expert, and prestige) held by subsets of managers on organisation performance, including acquisitions. He proposed that the upper echelon theory (Hambrick & Mason, 1984) should be extended to encompass the notion that managerial power affects the association between top managers and organisational outcomes. Managers may have different origins of power depending on their background, and therefore the type of power being exerted differs for different periods of tenure of the senior executives (Finkelstein, 1992).

In summary, the nature of the influence that a senior executive (the CEO) has on a firm's performance will vary according to the period of time in tenure; these periods in tenure may be described as "seasons". Executive power influences strategic choice and outcomes, but the nature of the power may differ according to the period in tenure. The effect of tenure on M&A performance is measured in this study.

2.3. Research hypotheses

Tenure is a managerial characteristic influencing strategic choice and performance (Hambrick & Mason, 1984). Bergh (2001) observed that organisational tenure is perhaps the strongest characteristic for distinguishing executives, as it reflects factors such as unique knowledge, perspective, and insights into the organisation that would be especially critical to the successful implementation of an acquisition (Haspeslagh & Jemison, 1991).

This paper examines the relationship between a chairperson and CEO and a firm's shareholders in the context of M&A activity in Australia. The central proposition is that the behavioural influences related to the interaction of a firm's chairperson and CEO contribute significantly to the outcome of M&A.

H₀ (null hypothesis): The length of time that the chairperson and CEO of the acquiring firm have been together in their respective positions at the time of the acquisition does not have any impact on the success or otherwise of the outcome of the acquisition.

H1 (alternative hypothesis): The length of time that the chairperson and CEO of the acquiring firm have been together in their respective positions at the time of the acquisition has an impact on the success or otherwise of the outcome of the acquisition.

The basis of these hypotheses is that experience and successful management of the core business should be a prerequisite for a board agreeing to divert management focus and financial resources to acquisition and subsequent integration process. This is important in light of the high rate of senior management turnover in acquired firms (Krug & Shill, 2008), and the high failure rate of acquisitions (Tuch & O'Sullivan, 2007).

Krug and Shill (2008) place importance on the acquirer establishing leadership continuity in the acquired firm to improve acquired firm performance; this observation about the importance of leadership stability on performance in M&A may also be relevant within the acquiring firm for the acquiring firm's performance and is examined in this study.

3. METHODOLOGY

This study employed a long-event window research methodology (Bruner, 2004, p. 33). It examined the cumulative abnormal returns (the firm's return to shareholders, through changes in its share price and dividends paid, adjusted by the average returns in the share market as a whole which is accounted for through the use of the ASX 200 Accumulation Index) to the acquirer's shareholders for a period of three years following the completion date.

The data in this study comprised 47 acquisitions undertaken in Australia from 1990 to the global financial crisis. The cut-off date of 2008 was chosen to provide three years of data following the acquisition completion date to assess the transaction's performance. Both the acquiring and acquired firms were ASX-listed companies. The acquisitions were obtained from Thomson Reuter's "Thomson One" database. Additional data sources were the annual reports of the acquirer and the acquired firm, DataStream, Aspect Huntley,

the Australian Financial Review, the Reserve Bank of Australia (RBA), and the ASX for the S&P/ASX 200 Accumulation Index. The sectors from which the 47 acquisitions were drawn are presented in Table 1.

Table 1. Sectors

Category	Number of acquisitions
Health care	5
Media & Entertainment	8
Consumer staples	10
Industrials	8
Real estate	4
High technology	1
Retail	1
Financials	8
Energy & Power	1
Consumer products & Services	1

The only sector omitted was "materials" or mining and related activities; this is consistent with earlier studies in Australia by McDougall, Round, and Wirth (1986), Sharma and Ho (2002), and Kiel and Nicholson (2003), which also excluded the "materials" sector.

3.1. Timeframe of the analysis

M&A studies adopt one of two timeframes for their analysis:

1. Examine the announcement effect for both target and acquirer shares (a short-event window).

2. The effect on longer-term performance for the shares of the acquirer across a two to five-year period following the acquisition (a long-event window).

Sudarsanam (2010, p. 214) found that short-horizon event studies assume that stock prices react almost instantly to an event reflecting informational efficiency in the market. Still, he observed that a growing body of literature argues that stock prices adjust slowly over more extended periods (typically three to five years) to information to get a full view of market inefficiency. Gregory and McCorriston (2005) observed that some finance research has suggested that announcement period returns may not fully reflect the wealth effect of an event.

In keeping with Bruner (2004, p. 33), the shareholder measurement comprised a "raw" return and a benchmark return. The "raw" return in any month is the percentage change in the share price over the month, plus dividends paid to the shareholders in that month. The abnormal return is the raw return less a benchmark return based on the performance of the S&P/ASX Accumulation Index. The difference is the CAR.

This study adopted a long-event window approach across a three-year timeframe. Specifically, this study calculated three-year returns to acquiring firm shareholders following completion; returns to acquiring firm shareholders were also calculated for the three years before the acquisition. Returns to acquired firm shareholders were calculated from six months before completion up to completion.

A long-term horizon was selected for this study because it allows time for the integration of the acquiring and target firm and the performance of the acquisition to be meaningfully analysed. The downside of long-term studies is that factors external to the acquisition may impact the performance of the acquiring firm. However,

the mean size of the acquisitions in the study largely helped to mitigate the impact of other factors on CARs for the acquiring firm post-acquisition.

The mean consideration paid for the acquisitions in the study was A\$1,048m. The mean size of the acquirer, measured by net assets in the year before the acquisition, was A\$1,640m. The mean size of the target, measured as net assets recorded in the last annual report issued by the target before the acquisition, was A\$483m. The ratio of acquirer net assets to target net assets was 3:1.

The method of analysis involved regressing cumulative abnormal returns (CARs) (dependent variables) against data related to independent variables — joint tenure of the chairperson and CEO (*JTENURE*) in the acquiring firm, earnings per share and the acquirer's performance during the period prior to completion in order to test the hypotheses.

Besides, simple correlations were conducted relating the dependent and independent variables with each other to observe if any collinearity was present. Tests were conducted for other variables, such as *CEOTENURE* in the equation (Table 3), both in place of *JTENURE* and in addition to *JTENURE*. Binary analysis, linear probability analysis, and discriminant analysis were also undertaken to provide additional verification of the results from the regression analyses and greater precision regarding the optimal period of *JTENURE* for outcome optimisation. Such analyses may explain success or failure better than the numerical value of CAR alone.

3.2. Sample structure

Table 2 identifies the acquisitions in the study. Forty-seven (47) acquisitions were undertaken by 39 firms.

Table 2. Study sample

Acquirer	Target	Consideration (A\$m)
Jupiters	AWA Ltd	145.88
Toll	Finemore Holdings	120.00
Lang Corp.	Holyman Ltd.	124.00
Downer	Evans Deakin	253.90
Bendigo Bank	First Australian Building Society	134.00
Fosters Brewing	Mildara Wines	476.60
Lion Nathan	Petaluma	235.50
Wesfarmers	IAMA	160.27
Westpac	Challenge Bank	684.00
Argo	Bounty Investments	177.85
Toll	Patrick	6763.00
Stockland	Advance Property Fund	552.18
Westpac	Bank of Melbourne	1169.00
CBA	Colonial	9120.00
St. George	Advance Bank	2660.00
Tabcorp	Star City	902.33
Seven Network Ltd	Sunshine Broadcasting Network Ltd.	111.34
Goodman Hardie	Capcount Property	285.63
Healthscope	Gribbles	288.26
Metcash Ltd	Foodland (FAL) Ltd	1007.39
Australand	Walker	246.40
Evans Deakin	Clyde Industries	181.65
Wesfarmers	Howard Smith	2023.00
Sothorn Cross Broad.	Telecasters Australia	260.00
Sothorn Cross Broad.	Southern Star Group	94.67
Mirvac	J. Fielding	384.90
Burns Philp	Goodman Fielder	2000.00
CCA	Ardmona	523.50
Tabcorp	Jupiters	1102.60
Boral	Sagasco Holdings	819.80
Primary Health Care	H.C.N.	117.13
Multiplex	Ronin	1174.91
Tattersall (Tatts Grp.)	Unitab	2075.35
Healthscope	Nova Health Limited	72.85
Fosters	Southcorp	3200.00
Pacific Dunlop	Petersville Sleigh	404.97
AMP	GIO	1134.00
Ruralco	Roberts	130.68
Transurban Group	Hills Motorway	2002.23
ABC Learning Centres	Peppercorn Group	242.13
Mayne Symbion	Australian Hospital Care (AHC) Group	198.28
Mayne Symbion	Fauldings	2355.00
AWB	Landmark	703.00
Tabcorp	Tab	2137.70
Forrester Parker	Peter Kurts Property Ltd	121.94
Grand Hotel Group	Australian Tourism Group	128.36
GUD	Sunbeam	71.00

In the sample, one firm (Tabcorp) completed three acquisitions during the period of the study; two acquisitions were completed by Healthscope, Mayne Symbion (otherwise known as Mayne Nickless), Fosters, Wesfarmers, Southern Cross

Broadcasting and Westpac Bank. Twenty (20) of the acquisitions occurred from 1998 to 2001, 19 between 2003 and 2006, none in 2002, 6 between 1995 and 1997, and 1 each in 1993 and 1991. From Martynova and Renneboog's (2008) definition of

wave periods (when M&A activity is very intense), 28 of the acquisitions occurred during Wave 5 (1993–2001) and 19 in Wave 6, which started in 2003 and ended in 2008.

Other selection criteria for the sample were:

1. The consideration was a minimum of A\$50m.
2. Only Australian acquisitions were included.
3. Up to three years pre- and post-completion data were available.

The two largest acquisitions in the study were the Commonwealth Bank of Australia's purchase of Colonial Bank (A\$9,120m) and Toll's purchase of Patrick (A\$6,763m). If these two acquisitions are excluded from the study, the average consideration paid was A\$742m, the average net assets of the acquired firms were A\$359m and the average net assets of the acquirer prior to the acquisition were A\$1,653m. For these transactions, the acquiring firm was 4.6 times larger than the acquired firm at the time of the acquisition. This result is consistent with the findings of McDougal et al. (1986) but slightly larger than the average size of the sample by Bishop, Dodd, and Officer (1987) and slightly smaller than the average size of the sample by Bugeja and Walter (1995).

3.3. Event study methodology

The event study methodology is based on the work of Fama, Fisher, Jensen, and Roll (1969), who used a window of 30 months before and after the event described as "abnormal" movements in the share prices of the firm being examined compared with the general movement in the New York Stock Exchange at that time. This relatively simple adjustment for market movements is considered to be adequate when compared with more complex adjustments and is, therefore, often used in event studies (Dimson & Marsh, 1986; Binder, 1998).

The benchmark date, as the base for estimating returns, was the month of completion of the acquisition. Two of the dependent variables analysed in this study were the CAR during the period up to three years following completion (*CARB*) and the CAR during the four-year period from one year prior to completion to three years following completion (*CARA*).

The study has, as a focus, an examination of the outcome of the acquirer's acquisition during its period of ownership, namely when the acquired firm was being managed by the acquirer's managers. The market's view, during the period prior to completion, on potential anticipated effects arising from the acquisition may not be correct since factors such as experience, agency theory, and animal

spirits may not be taken adequately into account by the market during this period. This study assesses the actual returns following the acquisition.

3.4. Dependent and independent variables

Four dependent variables in this study were:

CARB: CAR to the acquirer for the three years following completion.

CARA: CAR to the acquirer for the three years following completion plus the year prior to completion.

TGTCAR: Target firm CAR at completion from six months prior to completion adjusted by ASX Accumulation Index.

CONSIDPERACQ2: Consideration paid by the acquirer as a percentage of the acquirer's net assets in the year prior to completion.

The dependent and independent variables included in the modelling are summarised in Table A.1 (Appendix).

3.5. Regression equations

The regression equations in this study took the following form:

$$INDEP = C + a_1DEP_1 + a_2DEP_2 + a_3DEP_3 + a_4DEP_4 + a_5DEP_5 \quad (1)$$

where, DEP_n are independent variables (numbered 1– n) which are significantly correlated at least at the 10% level to the independent variable $INDEP$; C is a constant.

In addition, simple correlations were conducted relating the dependent and independent variables to each other to observe if any collinearity was present. Tests were conducted for other variables, such as *CEOTENURE* in the equation, both in place of *JTENURE* and in addition to *JTENURE*. Binary analysis and discriminant analysis were also undertaken to provide additional verification of the results from the regression analyses. Such analysis may explain success or failure better than the numerical value of CAR.

4. RESULTS

The length of the period of joint tenure of the chairperson and CEO in acquiring firms was significantly positively correlated with the CAR to acquiring firm shareholders during the three years following completion of an acquisition (*CARB*).

Table 3. Regression equations for *CARA* and *CARB*

<i>CARA</i> =	5.637 (0.322)	+ 8.069JTENURE (5.320***)	- 0.398REMCHG (- 3.646***)	+ 0.659CARCCARGAVE (3.679***)	-13.198POR (-1.908*)
	+ 0.291EPS (3.142***)	- 15.189NATGTACQ (-2.115**)	+ 0.610CARTOTOD (2.230**)	R ² = 0.63 Adj. R ² = 0.56	
<i>CARB</i> =	5.637 (0.322)	+ 8.069JTENURE (5.320***)	- 0.398REMCHG (- 3.646***)	+ 0.659CARCCARGAVE (3.679***)	-13.198POR (-1.908*)
	+ 0.291EPS (3.142***)	- 15.189NATGTACQ (-2.115**)	+ 0.610CARTOTOD (2.230**)	R ² = 0.63 Adj. R ² = 0.56	

Note: * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

The correlation was most significant when the period of joint tenure was greater than six years.

Joint tenure was also significantly positively correlated with firms' performance during the period prior to acquisition (*CARD*); joint tenure was therefore positive for shareholder value across a three-year period both following an acquisition (*CARB*) and prior to acquisition (*CARD*). These outcomes are consistent with upper echelon theory (Hambrick & Mason, 1984) and the RBV theory (Barney, 1991).

This outcome can be examined in terms of the "seasons" of a CEO's tenure (Hambrick & Fukutomi, 1991). The outcome is important in light of the rate of senior staff turnover in acquired firms (Krug & Shill, 2008) and the adverse effect on firm performance. This reinforces the importance of joint tenure in the acquirer firm as a shareholder value enhancer in M&A and the development of the chairperson and CEO's working relationship (Kakabadse, Kakabadse, & Knyght, 2010).

4.1. Analysis of CARB acquirer profiles

Table 4 shows the analysis of *CARB* of the acquirer profiles. The 19 positive acquirers performed better during the three years prior to completion (*CARD*)

than the negative acquirers, with average returns of 15.14% and 6.89%, respectively. The negative acquirers performed better in the year prior to completion (*CARC*) than during the two years prior to that (*CARG*). This finding was reinforced with the independent variable *CARCCARGAVE*, which subtracted the average *CAR* for the acquirer during the third and second year prior to completion (*CARG Average*) from the cumulative abnormal return for the acquirer during the year before completion (*CARC*). For the positive acquirers, this outcome was 0.49 whilst for the negative acquirers it was 7.45. This result suggests a significant surge in performance for the negative acquirers during the year prior to completion, whereas the positive acquirers had on average a consistent performance during the entire three-year period prior to completion. This finding is consistent with the "animal spirits" hypothesis in that a relatively strong short-term performance improvement boosts confidence and leads to a poorly planned acquisition, which is subsequently value-destroying for the acquiring firm's shareholders.

Table 4. Analysis of *CARB* acquirer profiles

Variable	Positive <i>CARB</i> results	Negative <i>CARB</i> results
<i>CARB</i>	31.05	-37.80
<i>CARC</i>	5.48	7.00
<i>CARD</i>	15.14	6.89
<i>CARB1</i>	20.90	-13.40
Joint tenure	5.14	2.93
CEO tenure	7.74	4.52
Ner Assets, Tgt/Acq	0.70	0.60
Remun. Change (%)	+21.60	+40.40
Equity (1) Cash (0)	0.47	0.50
Dividend per share	34.00	29.80
EPS	53.20	29.02
Dividend payout (%)	63.91	102.7
Board directors	8.42	8.50
Executive directors	1.58	1.82
Target CAR	22.18	17.45
Media	292.20	308.90
<i>CARCCARGAVE</i>	0.49	7.45
P/E Ratio	16.04	13.49
Net assets acquirer	1660.60	1626.80
<i>CARG average</i>	4.99	-0.45

The positive abnormal returns earned by acquirers in the period prior to acquisition were consistent with earlier Australian studies (Dodd, 1976; McDougall et al., 1986; Walter, 1984) although not comparable with the findings of Bugeja and Walter (1995). The finding in this study on pre-acquisition performance by acquirers was consistent with most Australian studies.

During the first year after completing a significant divergence in performance emerged between the positive and negative acquirers, with the cumulative abnormal return during that first year (*CARB1*) being +20.9% for the positive acquirers and -13.4% for the negative acquirers.

The periods of chairman and CEO joint tenure were longer for the positive acquirers than the negative acquirers. The positive acquirers had joint tenure of 5.14 years, and the negative acquirers had 2.93 years. CEO tenure was 7.74 years for the positive acquirers and 4.52 years for the negative

acquirers. These findings suggest that experience in the business by the two leading directors was an important influence on M&A outcomes and consistent with the joint tenure hypothesis.

The average increase in remuneration for the CEO was greater (+40.4%) for the negative return acquirers than for the positive return acquirers (+21.6%). This is consistent with agency problems.

The dividend per share was relatively similar whether the acquirer was successful (34 cents) or unsuccessful (29.8 cents), but the dividend payout as a proportion of earnings per share (*EPS*) during the year of completion was much higher for the negative acquirers, at 102.7% of *EPS* than for the positive acquirers, at 63.9%. The earnings per share were greater for the positive acquirers (53.2 cents) than for the negative acquirers (29.02 cents).

4.2. Analysis of CARA positive and CARA negative acquirers

Table 5 shows the results for CARA (CAR to the acquirer for the three years following completion

plus the year prior to completion) of the key variables for positive CARA acquirers and negative CARA acquirers.

Table 5. Analysis of CARA acquirer profiles

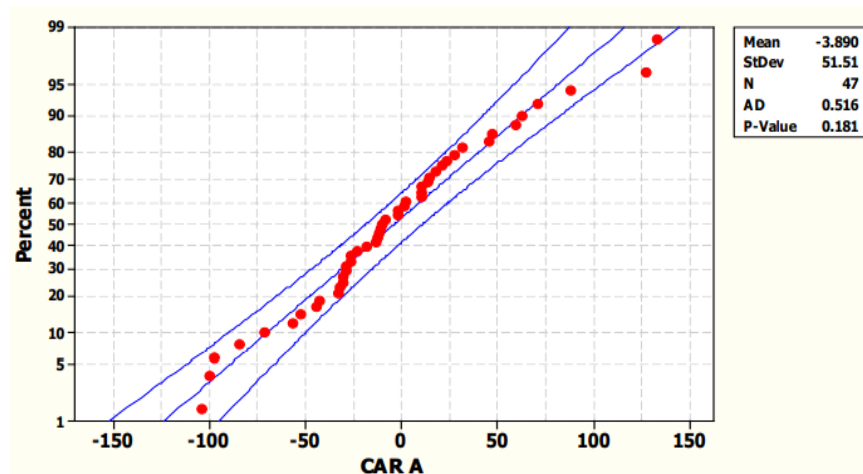
Variable	Positive CARA results	Negative CARA results
CARA	40.85	-37.03
CARB	27.25	-37.53
CARB1	17.70	-12.30
CARC	13.60	1.04
CARD	20.75	2.44
Joint tenure	5.49	2.59
CEO tenure	8.54	3.81
Remun. change (%)	+24.70	+38.80
Ner Assets, Tgt/Acq	0.66	0.59
Equity (1) Cash (0)	0.40	0.56
Dividend per share	36.40	27.90
EPS	55.20	26.60
Dividend Payout (%)	70.80	116.20
Board Directors	8.75	8.26
Executive directors	1.75	1.70
Target CAR	25.05	14.80
Media	327.30	283.50
CAR G Average	3.52	0.44
CARCCARGAVE	10.08	0.61
P/E Ratio	16.63	12.96
Net assets acquirer	1612.40	1661.20

There is a significant difference between the average CAR performance of the positive CARA acquirers (+40.85%) and the negative CARA acquirers (-37.03%) with the standard deviation being 51.51 and the median -10.33. Of note is the relatively low earnings per share (EPS) and consequential high dividend payout ratio for the CARA negative

performers (116.2) compared with the positive performers (70.80) in the year of the acquisition. EPS were significantly correlated at the 1% level with CARA and at the 5% level with CARB.

The probability plot for CARA is shown in Figure 1.

Figure 1. Probability plot of CARA



Probability plots evaluate the fit of a distribution to the data, estimate percentiles, and compare different sample distributions. They plot each value against the percentage of values in the sample that is less than or equal to it along a fitted distribution line, and they are thus a test of normality.

The results show that the greater the dividend payout ratio, the lower the CAR to the acquirer during the one year before plus three years (CARA) following completion, and the lower the return to shareholders during the three years (CARB) following completion alone.

4.3. Linear probability and discriminant analyses

In order to analyse the joint tenure period in more detail, linear probability and discriminant analyses were undertaken. To conduct the analyses, dummy variables are used in order that explanatory variables, such as different periods (n) of joint tenure (JTn) for a chairperson and CEO, can be constructed into a proxy to represent them in a regression equation (Kennedy, 2004, p248-250). This model may be written as:

$$Y = a_1J_1T_1 + a_2J_2T_2 + a_3J_3T_3 + \beta \quad (2)$$

In order to avoid perfect multicollinearity (where the intercept variable, a column of 1s, would equal the sum of the three dummy variables (Kennedy, 2004, p. 249), one of the dummy variables was omitted as follows:

$$Y = \lambda_0 + a_2J_2T_2 + a_3J_3T_3 + \beta \quad (3)$$

A test of linearity was conducted on a *CARB* regression equation with the following coding and

with each coding multiplied by the joint tenure, in years, for that acquisition. The purpose of this analysis was to examine the relevance of different periods of joint tenure on M&A outcomes, using *CARB* as the measure of the shareholder outcome. The periods selected were as follows:

1. *JTEN03JT*: Joint tenure for 0–3 years was 1, beyond 3 years it was 0.

2. *JTLIN3TO6JT*: Joint tenure for a period of 3.1 years to 6 years was 1, in other years it was 0.

3. *JTLIN6MOREJT*: Joint tenure for 6.1 years and longer was 1, in other years it was 0.

Table 6. The linear regression equation for different periods of joint tenure

Dependent variable: <i>CARB</i>						
Variable	Equation 1		Equation 2		Equation 3	
	Coeff.	t-Stat.	Coeff.	t-Stat.	Coeff.	t-Stat.
Constant	25.684	1.397	13.599	0.871	16.780	0.986
<i>JTEN03JT</i>	-10.052	-1.228				
<i>JTLIN3TO6JT</i>	3.102	1.259	5.155 **	2.156		
<i>JTLIN6MOREJT</i>	4.876 ***	4.025	5.818 ***	5.168	5.226 ***	4.825
<i>REMCHG</i>	-0.472 ***	-5.050	-0.452 ***	-4.928	-0.412 ***	-4.368
<i>NATGTACQ</i>	-14.063 *	-1.922	-14.700 *	-2.010	-10.417 *	-1.708
<i>POR</i>	-10.375 *	-1.801	-10.541 *	-1.81	-13.604 **	-2.121
<i>EPS</i>	0.219 **	2.402	0.216 **	2.320	0.145 *	1.739
<i>CARTOTOD</i>	0.861 ***	3.232	0.867 ***	3.600	0.913 ***	3.458
R-squared	0.569		0.544		0.502	
Adj. R-squared	0.478		0.463		0.427	
F-statistic	6.266		6.657		6.710	
Prob. (F-stat)	0.000		0.000		0.000	

Note: * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

To refine the analysis of the period of joint tenure which may be most significant in its correlation with *CARB*, the *JTEN03JT* variable (joint tenure of 0–3 years) was eliminated from the regression equation to produce equation (2) in Table 3. In equation (2), the variable for joint tenure for a period exceeding 6.1 years (*JTLIN6MOREJT*) was more significant at the 1% level than the variable for the joint tenure of 3.1 to 6 years (*JTLIN3TO6JT*). Therefore, in the final stage of this analysis, the *JTLIN3TO6JT* variable was eliminated from the regression equation producing equation (3) in Table 3. This elimination process was undertaken in order to refine the findings on the optimal period of joint tenure for maximising shareholder returns in M&A.

This analysis highlighted the significance of the period of joint tenure beyond 6 years (*JTLIN6MOREJT*) on the outcome of M&A activity. Chairpersons and CEOs who had been *in situ* for more than six years at the time of the acquisition were statistically likely to enhance shareholder returns when the firm undertook a merger or acquisition. In the analysis of *CARB* positive and *CARB* negative acquirers (Table 4), those acquirers who achieved a positive outcome for their shareholders (*CARB* positive) had an average period of joint tenure of 5.14 years, whilst those acquirers who lost shareholder value (negative *CARB*) had an average period of joint tenure of 2.93 years.

Table 7. *LINEARB* regression equation

Dependent variable: <i>LINEARB</i>		
Variable	Coeff.	t-Stat.
Constant	0.460	*
<i>JTENURE</i>	0.048	***
<i>REMCHG</i>	-0.004	***
<i>CARTOTOD</i>	0.011	**
<i>EPS</i>	0.003	**
<i>NATGTACQ</i>	-0.087	
<i>POR</i>	-0.074	
R-squared	0.361	
Adj. R-squared	0.265	
F-statistic	3.864	
Prob (F-stat)	0.005	

Note: * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

In this regression equation, *REMCHG* became the most significant independent variable (t-statistic -3.61), followed by *JTENURE* (3.32). This implies that agency problems may be a more important influence on M&A outcomes than joint tenure, although they were both significant at the 1% level.

Table 6 shows the result from eliminating the independent variables with less than 5% significance (*NATGTACQ* and *POR*).

These results show that, whilst all of the variables were significant at the 1% level, agency problems (as reflected in the change in CEO remuneration (*REMCHG*)) may be the most important factor as a driver of success or failure in M&A.

Table 8. LINEARB regression equation, excluding non-significant variables

Dependent variable: LINEARB			
Variable	Coeff.		t-Stat.
Constant	0.363	*	1.701
JTENURE	0.048	***	3.362
REMCHG	-0.005	***	-4.215
CARTOTOD	0.012	***	2.745
EPS	0.003	***	3.533
R-squared	0.336		
Adj. R-squared	0.272		
F-statistic	5.303		
Prob (F-stat)	0.002		

Note: * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

5. CONCLUSION

The joint tenure of the chairperson and CEO in an acquiring firm has not received any previous rigorous academic scrutiny as a factor that can have a material bearing on M&A outcomes to the benefit, or the risk, of a range of important stakeholders. This study finds that having the chairperson and CEO *in situ* together (joint tenure) for more than six years when an acquisition is completed will have a materially positive impact on the acquisition outcome for the acquirer.

We find that executive turnover is a significant mechanism through which firm and deal characteristics affect firms' post-acquisition performance.

The research demonstrates that firms with joint tenure of six years or more had very positive performance outcomes during the three years prior

to the acquisition and during the three years following the acquisition, which further supports the benefit of extended joint tenure for stakeholders.

The findings from this study and more recent studies such as Zhao (2022) and Bilgili et al. (2017) highlight the importance of tenure per se and collaborative tenures such as between a chair and a CEO.

Conducting the study in Australia has adversely affected the sample size. In the future, conducting the same study in the USA or the UK will overcome concerns regarding sample size. Future research can also explore outcomes from joint tenure and other related factors for the period following the global financial crisis in 2008 and the global pandemic.

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APPENDIX

Table A.1. Dependent and independent variables examined (Part 1)

Variable	Description
CARGAVE	The annual average cumulative abnormal return for the acquirer during the period three years prior and two years prior to completion. Examining the acquirers' performance two to three years prior to the acquisition.
CARCCARGAVE	Cumulative abnormal return for the acquirer in the year prior to completion minus the average cumulative abnormal return during years 2 and 3 prior to completion. This was a measure of animal spirits reflecting the extent to which cumulative abnormal returns during the year prior to completion are better or worse than the average CAR during the preceding two years. Economic conditions prevailing during the immediate (12-month) period prior to an acquisition may have a significant influence on some managers' judgement giving rise to excessive optimism. This concept of animal spirits is recognised in the economics literature (Keynes, 1936; Akerlof & Shiller, 2009).
CARTOTOD	Cumulative returns from the ASX Accumulation Index for the period up to three years prior to completion. This was one of several measures of ASX market performance used in the study to examine the effect of overall market performance on acquirer outcomes.
CARD Toto Average	Cumulative returns from the ASX Accumulation Index for the period up to three years prior to completion expressed as a per-year average across that three-year period. An annual measure of average overall ASX market performance.
CARC Toto	Cumulative returns from the ASX Accumulation Index for the period one year prior to completion. This was also one of several measures of ASX market performance used in the study to examine the effect of market influences on outcomes, this time during the year prior to the acquisition.
JTENURE	The period of joint tenure for chairman and CEO at the time of completion of acquiring firm. This was the period of time during which the chairman and CEO have been in their respective roles together. The source of this data was the annual report of the acquirer.
CEOTENURE	The period of tenure for the CEO at completion time for acquiring firm. The period of time that the acquiring firm's CEO has been in that role prior to the date of completion of the acquisition.
CONSIDERATION	Amount paid by the acquirer for the target firm, expressed in A\$ millions. This was the consideration paid by the acquirer for the acquired firm as stated in the acquirer's annual report.
MEDIA	Media exposure is measured using the Factiva database (on August 25th, 2010) with the sum of the chairman and CEO mentions in the media during the period one year prior to completion to the period one year after completion; all media sources used in the data collection are within the region Australia and New Zealand. This variable was used as a possible measure of hubris similar to Hayward and Hambrick (1997).
REMCHG	Change in acquiring firm CEO's remuneration in the year of completion compared with the prior year. The data for CEO remuneration was taken from the acquiring firm's annual reports. During the early years of the period of this study, directors' remuneration was often presented in the notes to the accounts and stated within a narrow band, for example, 1,400,001-1,410,000, in which case the mid-point of this band was taken as the CEO's remuneration for that period.
TGTCAR	Target firm cumulative abnormal return at completion from six months prior to completion adjusted by ASX Accumulation Index. This was a measure of the return to the acquired firm shareholders by examining the cumulative abnormal return during the six months up until completion. Six months was used across all acquired firms with the objective of starting the analysis prior to an acquisition being announced.
NATGTACQ	Net assets target divided by net assets yr-1 (for acquirer), as defined above. This was the comparative measure adopted for the size of the target as a proportion of the size of the acquirer in order to examine if the relative size was a significant factor in determining the outcome of an acquisition, particularly when compared with the size of the acquirer. Tuch and O'Sullivan (2007) cited studies that observe that relative size can have an influence on M&A outcomes; this study also seeks to identify any statistically significant correlation with M&A outcomes.
EPS	Earnings per share, in cents. The EPS was for the acquiring firm in the year of the acquisition completion.
CARB1	Cumulative abnormal return for the acquirer during the first year following completion. This study examined acquirer abnormal returns during each of the three years following the acquisition, as well as across the three periods following the acquisition, in order to identify any correlations or patterns in acquirer performance between successful and unsuccessful acquirers.

Table A.1. Dependent and independent variables examined (Part 2)

Variable	Description
CARB2	Cumulative abnormal return for the acquirer during the second year following completion.
CARB3	Cumulative abnormal return for the acquirer during the third year following completion.
CARC	Cumulative abnormal return for the acquirer during the year before completion for the acquirer. This variable may be a factor in examining animal spirits, as well as enabling a comparison to be made of the acquirer's performance, during the period prior to an acquisition, with previous M&A studies for consistency.
CARD	Cumulative abnormal returns for the period up to three years prior to completion for the acquirer.
Completion Date	Month and year of acquisition completion.
LINEARB	1-0 coding with 1 = Positive CARB and 0 = negative CARB outcome for the acquirer.
CONSIDPERACQ2	Consideration paid by acquirer as a percentage of the acquirer's net assets in the year prior to completion. This was a measure of the relative size of the acquisition for the acquirer, by relating the consideration paid to the acquiring firm's net assets. It gives an indication of the potential risk to the acquirer if the acquisition is unsuccessful.
CUMTGTPRCHG	Change in target firm share price during the six months up to completion. This was a measure of the change in the acquired firm's share price without an adjustment for market changes (i.e., the ASX Accumulation Index).
DIVISHARE	Dividend paid in cents per share. This was the dividend per share paid during the year of the acquisition completion by the acquirer.
POR	(Dividend payout ratio): Proportion of diluted earnings per share for the acquirer paid as dividend in the year of the acquisition (NB, after goodwill amortization). Agency theory (Jensen & Meckling, 1976) and free cash flow theory (Jensen, 1986) make reference to the role of dividend payout ratios as an influence in M&A activity.
NAACQ	Net assets Yr - 1, acquirer's net assets in financial year prior to completion. This was the measure used for the size of the acquirer.
BOARDDIRECT	Number of board directors at time of completion in acquiring firm; alternative directors are not included, nor is the company secretary. The role of board structure (including number of executive directors on a board and their percentage of the total board) has been cited in previous studies as an influence on business performance. This was one of the independent variables adopted in this study to examine board structure effects in M&A.
EQUICASH	Equity (1) versus cash (0), composition of consideration paid between equity (1) and cash (0) to target shareholders, with equity (cash) representing at least 50% of the consideration involved in the acquirer's offer. Method of payment is occasionally cited as influential on M&A outcomes (Tuch & O'Sullivan, 2007).
EXECDIRS	Number of executive directors on the board of the acquiring firm at the time of completion.
PERCENTEXECDIR	Percentage of the acquiring firm board who are executive directors.
PERATIO	Price earnings ratio. The share price of the acquirer at the end of the final month of the financial year in which the acquisition was completed, divided by earnings per share for that financial year.
CONSIDERNATGT	Amount paid by acquirer for target firm, expressed in A\$ millions. This was the consideration paid by the acquirer for the acquired firm as stated in the acquirer's annual report.

Table A.2. CARA regression equations

Dependent variable: CARA						
Variable	Equation for Period 1		Equation for Period 2		Equation for Period 3	
	Coeff.	t-Stat.	Coeff.	t-Stat.	Coeff.	t-Stat.
Constant	73.339	1.229	62.245	1.514	5.637	0.322
CARCCARGAVE	0.702 **	2.070	0.686 ***	3.115	0.659 ***	3.679
CEOTENURE	-0.150	-0.090				
CONSIDERATION	0.002	0.120	0.072	1.136		
CONSIDPERACQ2	0.069	0.649				
CUMTGTPRCHG	-5.125	-0.070				
DIVISHARE	-0.432	-0.586	-0.416	-0.891		
POR	-13.703	-0.836	-13.384	-1.636	-13.198 *	-1.908
EPS	0.573	1.038	0.564 ***	2.735	0.291 ***	3.142
EQUICASH	-10.124	-0.831	-8.579	-0.683		
EXECDIRS	20.416	1.222	18.881	1.417		
JTENURE	8.095 ***	3.582	8.054 ***	5.732	8.069 ***	5.320
MEDIA	-0.015	-0.455	-0.010	-0.592		
NAACQ	0.000	0.124				
NATGTACQ	-29.317 **	-2.116	-28.085 **	-2.249	-15.189 **	-2.115
REMCHG	-0.491 **	-2.651	-0.491 ***	-3.266	-0.398 ***	-3.646
TGTCAR	0.039	0.039				
CARTOTOD	0.582	1.398	0.623 *	1.972	0.61 **	2.23
PERCENTEXECDIR	-151.642	-1.003	-143.785	-1.221		
CONSIDERNATGT	-0.229	-0.353				
PERATIO	-0.316	-0.892	-0.323	-1.393		
BOARDDIRECT	-4.752	-0.714	-3.913	-0.889		
R-squared	0.679		0.676		0.629	
Adj. R-squared	0.409		0.519		0.562	
F-statistic	2.513		4.313		9.448	
Prob (F-stat)	0.015		0.000		0.000	

Note: * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

Table A.3. CARB regression equations

Dependent variable: CARB						
Variable	Equation for Period 1		Equation for Period 2		Equation for Period 3	
	Coeff.	t-Stat.	Coeff.	t-Stat.	Coeff.	t-Stat.
Constant	62.239	0.992	38.320	0.966	6.244	0.405
CARCCARGAVE	0.052	0.147				
CEOTENURE	-7.899	0.000				
CONSIDERATION	0.004	0.294				
CONSIDPERACQ2	0.032	0.307				
CUMTGTPRCHG	-8.861	-0.122				
DIVISHARE	-0.493	-0.658	-0.552	-1.316		
POR	-8.625	-0.512	-4.286	-0.778	-10.660 *	-1.837
EPS	0.458	0.860	0.531 ***	2.833	0.215 **	2.456
EQUCASH	-3.199	-0.275				
EXECDIRS	12.732	0.712	7.404	0.614		
JTENURE	6.31 ***	2.923	6.226 ***	5.297	5.803 ***	5.145
MEDIA	-0.011	-0.354				
NAACQ	0.001	-0.160				
NATGTACQ	-26.228 *	-1.768	-18.413 **	-2.500	-15.085 **	-2.173
REMCHG	-0.498 **	-2.679	-0.468 ***	-4.217	-0.426 ***	-4.630
TGTCAR	-0.026	-0.026				
CARTOTOD	0.908 **	2.177	0.904 ***	3.385	0.881 ***	3.551
PERCENTEXECDIR	-136.193	-0.824	-97.630	-0.878		
CONSIDERNATGT	-0.186	-0.315				
PERATIO	-0.109	-0.303				
BOARDDIRECT	-3.305	-0.488	-2.351	-0.571		
R-squared	0.559		0.541		0.506	
Adj. R-squared	0.188		0.413		0.431	
F-statistic	1.507		4.242		6.817	
Prob (F-stat)	0.163		0.001		0.000	

Note: * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

Table A.4. CARB regression equations for CEO tenure analysis

Dependent variable: CARB						
Variable	Equation for Period 1		Equation for Period 2		Equation for Period 3	
	Coeff.	t-Stat.	Coeff.	t-Stat.	Coeff.	t-Stat.
Constant	62.239	0.992	48.875	0.702	3.058	0.169
CARCCARGAVE	0.052	0.147	-0.190	-0.537		
CEOTENURE	-7.899	0.000	2.446	1.480	3.361 ***	2.827
CONSIDERATION	0.004	0.294	0.005	0.444		
CONSIDPERACQ2	0.032	0.307	-0.012	-0.104		
CUMTGTPRCHG	-8.861	-0.122	-38.835	-0.447		
DIVISHARE	-0.493	-0.658	0.065	0.088		
POR	-8.625	-0.512	-20.812	-1.349	-10.973 *	-1.711
EPS	0.458	0.860	0.151	0.300	0.183 *	1.770
EQUCASH	-3.199	-0.275	-15.032	-0.856		
EXECDIRS	12.732	0.712	11.671	0.515		
JTENURE	6.31 ***	2.923				
MEDIA	-0.011	-0.354	-0.034	-1.095		
NAACQ	0.001	-0.160	-0.002	-0.605		
NATGTACQ	-26.228 *	-1.768	-22.784	-1.165	-17.403 **	-2.085
REMCHG	-0.498 **	-2.679	-0.364 *	-1.688	-0.296 ***	-2.728
TGTCAR	-0.026	-0.026	0.555	0.466		
CARTOTOD	0.908 **	2.177	0.743	1.591	0.628 *	1.839
PERCENTEXECDIR	-136.193	-0.824	-58.566	-0.305		
CONSIDERNATGT	-0.186	-0.315	-0.388	-0.674		
PERATIO	-0.109	-0.303	-0.543 *	-1.705		
BOARDDIRECT	-3.305	-0.488	-0.290	-0.040		
R-squared	0.559		0.463		0.395	
Adj. R-squared	0.188		0.050		0.304	
F-statistic	1.507		1.120		4.353	
Prob (F-stat)	0.163		0.387		0.002	

Note: * Significant at 10%; ** Significant at 5%; *** Significant at 1%.