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The relationship between board independence and stock price performance

PREPARED BY

Alex Frino, Professor of Economics, University of Wollongong

Contents

Abstract

This study examines the relationship between the proportion of independent directors on boards and company performance based on Australian data. A literature review of published Australian scholarly research finds that, on balance, board independence improves company performance. Further, a sample of Australian stocks listed on the ASX is examined – specifically, a sample of the largest 200 stocks listed on the ASX between 2004 and 2012.

The results suggest that companies with balanced boards outperform all others in terms of market-adjusted stock price returns. In particular, those with boards which are comprised of between 30 to 60 percent of board members who are independent outperform all others, with the evidence strongest for companies in the 40 to 60 percent category.

Introduction

In 2002, the ASX created the Corporate Governance Advisory Council, an organisation comprised of members drawn from the Australian investment community and tasked with providing recommendations on corporate governance practices for Australian listed companies. In March 2003, the Council released its 'Principles of Good Corporate Governance and Best Practice Recommendations' and the ASX encouraged listed entities to adopt the recommendations. Recommendation 2.1 of that document stated "A majority of the board should be independent directors". The "commentary and guidance" section of that document recommended that

"Directors considered by the board to be independent should be identified as such in the corporate governance section of the annual report" [ASX, 2003, p. 19]. These pronouncements lead to an increase in independent board directors and also lead to the reporting of which directors are independent in the annual reports of companies. The adoption of these recommendations therefore provided systematically reported information which can be used to test the link between the degree of independence of boards and the performance of companies.

Theory

There are two broad schools of thought which prima facie provide contradictory predictions in relation to the impact of board composition on board decision making and company performance. Specifically, agency theory and stewardship theory [see Dalton et.al. (1998); Ramdani and Witteloostuijn; 2010]. The contradictory predictions of these two theories are illustrated in Figure 1 below. The first school of thought, based on agency theory, recognises that the executives of a company are agents of its shareholders and that imperfect goal congruence can result in decisions which may benefit the executives (agents) at the cost of shareholders (principals). The agency theory perspective identifies these as the costs of the agency relationship. Within this school of thought, directors who are independent of the executives of a company monitor and temper decision making so as to ensure decisions are made and companies are run in the bests interests of shareholders so that agency costs are minimised. The agency theory approach therefore can be used to predict that there is a positive relationship between independent board member representation and company performance. This is illustrated in Figure 1 by the unbroken line – as the proportion of independent directors on boards increases, so does company performance.

Stewardship theory assumes that executives act in the best interests of the company and are better placed to make corporate financial and investment decisions, as executives are better informed about the current and future prospects of the company because of their "closeness" to operations. Stewardship theory, therefore, can be used to predict that there is a negative relationship between independent board member representation and company performance. This is also illustrated in Figure 1 by the hatched line. This paper reports the results of some research which tests the relationship between the proportion of independent directors on boards and company performance, and therefore the predictions of agency theory versus stewardship theory perspectives.
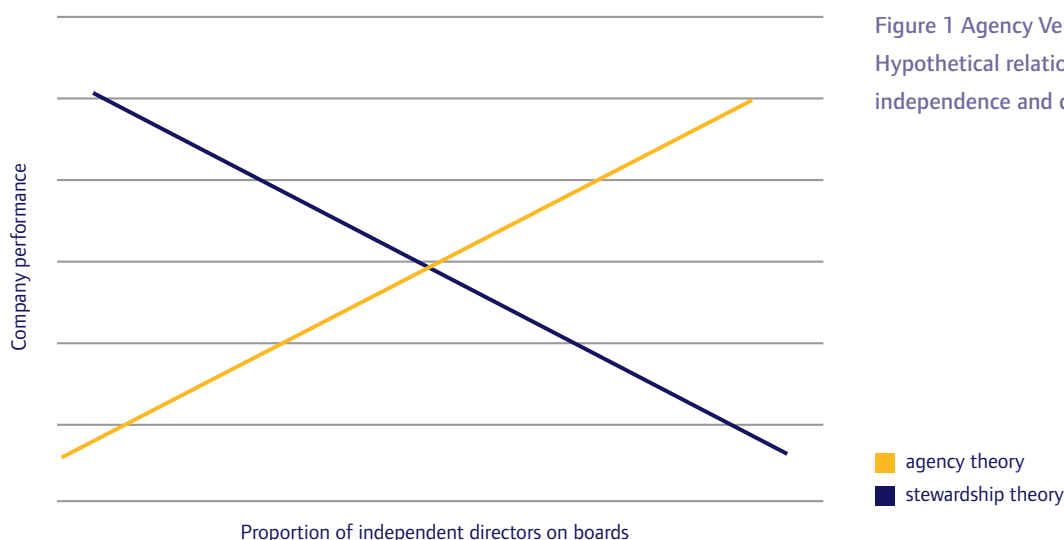

Figure 1 Agency Versus Stewardship Theory: Hypothetical relationship between board independence and company performance

Company performance

Proportion of independent directors on boards

■ agency theory
■ stewardship theory

Previous literature

There have been a large number of studies published in peer reviewed journals which examine the relationship between the proportion of outside or independent board members and company performance using samples of companies listed on the ASX. A number of studies have examined the relationship between board independence and return on assets (ROA) or return on equity (ROE) and found a positive relationship (e.g. Bonn (2004); Hutchinson and Gul, (2002)] while others cannot confirm a robust statistically significant relationship [e.g. Azim (2012); Christensen et.al (2010)][1].

Other studies have examined the relationship between board independence and Tobins Q or market-to-book ratios and provide some evidence of a positive and statistically significant relationship [e.g. Henry (2008)] or a negative and statistically significant relationship [e.g. Kiel and Nicholson (2003)] or otherwise cannot confirm the existence of any statistically significant relationship [e.g. Azim (2012); Bonn (2004); Matolcsy et.al. (2004); Pham, Suchard and Zein (2013); Christensen et.al (2010)][2]. While the balance of evidence suggests that board independence improves company performance, the findings of these papers are clearly mixed.

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[1] See appendix 1 for a summary of published studies examining the relationship between board independence and company performance using samples of Australian companies.

[2] In a recent unpublished series of working papers, Swan (March, 2014) and Swan and Forsberg (August 2014) and Swan (2016) merely add to the contradictory evidence provided in previous literature, and document a positive relationship between the proportion of "regular gray directors" (ie. the number of non-independent directors) and both Tobins Q and Market-to-book ratios using an OLS regression framework and largely similar datasets. Interestingly, the Swan (August 2014) paper documents a negative univariate relationship between the proportion of regular gray directors and both Tobins Q and Market to Book ratios – which the other two papers do not.

New evidence

In addition to examining the relationship between board independence and accounting-related variables such as ROA, ROE, Tobins Q and market-to-book ratios, the US literature has also iterated to examine the relationship between stock price returns and board composition.[3] Given that the returns earned by investors in the shares of companies is actually in the form of capital gains and dividends, then it would seem that this measure of performance is most directly related to the interests and objectives of shareholders.

Dahya and McConnell (2007) identify different types of studies which examine the relationship between board independence and stock price returns, specifically studies which examine (1) the immediate stock price reaction to the announcement of the appointment of independent board members ("event studies"), (2) the relationship between changes in board composition and stock price returns and (3) the cross-sectional relationship between board composition and stock price returns. In this study, the researches reported most closely resembles the latter.

200 of the largest stocks listed on the ASX are examined in this study. Since the corporate governance principles were released in March 2003 which included the requirement to report on the independence of directors, this study commences sampling data from 2004 through to the end date of data available as at the time of this study - 2012.[4] SIRCA's Corporate Governance Database is used to calculate the proportion of independent directors on boards – herein board independence.

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[3] See Bhaghat and Black (1999), Hermalin and Weisback (2003) provide reviews of the US literature and reach similar conclusions.
[4] Our dataset is broadly the same as Swan (March, 2014), as are our sample selection procedures, except we do not have the hand-collected data for periods prior to 2003.

Chart 1 below illustrates the pattern in the average proportion of independent board members for the sample examined in this study from 2004 to 2012, as well as for a similar sample examined in a previous study by Henry (2008). Chart 1 illustrates that there has been a continual and steady increase in the proportion of independent board members since 1992, which has also continued since the introduction of the Principles by the Corporate Governance Council.

After selecting the largest 200 companies for which data is available and calculating the proportion of independent board members, companies are ranked by this proportion and formed into 10 portfolios as follows – portfolio 1 contains companies with 0 to 10 percent of independent directors, portfolio 2 contains companies with 11 to 20 percent and so on through to those with 91 to 100 percent of independent directors which are assigned to portfolio 10. Given that there are 9 years of data and 10 portfolios for each year the total number of portfolio-year observations available are 90.

These observations are then used to estimate the parameters of the following model using OLS regression:
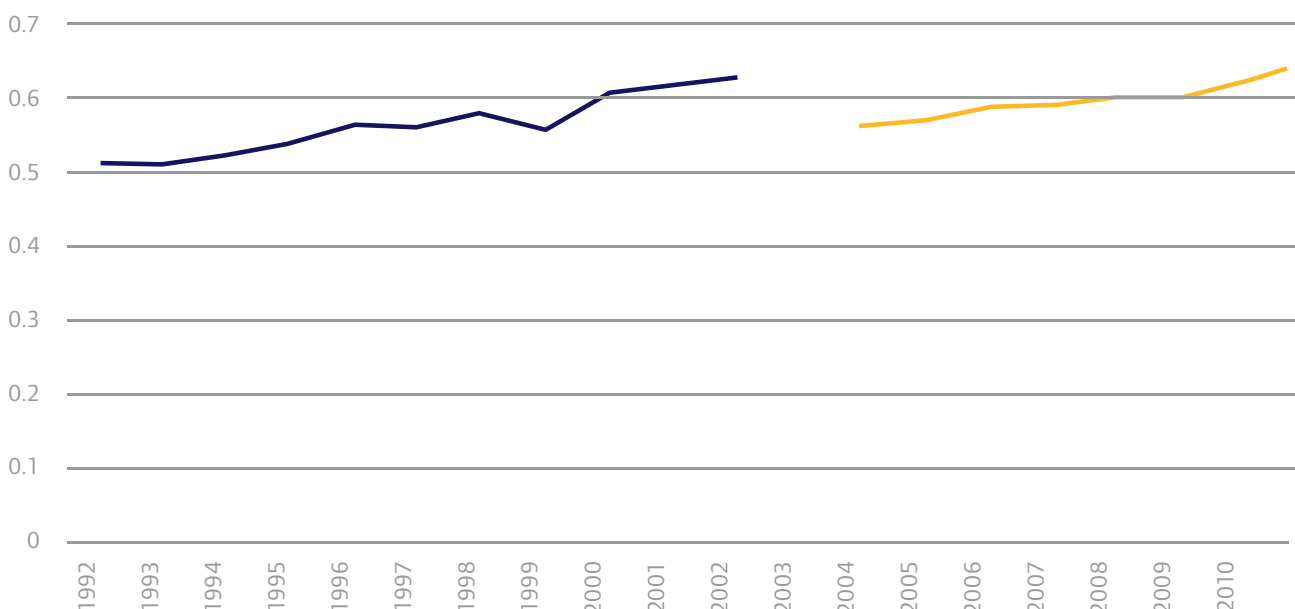
Equation (1)

$$Returns_p = a + \beta_n \sum_{n=1}^{9} D_p^n + \beta_t \sum_{t=2004}^{2011} D_p^t + \varepsilon_0$$

where $Returns_p$ represents the average monthly stock return for portfolio p. $D^n{}_p$ represents a dummy variable which takes on a value of 1 if observation p is drawn from board independence category n, otherwise 0. $D^t{}_p$ represents a dummy variable which takes on a value of 1 if observation p is drawn from year t, otherwise 0. Note that a dummy variable for portfolio 10 and 2012 are excluded, and therefore the performance of portfolio 10 and year 2012 are impounded in the dummy variable. The coefficients on β_n and β_t therefore test the incremental effect of the different portfolios and years relative to portfolio 10 and year 2012.

The model above produces estimates of the systematic relationship between the proportion of independent board members and stock price returns, after controlling for common stock price movements in each year (market returns).

Chart 1 The proportion of independent directors on boards from 1992 to 2012

■ Top 300 companies [Henry (2008)]
■ Top 200 companies [Henry (2008)]

The main findings from estimating equation (1) – the empirical relationship between company performance and the proportion of independent board members – is illustrated in Chart 2 below. The bars that are hatched in the chart represent portfolios whose average stock price returns are statistically significant or systematically greater than zero.

Chart 2 reports that the only three portfolios with systematically positive returns (after accounting for market movements) are the portfolios with stocks that have 31-40%, 41-50% and 51-60% of independent directors.

These results imply that portfolios comprised of companies with between 31 and 60 percent of the board comprised of independent directors outperform all others. The evidence is strongest for portfolios with 41-50% and 51-60% board independence levels both in terms of magnitude of returns, and the statistical significance of the returns. These results therefore imply (1) that there is a non-linear relationship between stock returns and board independence, and (2) stocks with "balanced" boards in terms of independent/ non-independent representation are likely to outperform all others.

Chart 2 The adjusted average stock market returns on the largest 200 stocks listed on the ASX from 2004 to 2012 for portfolios formed on the proportion of independent board members[5]

Monthly stock price returns (adjusted for annual market return)
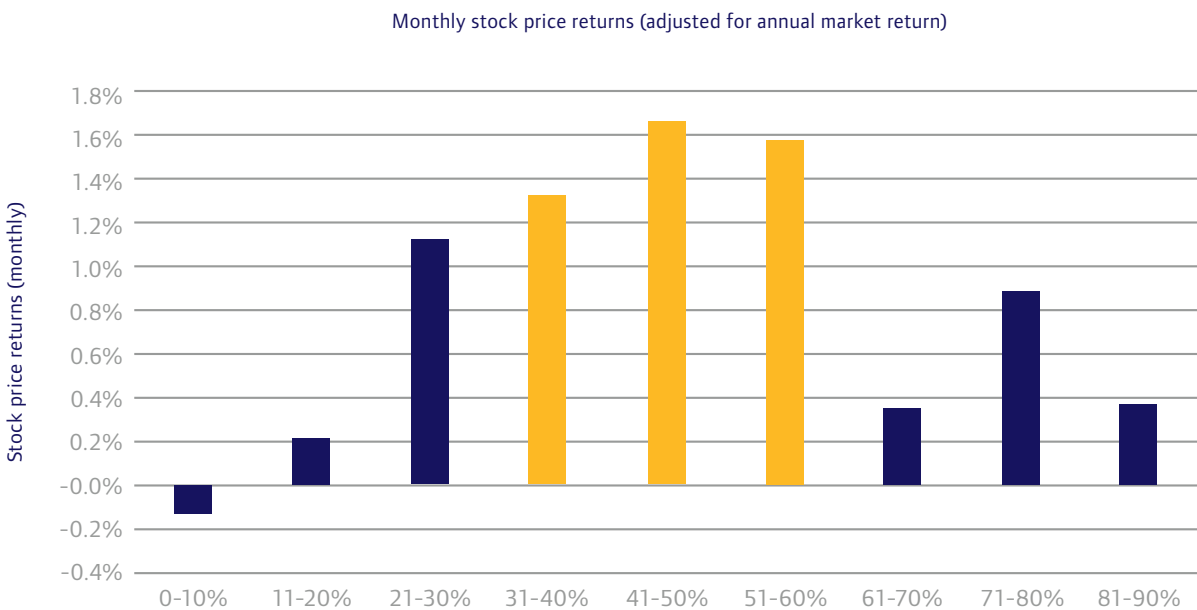
Statistically significant results shown in yellow

[5] The table above appears to omit the portfolio performance of companies with between 90 to 100 percent category. This is an outcome of the econometric method used to estimate the outperformance of different groups. In actual fact, the econometric approach compares the performance of each group to the performance of companies in the 91 to 100 percent category. The precise interpretation of the results presented in the chart is that companies with 31 to 60 percent of independent board members outperform those in the 91 to 100 percent category, while those in the remaining categories are statistically indistinguishable from those in the 91 to 100 percent category. This is the same as my conclusion that companies with 31 to 60 percent of board members outperform all others.

Conclusions

The previous published literature examining the relationship between board independence and company performance in Australia has produced conflicting results. This literature measured company performance based on return on assets, return on equity, Tobins Q and market-to-book ratios. In this paper, the relationship between board composition and company performance is re-examined using stock price performance – a measure more closely aligned with shareholder interests. The relationship between the degree of board independence and stock returns is examined through forming portfolios comprised of low through to high levels of board independence, and then comparing the performance of portfolios. The results of this research confirm that representation by independent directors can improve company performance measured in terms of stock returns. Furthermore, companies which have "balanced" boards outperform those with little or no independent directors or those with little or no non-independent directors.

The results therefore suggest that there is a curvilinear relationship between board independence and company performance such that as the degree of board independence increases from zero, company performance increases, but beyond a certain point it begins to decline. Hence, the results are both consistent with the agency theory perspective and the stewardship perspective in the sense that they suggest that board independence can improve company performance by reducing agency costs. However, the results are also consistent with the stewardship perspective, in that they suggest it is important to have representation on boards from executives who have better information on the current performance and therefore future prospects of the company.

This study suffers from a number of limitations, and therefore a number of possible areas for future research flow from this study. First, the ASX Corporate Governance Principles identify a number of factors relevant to assessing whether a board director is independent. These include whether board members hold substantial portions of securities or the tenure of directors. Previous research has suggested that both of these factors may influence the market value of a firm [eg. Huang (2013) and Thomsen et.al. (2006)]. Hence, a possible future area for research is to examine the factor behind the lack of board member independence and examining which factors are more closely related to stock performance. For example, examining whether companies with board members who hold a substantial portion of stock outperform or underperform others. Second, industry knowledge or expertise and independence are not necessarily mutually exclusive. Future research can examine whether companies with independent board directors who have expertise or industry knowledge in the same sector as a company outperform others.

References

Azim, M.I., 2012. Corporate governance mechanisms and their impact on company performance: A structural equation model analysis. *Australian journal of management*, 37(3), pp.481-505.

Bhagat, S. and Black, B., 1999. The uncertain relationship between board composition and firm performance. *The Business Lawyer*, pp.921-963.

Bonn, I., 2004. Board structure and firm performance: Evidence from Australia. *Journal of Management & Organization*, 10(01), pp.14-24.

Christensen, J., Kent, P. and Stewart, J., 2010. Corporate governance and company performance in Australia. *Australian Accounting Review,* 20(4), pp.372-386.

Dahya, J. and McConnell, J.J., 2007. Board composition, corporate performance, and the Cadbury committee recommendation. *Journal of Financial and Quantitative Analysis*, 42(03), pp.535-564.

Dalton, D.R., Daily, C.M., Ellstrand, A.E. and Johnson, J.L., 1998. Meta-analytic reviews of board composition, leadership structure, and financial performance. *Strategic Management Journal*, 19(3), pp.269-290.

Henry, D., 2008. Corporate governance structure and the valuation of Australian firms: Is there value in ticking the boxes? *Journal of Business Finance & Accounting,* 35(7-8), pp.912-942.

Hermalin, B.E. and Weisbach, M.S., 2003. Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature (Digest Summary). *Economic Policy Review, 9*(17-26).

Hutchinson, M. and Gul, F.A., 2002. Investment opportunities and leverage: some Australian evidence on the role of board monitoring and director equity ownership. *Managerial finance,* 28(3), pp.19-36.

Kiel, G.C. and Nicholson, G.J., 2003. Board composition and corporate performance: How the Australian experience informs contrasting theories of corporate governance. *Corporate Governance: An International Review*, 11(3), pp.189-205.

Lawrence, J.J. and Stapledon, G.P., 1999. Is board composition important? *A study of listed Australian companies. A Study of Listed Australian Companies (September 1999).*

Matolcsy, Z., Stokes, D. and Wright, A., 2004. Do independent directors add value?. *Australian Accounting Review, 14*(32), pp.33-40.

Pham, P.K., Suchard, J.A. and Zein, J., 2011. Corporate Governance and Alternative Performance Measures: Evidence from Australian firms. *Australian Journal of Management, 36*(3), pp.371-386.

Pham, P.K., Suchard, J.A. and Zein, J., 2013. Corporate governance, cost of capital and performance: Evidence from Australian firms. *Australian School of Business Research Paper*.

ASX, 2003, *"Principles of Good Corporate Governance and Best Practice Recommendations"*.

Ramdani, D. and Witteloostuijn, A.V., 2010. The impact of board independence and CEO duality on firm performance: A quantile regression analysis for Indonesia, Malaysia, South Korea and Thailand. *British Journal of Management, 21*(3), pp.607-627.

Swan, P.L. (March 2014). Does board" independence" destroy corporate value?, Working Paper, Australian School of Business, University of NSW.

Swan, Peter L., 2016, The Complementary Roles of Board Incentives and Market Monitoring: Theory and Evidence (February 2016) Working Paper, Australian School of Business, University of NSW.

Swan, P.L. and Forsberg, D., (August 2014). Does board" independence" destroy corporate value?, Working Paper, Australian School of Business, University of NSW.

Appendix 1

Published studies which have examined the relationship between board composition and company performance in Australia

Study	Sample	t statistic (+ or − relationship)	degrees of freedom
Panel A: Tobins Q			
Kiel & Nicholson (2003)	348 stocks, 1996	-2.3	344
Henry (2008)	116 stocks, 1992 - 2002	+2.0	1,108
Christensen, Kent and Stewart (2010) [3]	All stocks, 2004	+0.5	890
Pham, Suchard and Zein (2011);			
Pham, Suchard & Zein (2013)	150 stocks, 1994 - 2003	+ 0.7	851
Panel B: Market-to-book ratio			
Bonn (2004)	84 stocks, 2003	-0.5	78
Matolcsy et.al. (2004)[1]	306 stocks, 2001	-1.2	298
Azim (2012)	500 stocks, 2004-2006	+1.1	1,391
Panel C: ROE			
Hutchinson (2002) [2]	437 stocks, 1998	+1.1	221
Hutchinson & Gul (2002) [2]	437 stocks, 1998-1999	+2.1	298
Bonn (2004)	84 stocks, 2003	+2.3	78
Azim (2012)	500 stocks, 2004-2006	-0.8	1,391
Panel D: ROA			
Christensen, Kent and Stewart (2010) [3]	All stocks, 2004	-0.9	890
Azim (2012)	500 stocks, 2004-2006	-1.2	1,391

[1] The market value of equity was a dependent variable and book value of equity as an independent control variable.
[2] Independent variable was the ratio of non executive to executive directors.
[3] This is the result for their industry-adjusted performance measures (e.g. Tobins Q less sector median).

About the author

Professor Alex Frino is a distinguished economist who fosters the interaction of business with academe. He is an alumnus of University Of Wollongong (UOW) and Cambridge University, and is also a former Fulbright Scholar. He is one of the best published finance academics in the world with over 100 papers in leading scholarly journals. He has won over $10 million in national competitive research funding and is frequently cited by the major mainstream global press. He was previously Chief Executive Officer of the Capital Markets Cooperative Research Centre Limited – a $100 million research installation funded by the Australian Federal Government and partnering with 20 major global financial corporations.

He has held visiting academic positions at leading Universities in Italy, New Zealand, the UK and the United States. He has also held positions with leading financial market organisations including the Sydney Futures Exchange, Credit Suisse and the Commodity Futures Trading Commission in the USA. He is regularly called upon to act as an independent expert witness in major Australian court cases and has acted as a consultant to many large Australian listed companies. Professor Frino is Professor of Economics, Sydney Business School and Deputy Vice Chancellor (Global Strategy) at UOW.

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