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PRIMARY RESEARCH

The market impact of the appointment of female directors in listed companies in New Zealand

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Abstract

This study examines investor reaction to the appointment of female directors in New Zealand-listed companies. Using the event study method, we find that female directors tend to be appointed as independent directors rather than in a Chief Executive Officer (CEO) role. The results reveal that female board appointments are generally negatively associated with stock performance. This study captures both the gender diversity arising in New Zealand companies and the performance of stock price resulting from the reaction of investors to the different positions of female directors. The evidence of a decrease in market performance is shown by the negative cumulative average abnormal returns (CAARs) from the announcements of women appointees to the board.

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INTRODUCTION

Gender diversity within a corporate board and the firm's market performance has been of increasing interest in academic and business circles. The contribution of women directors to firm value has been widely studied in the existing literature across various countries (Anggadwita & Dhewanto, 2016; Bilimoria, 2000; Burke, 2000; Boulouta, 2013; Carter, Simkins, & Simpson, 2003; Dunn, 2012; Huse, 2008; Kabongo, Chang, & Li, 2013; Kang, Ding, & Charoenwong, 2010; Mathisen, Ogaard, & Marnburg, 2013; Virtanen, 2012). The growing interest about women directorship has resulted in an increasing number of women directors on corporate boards (Branson, 2011; Catalyst, 2004; Farrell & Hersch, 2005; Salam, 2016). In Canada, the percentage increased by 4.2% from 2003 to 2005 (Catalyst, 2004). Female directors on boards in France increased from 12.3% in 2010 to 22.3% in 2012 (Kabongo et al., 2013). Moreover, legitimacy encourages and results in recruitment for directorship from women. (Branson, 2011; Dunn, 2012; Kabongo et al., 2013). Norway and France have gender quota legislation and many other European countries followed suit (Kabongo et al., 2013). In addition, different

perspectives of women directorship influences have also been studied (Boulouta, 2013; Mathisen et al., 2013; Virtanen, 2012). For instance, a recent study analyzed the personal characteristics, careers and boardroom roles of gender to investigate the effect in Finnish business by Virtanen (2012) and Boulouta (2013) found Board Gender Diversity (BGD) had significant effect on Corporate Social Performance (CSP) based on 126 samples of S&P 500 firms.

In New Zealand, the percentage of women on corporate boards has increased over a 10-year period from 8.65% in 2008 to 22.17% in 2017 (McGregor & Davis-Tana, 2017). The objective of this paper is to examine whether this dramatic increase in the appointment of women directors on the boards of firms listed on the New Zealand Exchange (NZX) adds to their firm value. Collective works have shown the necessity of appointing female directors by the results of positive relationship between appointments and the firm value (Boulouta, 2013; Catalyst, 2004; Kabongo et al., 2013; Nisser & Ayedh, 2017). However, academicians tend to focus their studies on countries with strong economic power such as the U.S.A., Australia, South Africa and those in Western Europe; few of them focus on countries of less economic

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power. Within New Zealand, there is hardly any work on the relationship of gender diversity and corporate market performance. This paper fills the gap and makes a number of contributions to the existing literature. First, it enriches the empirical evidence on the valuation of appointing female directors. by providing findings for smaller countries. Second, it echoes the increasing cries for appointing female leadership in view of the under-representation of female board directors. For example, a search of Factiva, a global magazine and news source, finds 28 articles in New Zealand news that are related to female directorships from 2009 to 2013, while only 10 announcements of female appointments are found from 2000 to 2005.

The under-representation of women directorships has been widely acknowledged. The results of this study shows whether increasing the number of women directors is economically viable for New Zealand. The positive or negative financial reactions of appointing female directors determine whether greater female representation on the board adds or reduces market value of the firms involved.

The existing literature suggests that greater participation of women directors in firms optimizes the gender structure of corporates and therefore maximizes the firms' value. The anecdotal evidence of companies with more women on their board outperform those with fewer or no women directors is the motivation for appointing women directors. In this paper, a standard event study method is used.

The remainder of this study is structured as follows. Section 2 reviews the existing literature and develops our research hypotheses. Section 3 discusses the data and methodology of our research. In section 4, the empirical results and implications are discussed. Section 5 provides our concluding remarks.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Arguments for greater female representation on the board can be split into two categories: ethical and economic (Altantsetseg, Chen, & Chang, 2017; Campbell & Vera, 2010; Sun, Liu, & Lan, 2011). The former indicates that it is immoral for females to be excluded from corporate boardrooms due to their gender and that firms should increase the proportion of females in order to achieve a more equitable outcome for society due to the under-representation of female directors (Campbell & Mínguez-Vera, 2008). Brammer, Millington, and Pavelin (2007) argued that firms should regard greater female representation not as a means to an end but as a desirable end itself. The economic arguments are based on the compo-

sition of women directors which, hopefully, will enhance the financial performance of the firms. For example, the report from Catalyst (2004), a research group focused on female advancement in leadership, finds that Fortune 500 firms with more women directors outperformed those with fewer women on the boardroom. An event study of listed firms in Spain shows a similar result. Having female directors on board has a positive and significant effect on long term firm value, while controlling for the other possible determinants of firm value (Campbell & Mínguez-Vera, 2008). Similarly, Kang et al. (2010) find that investors generally respond positively to the appointment of women directors in Singapore, in particularly, to be more receptive to independent female directors. Finally, the Microfinance Institution (MFI), an institution providing financial service to poor families and small business of developing countries, shows that a female CEO induces a higher financial performance in MFI (Strom, D'Espallier, & Mersland, 2014).

The underlying motive of greater gender diversity in the board of directors is to elevate firms' competitive advantage. According to the existing literature, the influence of the appointment of female directors on corporate boards can be categorized as external and internal. The external influence maintains a positive image with shareholders for the firms. The presence of female directors on board offers legitimacy within the industry by displaying gender diversity on board. It presents a positive image by impressing shareholders and members of public who are concerned with issue of gender diversity and advance firms' reputation (Bilimoria, 2006; Catalyst, 2004; Zahra & Pearce, 1989). Bilimoria (2006) finds institutional legitimacy that firms seek relates to board diversity. This is due to large institutional investors tending to believe that board diversity creates positive benefits to firm value. On the other hand, a survey made by Burke (1997) indicated that chief executives believe that having female directors on board brings positive prospects for their own career.

The internal influence of gender diversity on firm performance is through the role of governance. Gender diversity brings creativity, innovation and resources to the board (Campbell & Mínguez-Vera, 2008; Huse, 2008; Virtanen, 2012; Wasike, 2017). Several studies link firm innovation to board diversity. For example, Torchia, Calabrò, and Huse (2011) notes that board structure influences corporate innovation by allocating resources and providing ideas. In the process of firm management, gender diversity provides innovations by different individual perspectives. It is argued that board of directors is regarded as a necessary element for supporting innovation activities (Zahra & Stan-

ton, 1988). Indeed, the studies that address the aspects that gender diversity has impact on corporate management. “Groupthink” can be avoided as to reduce the failure led by the complacency (Branson, 2011). For example, Bertrand and Schoar (2003) suggest that female directors and managers create a new management style, which can therefore increase the firm governance and performance. In addition, Virtanen (2012) and Huse (2008) argue that women directors on boards appear active and credible in the way they address board work; they differ from male members on the board and thus contribute various ways to the variety for governance tasks. Indeed, women behave more courteously and sensitively than men (Virtanen, 2012).

Moving into greater detail, gender diversity enhances the efficiency of board decision-making when diverse issues arise (Adebayo & Bilquis, 2018; Finkelstein & Mooney, 2003; Huse, 2008; Shrader, Blackburn, & Iles, 1997; Virtanen, 2012). Shrader et al. (1997) notes that the rubber-stamping questions can be solved with better efficiency due to the questioning culture presented by women directors. Indeed, women tend to have stronger feelings about their underlying value, leading to a stronger willingness to raise their voice when encountering conflicting views (Virtanen, 2012). The critical questioning, advising, and consulting attitude held by female directors assist the firms’ problem-solving and governance (Leblanc & Gillies, 2005).

Conversely, by taking a broader view, the participation of female members on the board promotes better understanding of the complexity of business environment and for better matching of potential customers (Campbell & Vera, 2010; Strom et al., 2014). With better matching between the leadership team and market conditions, firms can increase their ability to penetrate markets (Campbell & Vera, 2010). As consumers, women are more active and are more comfortable in communicating the views on behalf of consumers to the boardroom for discussion (Dunn, 2012). On the other hand, appointing women directors can reduce risk when making decisions since women are more sensitive and conservative to risk-taking than men (Branson, 2011; Jianakoplos & Bernasek, 1998). Hence, increasing women directors in corporate boards has been shown to enhance market share and less risky strategic financial decisions.

Many studies on gender diversity have identified that different resources and external linkages outside the organization brought in by female directors contribute positively to corporation performance (Brown, Brown, & Anastasopoulos, 2002; Branson, 2011; Hillman, Cannella Jr, & Harris, 2002). The knowledge, experience, expertise, individual reputations and relationships to other networks and orga-

nizations can be regard as human capital, which may enhance the likelihood of firms’ success (Hillman et al., 2002). For example, a study by Dunn (2012) on the appointment of female directors to single male boards in Canadian firms indicates that women generally are highly skilled with supporting expertise in the fields of finance and the law. There is evidence provided by Shrader et al. (1997) that women appear to be more oriented toward supporting and maintaining relationships than men. As such, the characteristics of female directors, including high education, specialized skills, experiences, social interaction, and external relationships can impact their firms positively.

However, there are arguments that the appointment of women directors is merely a token and a display to commitment of gender-neutral policies rather than an actual and practical factor of adding value to firms (Elstad & Ladegard, 2012; Kanter, 1997; Torchia et al., 2011). The tokenism theory proposed by Kanter (1997) notes those female directors as a minority group exerts less influence than the dominant group of male directors on the board. Females, as a group, are subject to discrimination and thus barriers are formed, ending up with less power to affect board decisions. He theorizes that, when female directors exceed the “token” limit of 15%, the barriers will be removed. A study by Elstad and Ladegard (2012) indicates that the women ratio is increasing substantially in the workforce by a 40% women ratio among Norwegian corporations. However, the relevance between the proportion of women and firm performance remains a question to be explored. Furthermore, several studies have discussed the problems of female involvement. They argue that the proportion of women on corporate boards and the company’s industry affect the performance of women directors (Carter et al., 2003; Konrad, Kramer, & Erkut, 2008). Konrad et al. (2008) finds that a critical mass is vital for measuring the influence of women directors. For instance, firms with three or more women directors tend to benefit most from their contribution.

As more women join the corporate board, the female directors are able to raise issues more freely and to be heard by their male colleagues on the board. In addition, a study of UK firms indicates that the majority of female directors are involved in the sector of retailing, banking, the media, and utilities while sectors like resources, engineering, and business service have less participation of women directors (Brammer et al., 2007). This implies that firms perform better when the leadership has similar traits (such as gender) as their clients. According to the study of the Micro-finance Institution (MFI), Strom et al. (2014) suggest that firms should match the proportion of female clients with

that of female directorships. Moreover, the existence of female stereotypes in career choice is evident. For instance, as summarized by Kang et al. (2010), in the industry which is widely accepted as female-typed such as nursing and administration, female workers are selected (Blau & Ferber, 1985; Freieze, Parsons, Johnson, Ruble, & Zellman, 1978).

What concerns investors is the relation between firm performance and the appointment of female directors, which will directly affect their response when the announcement of the appointment of female directors is made. As the motives of female board appointments have been addressed above, including the benefits related to firm governance and relevant advantages to corporation management, we propose the following two hypotheses:

H1: Listed firms experience non-positive abnormal returns on their announcement of the appointment of female directors.

Although there is empirical evidence to the positive abnormal return, many studies present conflicting evidence (Shrader et al., 1997; Virtanen, 2012). For example, Shrader et al. (1997) find among large firms in the U.S.A., the association between women directors and financial performance is negative without great significance. Furthermore, a study of Danish firms finds there is no significant association of Tobin's Q and female directors (Shrader et al., 1997). Similarly, a study of listed companies in Finland conducted by Virtanen (2012) reveals that there is hardly any difference a between having women and men directors on the boards. Female and male directors share remarkable similarities: being critical and changeable to board issues. Hence, there is no large difference from the market response to gender diversity.

H2: Listed firms experience positive abnormal returns on their announcement of the appointment of female directors. A large proportion of research has reported positive gains due to the benefits of gender diversity (Boulouta, 2013; Carter et al., 2003; Campbell & Mínguez-Vera, 2008; Kang et al., 2010; Strom et al., 2014). In terms of the Spanish market, Campbell and Mínguez-Vera (2008) document a positive effect on firm value from the announcements of female director appointments using panel data analysis. Thus, economic gains may be generated by increasing female board memberships. This result is robust to different event study approaches and varying time periods. They find that the stock market reacts positively in both the short term and over a sustained period (Campbell & Vera, 2010). Similarly, in U.S. market, generally, board gender diversity has a positive impact on overall corporate social performance using panel data analysis and instrumental variable (IV) method

(Boulouta, 2013). Kang et al. (2010) find a similar result using the event study method for the Singapore stock market. Moreover, institutions such as the MIF find that female CEOs are positively related with firms' contrasting governance and financial performance (Strom et al., 2014).

There are various positions to which a female director could be appointed: a CEO, chairman, a non-CEO executive director or an outside director of a company. Inside positions such as CEO include the most senior corporate executive or administrator in charge of managing an organization, either an individual or an agency can be appointed (MacKenzie, 2006). In this paper, CEOs are individuals rather than agencies. In the U.S.A., many CEOs are also appointed as Chairmen of the firms at the same time. This is referred to as CEO-Chair duality. In countries like Japan and the U.K., Chairmen are non-executives of the firms; they are largely responsible for supervising managers and maintaining relations among government, society, and business circles (Menz, 2012). CEO-Chair duality is often used to measure governance mechanisms since firms are more likely to combine the functions of CEO and chair (Strom et al., 2014). However, the power concentration of CEO-chair is criticized by governance recommendations for its lack of supervision for the firms. It has been found that CEO-chair duality is negatively related with firm performance (Farrell & Hersch, 2005; Strom et al., 2014). A possible explanation for this result is that less business is conducted when the decision-making time is prolonged (Strom et al., 2014).

Outside directors are non-executive directors who have an independent role on the board or providing advice and counseling to executive directors, they are independent or have business interests beyond those of a director (Bezemer, Maassen, Van den Bosch, & Volberda, 2007; Kang et al., 2010). A recent paper by Strom et al. (2014) supports the notion that that female CEOs are positively related to firms' financial performance, which is similar to the findings of Shrader et al. (1997). However, these studies do not address the specific relation between CEO and non-CEO directors, particularly the non-executive directors. Findings by Kang et al. (2010) indicate that investors tend to be more receptive towards female directors than female CEOs in the Singaporean market as the Average Abnormal Returns (AAR) dropped by 1.3% on the announcement date while there is an increase of 1.5% in the AAR for firms if non-CEO female directors are appointed. An oft-cited article by Kanter (1997) attributes this phenomenon to women directors' tendency to experience gender stereotypes in top roles on the board since female CEOs are still rare among firms and investors. This leads us to the following hypotheses.

H3: The market reacts more positively to the appointments of non-CEO female directors to the board than CEO/chair appointments.

H4: The market reacts more positively to the appointments of female CEOs to the board than non-CEO appointments. The conflicting empirical results generated by different researchers can be explained in a number of ways. Firstly, the difference in methodology in research may generate different empirical evidence. For example, event studies, cross-sectional and panel data analysis, and natural experiment setting are approaches that are distinct from each other, and may yield conflicting results. Secondly, the studies on different countries over a different time period can show diverse results. Due to differences in the financial environment and discrepancies of the legal environment, stock market responses to gender diversity may vary from country to country. Moreover, the economic state differs from time to time, thus different time periods may have large impact on the results.

DATA AND METHODOLOGY

Sample Collection

The data on the announcements on women directorship are collected from the New Zealand Stock Exchange (NZX) company search. For each NZX-listed company, the date of each director's appointment is accessible from the company's annual reports together with the firm's governance information, which are available on the NZX website.

By searching the keyword "director appointment" and choosing the category of directorship change from January 1, 2009 to December 4, 2013, 1109 appointments are retrieved from a list of 208 listed firms in New Zealand. The following selection criteria are used. First, there must be at least one announcement of a woman director appointment in each year. Then, to distinguish the gender of the appointed directors, the gender of the director is verified from the corporation's annual report and Factiva to ensure that only appointments of women directors are collected. Thus, announcements with only men appointed and announcements with more than one gender are excluded. Of all the firms, 58 announcements from 42 companies meet this criterion. Third, the company's ticker code is verified using Ya-

hoo Finance to select only companies that are listed solely on the New Zealand market and not cross-listed elsewhere. This step eliminates 3 companies, so we are left with 39 companies with 52 announcements.

When selecting the announcement date, only the earliest announcement is chosen. It should be noted that if the announcement was made after the trading hours, the next day would be regarded as the announcement date ($t = 0$). This guides us in the selection of suitable stock price. In order to estimate the parameters in the financial event study, there must be at least 150 trading days prior to the announcement date in order to generate the parameters of the event study regressions.

When analysing the data of the 52 announcements of the appointment of female directors by the 39 firms in the event period, we list the number of female directors on a year-by-year basis (Table 1). We observe that the total number of female announcements increased by 200% in 2013 compared with the number in 2009 and that the number of announcements has grown continuously every year from 2009 to 2013.

TABLE 1. Number of announcements by year

| Year | Number of Announcements |
|-------|-------------------------|
| 2009 | 6 |
| 2010 | 6 |
| 2011 | 12 |
| 2012 | 13 |
| 2013 | 15 |
| Total | 52 |

Table 2 reports the distribution of female directors appointed in various industry sectors according to the classification of Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006. We observe that the majority of announcements of female appointments to corporate boards are made by firms in the manufacturing and production sector, financial and insurance services sector, and information communications and technology sector. Interestingly, firms belonging to the first two classifications constitute half of the total number of firms that announced female director appointments.

TABLE 2. Number of announcements by industry sector

| Sector | Number of Announcements | Number of Firms |
|---|-------------------------|-----------------|
| Manufacturing and production | 14 | 10 |
| Financial and insurance services | 11 | 9 |
| Information communications and technology | 8 | 3 |
| Construction | 3 | 2 |
| Rental, hiring and real estate services | 2 | 2 |
| Health care and social assistance | 2 | 2 |
| Arts and recreation services | 2 | 1 |
| Transport, postal and warehousing | 2 | 2 |
| Retail and wholesale trade | 7 | 7 |
| Petroleum and energy | 1 | 1 |
| Total | 52 | 39 |

Methodology

In this study, a standard financial event study method is applied to estimate the effect of female appointments. The event window is defined as 21 trading days around the announcement day, which includes 10 trading days before the announcement date and 10 trading days after. The estimation window is set for the period starting from 150 to 11 trading days prior to the announcement date. The announcement date is set as day 0, which is the official trading day of the company's announcement. If the date happens to fall on a weekend, public holiday or the announcement was made after the trading hours of that day, then the next trading day is taken as day 0. By definition, the day after the announcement day is designated as day 1 while one day before is day-1. t -tests are applied to test the significant of the results.

During the estimation period when the event does not take place, in order to expect a normal return, we apply the index market model as follows:

$$R_{(j,t)} = \alpha_j + \beta_j R_{(m,t)} + \varepsilon_{(j,t)} \quad (1)$$

where $R_{(m,t)}$ is the return of the market on day t using the return from the NZX50 index, α_j is the intercept which stock j 's return with zero market return. It is a stable component of the share returns for firm j and is consistent over time. β_j is the slope which measures how stock j is sensitive to the market and $\varepsilon_{(j,t)}$ is a random error term with mean of 0 and standard deviation of 1.

The abnormal return from an announcement is the difference between actual ex post returns and normal returns over an event window:

$$AR_{j,t} = R_{j,t} - \bar{R}_{j,t} \quad (2)$$

where $AR_{(j,t)}$ is the abnormal return of the stock j on day t , $R_{(j,t)}$ is the actual return of stock j on day t as shown in

equation (1), and $\bar{R}_{(j,t)}$ is the estimated return of stock j on day t . The average abnormal return for day t can be computed as:

$$AAR_t = \sum_{j=1}^N \frac{AR_{(j,t)}}{N} \quad (3)$$

where $AR_{(j,t)}$ is as defined in Equation 2 and N refers to the total number of announcements (which is 52 in this paper). The daily stock returns and equities information are obtained from the Yahoo Finance website. The Cumulative Average Abnormal Returns (CAAR) are defined as:

$$CAAR_{ab} = \sum_{j=1}^N AAR_t \quad (4)$$

where $CAAR_{ab}$ refers to the cumulative average abnormal returns from day a to day b . To test the significance of the average abnormal returns (AAR), the following t -statistics is employed:

$$t = \frac{AAR_t}{S} \quad (5)$$

where S refers to the standard deviation of abnormal returns during the estimation period. The t -test for the CAAR from day a to day b is:

$$t_{ab} = \frac{CAAR_{ab}}{S\sqrt{X}} \quad (6)$$

where X is the number of days from day a to day b , inclusive. In this article, the event study method is also applied for testing Hypothesis H3 and H4.

The CAARs over the event window (day 0 and 1) are the measurement for investors' reaction when a female CEO and chair is appointed. By comparing the fluctuations of CAARs of non-CEO executive directors and independent directors, the gap of investors' reaction toward the appointments of CEO and non-CEO female directors can be observed. The CAAR over day 0 and 1 captures the information

on a two-day announcement period and the reactions of investors to the information since announcements more are more likely to be made at the end of the trading day (Kang et al., 2010). The necessary information of different positions appointed are provided in the firms' annual reports through NZX50 and Factiva, which enables us to distinguish between the genders of the appointed directors.

EMPIRICAL RESULTS

In this study, the results show that investors tend to respond negatively towards the appointments of female directors in the New Zealand market.

Table 3 provides the summary descriptive statistics of the firms in the event study from days -10 to 10. There are 52 announcements made by 39 firms, of which only two announcements are for the appointment of female CEO/Chair directors. It can be observed that, on average, the 39 firms experience a negative average abnormal return of -0.53%, which is consistent with the hypothesis H1 that the appointment of female directors is associated negatively the firms' market performance.

Table 4 reports the results of the event study analysis where the AAR and CAAR for each trading day in the event window of (-10, 10) is presented. From the table, we can observe that 39 firms (with 52 announcements) experience a significant decrease in average abnormal return

TABLE 3. Summary descriptive statistics

| | AAR |
|--|---------|
| Mean in event window | -0.0053 |
| Median in event window | 0.005 |
| Max in event window | 0.033 |
| Min in event window | -0.058 |
| Standard deviation in event window | 0.0192 |
| No. of total announcements | 52 |
| No. of CEOs/Chairmen announcements | 2 |
| No. of non-CEO directors announcements | 50 |
| No. of firms | 39 |

(AAR) of -1.9% two days before the announcement date, at the 1% significance level. Other than an insignificant positive AAR on the announcement day, the trading days after that see increasingly negative AARs and CAARs. It appears that investors, after being initially cautiously optimistic with the appointment of female directors, subsequently quickly become fearful of what might lay ahead for their investment in the firm. On day 3, the AAR is -0.8% at a significant level of 10% and, on day 4, a much more significant decrease of the AAR occurs at -1.2%, which is significant at the 1% level.

Overall, the CAAR of -7.7% over the period (1, 10), which is subsequent to the announcement day, is significant at the 1% level. These findings support hypothesis H2 that listed firms in New Zealand experience a non-positive average abnormal return upon their announcement of the appointment of female directors. Consequently, hypothesis H2 is therefore rejected.

TABLE 4. Cumulative average abnormal returns during window period

| t | AAR | t-test | CAARs | t-test | Positive | Negative |
|-----|--------|------------|--------|-----------|----------|----------|
| -10 | 0.011 | 2.606*** | 0.011 | 2.558*** | 29 | 23 |
| -9 | 0.033 | 7.632*** | 0.044 | 7.236*** | 24 | 28 |
| -8 | -0.050 | -11.778*** | -0.006 | -0.806 | 14 | 38 |
| -7 | -0.002 | -0.429 | -0.008 | -0.930 | 24 | 28 |
| -6 | -0.006 | -1.333 | -0.014 | -1.456 | 22 | 30 |
| -5 | -0.002 | -0.353 | -0.016 | -1.519 | 23 | 29 |
| -4 | 0.000 | -0.073 | -0.016 | -1.406 | 24 | 28 |
| -3 | 0.000 | -0.008 | -0.016 | -1.316 | 25 | 27 |
| -2 | -0.019 | -4.446*** | -0.035 | -2.713*** | 27 | 25 |
| -1 | 0.000 | 0.046 | -0.035 | -2.574** | 21 | 31 |
| 0 | 0.001 | 0.312 | -0.034 | -2.384** | 16 | 36 |
| 1 | -0.001 | -0.229 | -0.035 | -2.350** | 27 | 25 |
| 2 | 0.002 | 0.571 | -0.033 | -2.129** | 25 | 277 |
| 3 | -0.008 | -1.850* | -0.041 | -2.548** | 21 | 31 |
| 4 | -0.012 | -2.802*** | -0.053 | -3.182*** | 26 | 26 |
| 5 | -0.002 | -0.571 | -0.055 | -3.198*** | 25 | 27 |
| 6 | 0.012 | 2.764*** | -0.043 | -2.425** | 21 | 31 |
| 7 | 0.002 | 0.496 | -0.041 | -2.247** | 21 | 31 |
| 8 | -0.013 | -3.015*** | -0.054 | -2.881*** | 28 | 24 |
| 9 | -0.058 | -13.465*** | -0.112 | -5.824*** | 21 | 31 |
| 10 | 0.001 | 0.272 | -0.111 | -5.633*** | 24 | 38 |

*, ** and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

Table 5 presents the results of the AAR over a two-day event window (0, 1) for how the appointment of females to different positions on the board is viewed by the market. In particular, we observe that both announcements of CEO and non-CEO female directors have negative AARs, which again indicate that investors have a negative view toward the appointment of female directors for any positions on the board. However, the AARs of appointments of female non-CEO positions is less negative at -0.069% with a 10 percent level of significance compared with the AAR of -0.188% for that of female CEO appointments. The result rejects Hypothesis H4 but is consistent with hypothesis H3 that the market reacts more positively to the appointment of non-

CEO female directors. This result is consistent with those in Kang et al. (2010) in the Singapore context. However, it should be pointed out that, in the present study, the market reacts negatively to both types of female appointments, though it is less negative toward the appointment of non-CEO female directors.

Figure 1 shows the plot of the CAAR over a 21-day event window period. The graph shows the market reacting negatively to the news of the appointment of female directors to the corporate board. The overall trend of CAARs decreases over the event window of day -10 to day 10, especially from day -2 to day 10.

TABLE 5. Average abnormal returns

| Position | AARs (%) | t-statistics | Positive | Negative |
|-------------------|----------|--------------|----------|----------|
| CEO | -0.188 | -0.783 | 1 | 1 |
| Non-CEO directors | -0.069 | -1.821* | 20 | 30 |

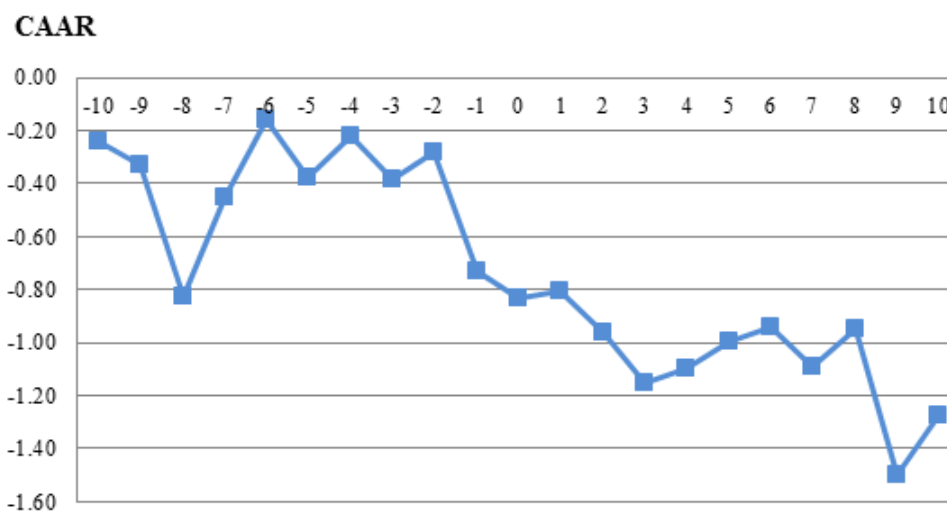


FIGURE 1. CAARs

This result suggests that investors are not positively disposed toward the appointment of female directors on the corporate boards of NZX-listed firms.

From these results, we can conclude that there is a negative reaction in the market in the days following the announcement of women directors in New Zealand. These findings are consistent to those of Virtanen (2012), who concludes that there is a non-positive relation between the appointment of female directors and its market impact.

DISCUSSION AND CONCLUSION

This study offers empirical evidence on the market impact from the appointment of female directors in listed firms in New Zealand. The results show that the market reacts neg-

atively to the announcements of the appointment of female directors. Several explanations can be offered for the findings. First, the market may feel that there are disadvantages of gender diversity. Under a high gender diversity board, more effort and time would be required to achieve a consensus while making decisions (Kang et al., 2010; Strom et al., 2014). Secondly, Kanter (1997) explains the result with the tokenism theory that female board members are more likely to experience biasness and the “glass ceiling” due to the reason that it is less common to have female members on the board. Thirdly, it may due to the remaining impact of financial crisis. In 2008, the global financial crisis created an economic downturn worldwide, which encouraged in-

vestors to act conservatively toward any investments. Other possible reasons could be due to cultural preference and investors' sentiment.

The results of this study are in line with the view that investors are less receptive to the role of CEO occupied by female rather than non-CEO positions (Kang et al., 2010). The position of CEOs in New Zealand firms continues to be lacking in gender diversity and female CEOs are under-represented in corporate boards.

The findings of this article have some practical implications to policy makers. Although firms that appoint women to

their boards can enjoy good publicity for their support of gender diversity through the mass media, they should be mindful of the negative market response that follows such announcements, as evidenced by the results of this study. Should firms find the need to appoint female directors, due to their commitment toward gender diversity, it is advisable that they be appointed to the role of non-CEO directors rather than CEO-directors. This is supported by the findings of this study that investors react less negatively to the announcements of non-CEO female directors than those of CEO-directors.

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