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First Female Directors: Market Response

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Abstract

There has been an ongoing debate over women's impact on corporations, specifically in top executive roles. This study looks at the stock price reaction to the appointment of the first female to the board of directors of Fortune 250 companies. Using the Fama-French three factor model we observed the abnormal stock price reaction that occurred when a company announced the first woman being appointed. Analysis revealed that although the initial stock price reaction was zero, the post-five year returns were statistically significantly positive. This is the first study to show that having a woman on a firm's board of directors increases firm performance and adds value, suggesting that women should indeed have a place in top management in the business world.

Keywords: Stock Returns, Board of Directors, Women, Fortune 250, Fama-French

1. Introduction

For most of the era of big businesses, men have been in control of the companies and the board rooms. However, there has recently been a shift in society's opinions, creating pressure for companies to have a woman on their board of directors. Recent studies have looked into whether or not having a woman on the board of directors is beneficial to a firm; results have been inconclusive, with some studies showing women are beneficial, but other analysis shows a woman's effect can be neutral or slightly negative. In this study, we are looking at how the appointment of the first woman to a board of directors affects the appointing company's stock performance, both before, on, and after the date of announcement. Previous studies have focused on a company's Return on Equity (ROE) and Total Return to Shareholders (TRS) once a female is a part of top management (Catalyst, 2004) while others have found that women can make a difference in financial reporting decisions (Francis, Hasan, Park, Wu, 2014) once there are enough strong, independent directors on the board of the company (Fogel, Ma, Morck, 2014). Different from these studies, our study focuses on the stock price reactions relevant to the exact date of announcement of the first female appointed to the board of directors for Fortune 250 companies. Most studies focus on what happens when there are multiple females in top positions, but this study focuses solely on the first female appointed, setting it apart in its significance.

In analyzing the stock performance of companies who have announced the appointment of the first female to their board of directors, we have focused on the stock prices from three years before the date of announcement, to five years after. We have also focused the analysis to the date of announcement and analyzed stock performance from ten, five, three, and one day before and after the date of announcement, as well as the actual date of announcement. It has yet to be fully proven whether markets are efficient or inefficient, with differing schools of financial

beliefs having proof of both options. As a result, our findings can be interpreted in light of an inefficient market and in light of an efficient market. In an inefficient market, newly released information is not reflected in the stock price of a company at a rapid pace. As a result, the market's reaction to the announcement of a female appointment to the board of directors may not be correct at the time of announcement, causing the market to adjust with time. In an efficient market, all information and new announcements are assumed to already be reflected in the price of a company's stock. Depending on how the market views the announcement and the changes taking place, in an efficient market, the stock price reaction to the appointment announcement can be positive, negative, or neutral.

In the following section we introduce a review of current literature pertaining to the presence of females on a company's board of directors and the effect the presence of these females has on the company's performance. In section 3, our hypothesis is detailed. In section 4, an analysis of the data and methodologies used to conduct this study are presented. In section 5 we discuss the findings of the study as well as the impact these findings have on the performance of a company. How this information should be used in the future when companies are appointing new members to the board of directors is also discussed. Section 6 concludes. A table of the appointment dates of the first woman to the board of directors for all of the companies analyzed can be found in the appendix.

2. Survey of the Literature & Hypothesis

The current literature on the effects of females in the corporate boardroom is not all encompassing, but does provide a good overview of the different decision-making qualities and other aspects that females bring to a company. As society becomes more aware and involved

with the issue of few women being at the top of corporations, articles on the subject can be found in places beyond academic journals. For example, in the CNN article "What Changes With Women in the Boardroom?" the firm The Garden City Group is highlighted, due to 8 of their 15 board members being women. This firm has performed very well financially, in part due to the way women consider decisions differently than their male counterparts (Wallace, 2013). Women look at risk differently than men do, and overall tend to take fewer risks. During the most recent economic downturn, all funds incurred an average loss of 19%, but the funds run by women incurred an average loss of only 10% (Wallace, 2009). Having women in the boardroom clearly has an effect on the company's performance, but current literature argues that the gender of board members is not the sole factor behind these firm valuation changes.

There is conflicting evidence as to whether the impact of having a woman on the board of directors or as CEO has a positive or a negative impact on firms. There is no arguing though that having a woman in top management does have an impact on the company's performance. Thomas Schmid and Daniel Urban (2013) postulate that having women on the board of directors does lead to a higher firm valuation, but that higher valuation is strongly dependent on the level of development in the country where the firm is located. In their paper "Does It Matter Where You Work? International Evidence on Female Board Representation," Schmid and Urban state that it is a country's culture that affects the number of women on a board of directors, and the culture, the main determinant for female board representation, in fact has no impact on the firm's valuation.

Almost all of the current literatures on females in the boardroom mention the differences between males and females, with regard to risk, in some capacity. Many simply mention that females are more risk averse, and take into consideration more factors when deciding which

projects and risks the firm should undertake. Nadia Loukil and Ouidad Yousfi believe that "In the presence of women on the board, firms rely more on internal funds to finance investments than debt." Women tend to be less competitive and "overconfident" than their male counterparts (Loukil & Yousfi). This results in the least risky source of financing being used first and the most risky source, issuing new equity, being used as a last resort; this is a direct example of the Pecking Order Theory that is commonly discussed in the financial world. However in certain firms, particularly banking firms, women have a much different level of risk-aversion than women who do not enter the finance industry (Sapienza, Zingales, & Maestripieri, 2009). This may be due in part to the qualities a woman has that propel her towards a career in finance. In their article, Loukil and Yousfi also find that having women in a boardroom helps to lower the absences of male board members; this can result in better decisions being made for the firm by the board of directors as a whole (Loukil & Yousfi). Sila, Gonzalez, & Hagendorff found that "the degree of risk aversion in women may vanish when they have broken through the glass ceiling in order to adapt themselves to a male-dominated culture…they find that female directors are more risk loving than their male counterparts" (2014). Perhaps a portion of the effect that female board members have on firm valuation is in part due to the females trying to prove their value and worth to their male contemporaries. With so many companies trying to bridge the gender gap, current literature has not yet revealed what exactly causes the change to firm valuation that women cause.

Males and females in top management take different approaches with regard to corporate financial reporting and accounting decisions. Statistically speaking, when the gender of a firm's CFO changes from male to female, there is a significant increase in the level of accounting conservatism, and a significant decrease when the change is from female to male. The decisions

a corporation announces reflect the personal risk preferences and decisions of top management. Hence, the changes seen with a female in charge reflect the more conservative and risk adverse nature women at the top tend to have. Firms that are controlled by females grow more slowly and make fewer acquisitions, but the acquisitions that are made provide much higher announcement returns (Francis, Hasan, Park, & Wu, 2014). Having board members that favor differing levels of risk is important, since it is these "independent" directors that will challenge wayward CEOs. Powerful independent directors are able to raise shareholder valuations by "preventing value-destroying decisions, by meaningfully linking CEO pay to firm performance, and by forcing out underperforming CEOs" (Fogel, Ma, & Morck, 2014). The differences in levels of conservatism and in financial reporting are linked to the personal preferences of top management. It is in the best interest of a company that top management be composed of some independent directors, including females, as these individuals are able to raise shareholder valuations and make acquisitions that provide higher returns.

The current literature on gender diversity in the boardroom focuses on a variety of aspects, resulting in inconclusive results when taken together. The analysis appears to be conflicting, agreeing only in the fact that women on the board of directors do have an impact. What exactly is that impact still remains to be seen; however, it is clear that women approach risk and decision-making in a different way than men do. Having a variety of opinions in a boardroom can only improve the quality of the decisions being made. It is the purpose of this study to attempt to fill in some of the gaps in current literature; we plan to do this by determining whether the presence of a woman in the boardroom does in fact impact the value of a firm's stock.

3. Hypothesis

Factoring in all of our research and our knowledge of financial markets, our hypothesis for this study is as follows, with an explanation following: ***We hypothesize that the announcement of the first woman to a company's board of directors may result in a positive, negative, or neutral market response, depending on an efficient or inefficient market state.***

3.1 Inefficient Markets

When markets are inefficient, the prices of common stocks and other similar securities are not always accurately priced. This implies that market forces are able to drive asset prices above or below their true, actual price in an inefficient market. When a female is appointed to the board of directors in such a market, the market reaction may be to over – or under – estimate the value of having a female director. Assuming that the market does not have prior experience with this type of announcement, as is the case when the female is the first appointed for that selected company, the market will very easily underreact or overreact initially. The initial under reaction implies that investors do not perceive the value a female adds to a board of directors. When the initial investor reaction is that the announcement adds more value to the company than it actually does, an overreaction occurs. Over time, the inefficient market adjusts to the true value added by adding a female to the board of directors. If the initial response was an overreaction, the stock prices will fall; if the initial response was an under reaction, the stock prices will rise. There are times when an announcement is muted in an inefficient market. This causes the reaction to spill over into subsequent years, and the post-announcement market price adjustment to occur over a longer period of time. It is very difficult to ascertain the true value of a stock or the true investor reaction to a company's announcement in an inefficient market, but over time the market will adjust back to the true values.

3.2 Efficient Markets

According to the efficient market hypothesis (EMH), in an efficient market it is impossible to "beat the market" because stock market efficiency causes existing share prices to always incorporate and reflect all relevant information (Investopedia, 2014). "In an efficient market, the expected part of the earnings increase should already be reflected in the price" (Ball, 1994). In efficient markets, the investors' response to the announcement of the first female elected to a board of directors will immediately be reflected in the share price of the company's stock. When female representation is perceived to be a good thing, the market will reflect a positive reaction through an increase in the price of the stock. When the majority of the users of a product or service are female, women's voices on a board will add benefit, with the gender diversity helping to increase profit margins (VanderMey, 2013). This positive reaction may occur if the company and its investors value diversity of opinion. Having a diverse group of opinions provides more diverse angles for evaluating problems and decisions, resulting in a decrease in likely herd behavior. A diverse group of opinions in the boardroom can also be valuable in crisis situations, where corporate performance may depend on the different viewpoints directors of different backgrounds have (Adams & Ragunathan, 2013). When a woman is selected to become the first female on a company's board of directors, she is very likely to be of an exceptional quality and have outstanding capabilities. A company should only select directors that will provide the most benefit to the firm, so each director selected will have very high qualifications, whether male or a female. The exceptional qualities that the selected female provides to the board will increase the insights and level of oversight provided by the board. She is also very likely to be a strong independent thinker, helping her to reach this

position. Firms with powerful independent boards have economically and statistically higher firm valuations (Fogel, Ma, & Morck, 2014).

When comparing males and females, women tend to be the more nurturing of the two, and female directors bring this trait with them to every board of directors on which they hold a position. When given an increase in resources, females spend more money on children (Doepke & Tertilt, 2014). Carried over to a board of directors, one can assume that when females have more control over the financial resources of a company, they will be more inclined to share the wealth with their investors; this is something that encourages a positive response in investors and helps to cause a positive stock price reaction to the announcement of a female being appointed to a company's board of directors. The increased expenditure of women on children, relative to spending on pleasure, also relates to the fact that females tend to have more of a long-term perspective than males. The ability to plan for the long-term and maintain a long-term perspective, whilst still focusing on the short-term, is very important for any company. By adding a female to the board of directors in possession of this ability, investors are encouraged about the health of the company, causing the stock price to increase. Finally, electing the first female to the board of directors sends a signal to the rest of the market that this company is path-breaking and making changes to improve company performance. Anytime a company is making changes to improve, this is seen in a positive light by investors, and the positive attention translates to an increase in company stock price, a better top line and bottom line for the company, and improved costs of capital for the firm. Investors who realize the value the first female elected to a board of directors brings to that company reflect their approval via the positive reaction seen in the market value of the company.

When an announcement is made by a company that the financial markets view as being neither positive nor negative, the stock price reaction is neutral. A neutral market reaction to the announcement of the first female elected to the board of directors occurs when that female is perceived to be a "trophy director," so to speak. The first female elected to a board is always at a disadvantage, as she is trying to navigate her way in the director's world of men. Women in this position may not be comfortable standing out, at least initially, and may not want to rock the boat, causing their talent to stay hidden and muted. When this is the case, the female director's talent does not translate into any differences for the company; it is essentially the same as before the appointment, except that the gender diversity box has been checked. If investors perceive this to be the case, they will not have much of a reaction to the female being elected, causing the market valuation of the company to essentially stay the same. In some cases a company may be known for selecting the best available talent when voting for the new member of their board of directors. If this is the case, investors will be aware of this fact and the election of the first woman will have no impact, since she is the best talent available; there is nothing extra brought to the table just because she is female. Investors would solidify this reasoning if their reaction to the announcement of the first female director of a company was relatively neutral, or close to zero, and not significant.

There are certain instances that have led us to believe that the announcement of the first female elected to a company's board of directors may cause a negative market reaction. It is well documented in finance research that women are more risk-averse than men. This may be beneficial during an economic downturn, helping to limit losses during these times. But, given that recessions are short-lived relative to expansions, the overall effect of women being risk-averse would be negative. Female's risk-aversion may prevent them from fully maximizing the

benefits presented by an economic upswing. Men are more likely to use additional funds for investments, and this is the action that companies should be taking during a bull market (Doepke & Tertilt, 2014). Equity can be thought of as a Call option on the value of the assets of a company and hence, a risk-averse investment stance will reduce the value of the option (i.e. the equity of the firm). This will be reflected as a negative market reaction to the announcement of the female being elected.

There are instances where the first female elected to a company's board of directors were not elected because of the skills and talent she would bring to the company, but rather so that the company could place a checkmark in their diversity box. When this is the case, the female appointment does not serve any real purpose or add any value to the company. Given no priors since it is the first female elected, this appointment may be an adjustment for both the men on the board and the new female director; a dysfunctional board may be the result. When a board is dysfunctional, it will not be able to lead the company in the best possible direction, which investors will understand and reflect in a negative stock price valuation. The first female directors had no female role models, so they may not want to come across as strong and may not be clear about their role on the board. Board members must be aware of their specific role as a director, and how they are expected to help improve company performance, in order for the company to actually improve. It is very rare that a company will improve when director roles are not understood, which will be reflected in the market's valuation of the company. If investors believe any of these things about the company or the female selected when the announcement is made that a female is the newest board member, we will see a negative price reaction very soon, if not immediately after, the announcement and the information is released to the public.

Whether the market is efficient or inefficient plays a role in how we predict investors to react to the announcement of the first female appointment to the board of directors. The value the market places on a female being elected will help prove whether it truly is beneficial for a company to have at least one woman serving on its board of directors.

4. Data and Methodology

4.1 Data

Larcker and Tayan (2013) surveyed the 2012 Fortune 250 companies for information on the first women appointed to their board of directors. These are large publicly traded US companies. We could identify the exact date (month, day and year) of the appointment of the first woman to the board of directors in 16 cases and for another 18 companies we could find the month and year of the first women director appointment (in such cases we decided to take the middle of the month as the date of appointment). This gave us a sample of 34 companies (out of the Fortune 250 companies for the year 2012). We ended up dropping 5 companies from the sample because either the company became public after the date of appointment or stock price information ended prior to the date of appointment. Our final sample size therefore turns out to be 28 (see Table 1).

4.2 Methodology

We use the Fama-French (1993) three-factor model augmented with the momentum factor as in Carhart (1994) for assessing abnormal stock price reaction when a company announces that it is appointing a woman for the first time to its board of directors. The date of announcement is taken as day zero in our analysis. The four-factor model is based on the notion that expected returns are generated based on the following equation,

$$R_{jt} = \alpha_j + \beta_{mj}(R_{mt}) + \beta_{sj}(SMB_t) + \beta_{vj}(HML_t) + \beta_{uj}(UMD_t) + \varepsilon_{jt}$$

Where R_{jt}, and R_{mt} are the daily return on stock J and the market portfolio respectively. SMB_t is the difference between the daily return on a portfolio of small stocks and big stocks (small minus big). HML_t is the difference between the daily return on a portfolio of high book-to-market equity ratio stocks and a portfolio of low book-to-market equity ratio (high minus low; this roughly corresponds to the difference between value and growth stocks). UMD_t is the difference between the daily return on short-term winner stocks and loser stocks (up minus down). The last term in the equation (ε_{jt}) represents random error. The slope coefficients in the above equation (market beta, size beta, value beta, and momentum beta: β_{mj}, β_{sj}, β_{vj}, β_{uj}) represent the sensitivity of stock J to common and hence non-diversifiable factors in stock returns.

The period [day -279, day -30] relative to day zero is used as the estimation period for computing abnormal returns around the date of announcement (days -10 through day +10). In other words, parameters of the above model are computed via running a regression of the return on the stock Rjt against Rmt, SMBt, HMLt and UMDt based on the 250 days between [day -279, day-30] for each stock in our sample. These estimated parameters are used for forecasting returns during the announcement period [day -10, day+10] for each stock in the sample. The actual return minus the forecasted return is taken as the abnormal return for that day for a given stock. The abnormal returns are averaged across all the stocks for assessing the average abnormal return for a given day (reported in the tables). This provides an assessment of the market reaction specific to the event of a company appointing for the first time, a women to its board of directors.

We also examine long-term abnormal returns before and after the date of announcement (year -3 through year +5) (See Tables 3 & 4). Our thinking is that the first female directors may take time to have a meaningful impact on their companies and/or the equity market may take

longer to fully understand and incorporate the impact of female directors on the prospects of the companies in share prices. In this long-term analysis, we use monthly returns rather than daily returns. We use 36 monthly observations spanning the period (month -35, month-2) for estimating parameters in assessing the cumulative abnormal returns over the five years after the appointment to the board of directors. For assessing the cumulative abnormal returns during the three years prior to the appointment of the first woman to the board of directors, we use 36 monthly observations spanning the period (month -71, month -38) as the parameter estimation period.

5. Findings & Analysis

Upon completion of running our tests, interesting results were found. Using the Fama-French-Momentum Time-Series Model, Value Weighted Index, we found that in the five days prior to the announcement of the new director, there was a positive stock price reaction. This implies that investors were optimistic about the talent a new director would bring to the company, and felt that whoever the new director was, he or she would be the best talent available and have a positive impact on the company. However, in the five days after the announcement of a female being appointed as the new director, there was a statistically significant negative reaction. In an efficient market, there could be a variety of reasons for this reaction, including the belief that females are more risk-averse and that the female may only be a "trophy director;" there solely to check off the company's diversity box. When analyzing the results from the perspective of an inefficient market, the negative reaction seen may be an under reaction and time is needed for the market to correct itself.

When the analysis was extended to cover a longer period of time, post-announcement, we found that there was a positive reaction. Both one year and five years after the announcement of the first woman being elected to a company's board of directors, there was a statistically significant positive reaction in the market. In an inefficient market, this positive reaction is the market correcting itself, over time, from the initial under reaction that occurred in the days following the announcement. In an efficient market, the positive reaction implies that investors see the value and talent a woman brings to a board of directors. With a significant positive reaction so long after the announcement, one can assume that the female director did in fact have an impact on the company and helped to increase the company's value. One reason for this may be the long-term perspective a woman brings, or the different way of viewing risk. If the woman had not had an impact on the company, we would have seen a neutral response over time. A negative reaction would have been found had the woman impacted the company in a negative way and lowered the company's value over time. The positive reaction found implies that having women on a company's board of directors does, in fact, increase the value of a firm, and improves the company overall.

We also ran cross-sectional regressions comparing abnormal returns from different time periods related to the announcement of female appointment to the board of directors, as seen in Table 5. In comparing the cumulative abnormal returns from five days to one day prior (-5, -1) to the date of announcement with the cumulative abnormal return from one day to five days after (1, 5) the date of announcement, we found a statistically significant positive relationship. In comparing the long-term cumulative abnormal returns to announcement period returns (day -5, day -15), the relationship found was not statistically significant, meaning that the long-term returns are not related to announcement period returns. This holds true after it is revealed that the

newly elected director is female, as shown through the regression between (month 1, month 60) and (day +1, day +5) having no statistical significance. These results show that neither is the market inefficient nor is the announcement period reaction suggesting a negative reaction to female appointment. Further research may reveal the reasons for these regression results.

6. Conclusion

Within in the past few decades, American society has rallied for women's rights, and fought for women to be thought of, and compensated, equally to men. Over time, more Fortune 500 companies have appointed at least one female to their board of directors. When the first female is appointed to a company's board of directors, the media displays this as a positive action, one that benefits women everywhere. However, no study had ever been completed to see if the first woman appointed truly had an impact on the company and increase firm performance and value, as seen through the market's reaction and company share prices. The goal of this study was to accomplish that goal and determine if having females on boards of directors does, in fact, have a positive impact on the company.

Through research and thorough data testing and analysis, it was found that initially the market reaction to the appointment of the first female to a board of directors is significantly negative. However, over time, specifically one and five years after the announcement, the market reaction and company share price are significantly positive. For instance, five years after the announcement, the mean cumulative abnormal return was 33.09%, meaning that the company's value increased by 33% in the five years after a female joined the board of directors. This implies that having at least one female on a board of directors does greatly benefit a company, as seen through the performance of the companies in our sample.

Females offer different skills and talents than males. Females tend to have a more long-term perspective, whereas males focus more on the short-term and increasing profits now. Women are also more likely to make decisions that return profits to investors, via dividends, increasing positive investor responses. The differences in the ways males and females view risk helps the board of directors to make more thorough decisions, through examining more aspects of a problem or decision than they normally would have. Having diversity on a board of directors most times increases a company's performance. Since the ultimate goal of every business is to make money, firms need to have the best directors possible, who will make the right decisions for the company. Having the best group of directors possible should include women.

Table 1

Company	Director	Appointment Date
Amazon	Patricia Stonesifer	February 15, 1997
Aon	Joan Manley	May 15, 1984
AT&T	Catherine Cleary	April 15, 1972
Baxter	Mary Johnston Evans	May 15, 1986
Capital One Financial	Ann Fritz Hackett	October 28, 2004
Cardinal Health	Regina Herzlinger	August 15, 1995
Conagra	Louise Kinney Platt	January 15, 1973
Costco Wholesale	Jill Ruckelshaus	February 15, 1996
CVS	Patricia Carry Stewart	November 15, 1996
Dominion Resources	Mary Fray	December 17, 1971
Edison International	Carla Anderson Hills	February 15, 1977
Entergy	Lucie Fjeldstad	February 2, 1992
FedEx	Judith Estrin	March 15, 1989
Ford Motor Company	Marian Heiskell	March 11, 1976
General Dynamics	Mary Barra	March 15, 2011
HealthNet	Gale Fitzgerald	March 15, 2001
Humana	W. Ann Reynolds	January 15, 1991
Huntsman	Marsha Evans	August 15, 2005
Illinois Tool Works	Susan Crown	May 6, 1994
International Paper	Jane Pfeiffer	June 14, 1977
Johnson & Johnson	Joan Cooney	April 11, 1978
Johnson Controls	Martha Seger	May 31, 1984
Land O'Lakes	Connie Cihak	February 15, 1994
Marathon Petroleum	Donna James	June 30, 2011
McDonald's	Terry Savage	December 15, 1990
Pacific Gas & Electric	Doris Leonard	September 26, 1973
Parker Hannifin	Debra Starnes	July 21, 1997
Penske	Kimberley McWaters	December 15, 2004
PepsiCo	Joan Crawford Steele	April 15, 1959
Starbucks	Barbara Bass	January 1, 1996
Tech Data	Kathleen Misunas	April 5, 2000
Travelers	Jewel Plummer Cobb	September 6, 1974
Waste Management	Pastora San Juan Cafferty	July 15, 1998
WellPoint Financial	Susan Bayh	July 17, 2001
WellPoint Financial	Bessie LaRae Orullian	July 17, 2001

Table 2: Short-Term Returns

Days	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Positive: Negative	CSectErr t	Rank Test Z	CsectErr t-stat Bootstrap+
(-5 , +5)	0.27%	0.51%	14:14	0.224	-0.146	0.224
(-3 , +3)	0.32%	0.41%	16:12	0.325	-0.485	0.325
(-1 , +1)	-0.85%	-0.55%	12:16	-1.161	-1.155	-1.161
(0 , 0)	-0.45%	-0.16%	9:19(	-1.284	-1.26	-1.284
(-5 , -1)	2.02%	1.69%	20:8>	2.986**	2.330*	2.986**
(+1 , +5)	-1.31%	-0.88%	10:18	-2.374*	-2.384*	-2.374*

The symbols $, *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 levels, respectively, using a two-tail test. The symbols (,< or),> etc. correspond to $,* and show the direction and generic one-tail significance of the generalized sign test.

+ The symbols $, *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01 and 0.001 levels, respectively using a two-tail nonparametric bootstrap of the indicated test.

Table 3: Returns after the Appointment Announcement

Years	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Positive: Negative	CSectErr t	Rank Test Z	CSectErr t-stat Bootstrap+
1	10.17%	10.95%	17:10	1.817$	1.399	1.817$
2	4.05%	4.86%	17:9)	0.708	0.208	0.708
3	-0.15%	2.81%	14:11	-0.023	-0.634	-0.023
4	6.93%	4.60%	13:12	0.930	0.533	0.93
5	14.07%	12.04%	14:09	1.879$	2.243*	1.879*
Cumulative (1 , 3)	13.93%	27.81%	18:9)	1.211	0.562	1.211
Cumulative (1, 5)	34.20%	39.91%	20:7>>	2.089*	1.827$	2.089*

The symbols $, *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 levels, respectively, using a two-tail test. The symbols (,< or),> etc. correspond to $,* and show the direction and generic one-tail significance of the generalized sign test.

+ The symbols $, *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01 and 0.001 levels, respectively using a two-tail nonparametric bootstrap of the indicated test.

Table 4: Returns Prior to the Appointment Announcement

Years	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Positive: Negative	CSectErr t	Rank Test Z	CSectErr t-stat Bootstrap+
-5	-11.61%	-8.26%	9:14	-1.703$	-1.119	-1.703$
-4	-1.16%	4.93%	12:11	-0.150	0.023	-0.150
-3	-9.52%	-15.17%	8:15	-1.338	-0.554	-1.338
-2	-9.45%	-11.05%	8:15	-1.625	-0.581	-1.625
-1	-11.16%	-9.13%	8:15	-1.406	-1.245	-1.406
Cumulative (-3 ,-1)	-30.13%	-16.53%	6:17<	-1.751$	-1.374	-1.751
Cumulative (-5 , -1)	-42.90%	-29.75%	8:15	-1.972*	-1.554	-1.972*

The symbols $, *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 levels, respectively, using a two-tail test. The symbols (,< or),> etc. correspond to $,* and show the direction and generic one-tail significance of the generalized sign test.

+ The symbols $, *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01 and 0.001 levels, respectively using a two-tail nonparametric bootstrap of the indicated test.

Table 5: Cross-Sectional Regressions

Dependent Variable	CAR (day 1, day 5)	CAR (month 1, month 60)	CAR (month 1, month 60)	CAR (month 1, month 60)
Intercept	-0.020 (-3.96)***	0.279 (1.89)*	0.368 (2.04)**	0.347 (2.18)**
CAR (day -5, day -1)	0.346 (3.23)***		-1.323 (-0.23)	
CAR (day 1, day 5)		-4.558 (-0.75)		
CAR (day -5, day 5)				-1.559 (-0.55)
Adj. R^2	0.15	0.00	0.00	0.00
Sample size	28	27	27	27

The symbols $, *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 levels, respectively, using a two-tail test. The symbols (,< or),> etc. correspond to $,* and show the direction and generic one-tail significance of the generalized sign test.

The numbers in parenthesis indicate t-statistics.

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