The Effect of Corporate Female Leadership on Firm Performance

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Abstract

This paper examines the question “What is the effect of corporate female leadership on firm performance?”. Females are increasingly important in business, however, women in upper level management are a rarity, as approximately 5% of S&P 500 CEO’s are female. Recent studies have found that companies with higher proportions of women in top level management perform better than companies with a very small proportion. This paper uses data from the S&P 400 and 500 Indexes to analyze the relationship between firm performance and gender among the c-suite. Controlling for both industry and firm size, this paper will examine the effect of three gender variables, CEO gender, CFO gender and proportion of women, on firm performance through the use of total enterprise value, the natural log of total enterprise value, net income and return on assets. Through cross sectional regressions, a relationship between CFO gender and firm value is established. As well, it is found that gender has an effect on firm value but the exact relationship remains unclear.

INTRODUCTION

Women are becoming increasingly more important in business, yet they are failing to attain the highest-ranking positions in major corporations across the globe. In a sample of 22,000 firms across the world only 5% had female CEOs (Noland & Moran, 2016).Yet, women's presence in the workforce overall yields positive results not only for their company but the entire economy. The increase of women in the labor force since 1970 led to a $2.0 trillion increase in the US economy (Council). Not only does women's participation in the workforce lead to an increase in the US economy, it creates employment. Since the US recession in 2007 only large public corporations and "privately held majority women-owned firms" have seen an increase in employment (ILO, 61). Yet while there are few women in the CEO positions of the Fortune 500 firms, firms with a higher proportion of women in their top-level management have been found to have a higher return on equity and a higher return to their shareholders. For example, Apple Inc. has the largest revenue in the world and their retail operation is being led by a woman. While women are increasing not only output and employment in the US, the question remains of why women do not achieve the same roles in upper level management.

This paper will examine the effect of corporate female leadership on company performance by using data from the S&P Net Advantage platform, sampling 818 firms from the S&P 500 and S&P 400 indexes. Company performance will be measured by four main dependent variables, of which the main variable of focus is total enterprise value. The other dependent variables include the natural log of total enterprise value, net income, and return on assets. Corporate female leadership will be measured by examining the genders of the c-suite officers, corporate employees that have chief in their title, as well as the total proportion of women of the listed key professionals on the S&P Net Advantage platform. Specifically, this paper will examine the gender of the Chief Executive Officer (CEO) and the Chief Financial Officer (CFO).

The contribution of this paper will be to provide further empirical analysis on the effect of corporate female leadership on company performance. This paper's main contribute to the research is to provide a variable for the proportion of females of key professionals as filed in the S&P Net Advantage platform and by creating a variable for CFO gender as an independent variable.

LITERATURE REVIEW

Previous research is fairly consistent in pointing to the low number of female CEOS worldwide. While examining the attributes of the top CEOs around the world Hansen et al. [2010] found that "only 1.5%" of the CEO's in their sample of the best performing firms were women. Gondhalekar and Dalmi [2007] further discuss the large gap between the number of male and female CEO's as 50 out of 2,365 firms used in their sample had female CEOs (395). Brady et. al [2011] found that 6.4 percent of the sample of executives from the S&P compustat database of Fortune 500 firms are women and that women are more likely to be CCOs and general counsel than CEOs (84).

Brady et al. hypothesize that the discrepancy between numbers of male and female CEOs exists because female CEOs are more commonly found in service focused firms because gender stereotypes suggest women are more likely to succeed in firms that depend on personal interaction (Brady et al., 85). They also conclude that female executives are more likely to be in firms that have greater sales growth and recently experienced a scandal. Scandals cause an opening that allows for the opportunity for women to be promoted into these top positions (Brady et al., 98).

Despite the explanation of gender bias, previous research finds little to no difference in the effectiveness of female and male leaders on business performance. Gondhalekar & Dalmia [2007] find that there is little to no difference in both the perceived and actual performance of male and female CEOs (395). Eagly et. al [1995] found, however, that differences in male and female effectiveness were related to the perceived gender of the role; "men were more effective than women in roles that were defined in more masculine terms, and women were more effective than men in roles that were defined in less masculine terms" (125). Even though men and women "are differentially effective" within a company, Eagly et al. concludes that these differences have little impact on the actual success of the business (125). Similarly, Gipson et al. [2017] find little to no differences in performance between male and female leaders (32). They argue that Eagly's approach is discriminatory and that it is important to examine the relationship between gender and leadership by "looking at how gender influences selection, development, style, and performance of women leaders" (Gispon et al. 55). For example, Elsaid and Ursel [2010] found that when there is a higher percentage of females on the board of directors, the new CEO is more likely to be a female (499).

Other studies find that shifts from male to female management increase firm performance. Vieito [2012] found that firms led by female CEOs, in comparison to firms led by male CEOs, see better performance and have less of a compensation gap among upper level management (46). Further research by Khan and Vieito [2013] found that female led firms are associated with better performance and a higher return on assets when compared, to male firms and that firm risk level is smaller when the CEO is a female. Similarly, Elsaid and Ursel [2010] found that a change from a male to a female CEO is associated with lower corporate risk implying that female CEO's take fewer risks. Elsaid [2014] found that the movement from a female to male CEO "is associated with an increase in firm performance and a decrease in the firm probability of bankruptcy" (1605). Similarly, Zhang and Qu [2012] suggest that a gender change in the CEO will positively affect the performance of Chinese firms (1845).
Research by Elsaid and Ursel [2010] introduces the importance of the proportion of women in upper level management. Fortune 500 firms in the top quartile for the proportion of women in management (14.3 percent to 38.3 percent) saw a return on equity 35 percent higher than Fortune 500 firms in bottom quartile for women in management (0 percent to 5.1 percent) (ILO,6). Firms in the top quartile for women in management also saw a 34 percent increase in total return to shareholders (ILO,6).

Previous research on CEO gender and firm performance points to conflicting and confusing results across multiple disciplines. Some research finds that companies with a female CEO are associated with increased firm performance while others find the exact opposite or no difference at all. Most articles examined, however, tend to agree that companies managed by female CEOs are associated with lower levels of risk. Overall, most articles are consistent in demonstrating that there is a surprisingly small number of female CEOs in comparison to male CEOs. The literature reviewed implies that there is an interaction between the CEO gender and company performance but differ in their conclusions of what exactly the relationship is. In order to deepen the understanding of the relationship between women in top level management and company performance, this paper will extend the analysis of the role of women in management by considering multiple positions within the c-suite, the proportion of women and alternative values of firm performance.

DATA

This paper uses data from the S&P Net Advantage Platform, sampling a composite of firms from the S&P 400 index and the S&P 500 Index. The S&P 400 and S&P 500 indexes both contain publicly traded stocks, that are weighted by market cap so firms that have a larger market cap will have a larger weight within the index. The S&P 400 Index contains firms that have small market caps while the S&P 500 Index contains firms that have large market caps. Market cap is measured by multiplying the price of the common stock by the number of shares outstanding, so firms with smaller market caps will either have lower stock prices or fewer shares outstanding.

Table 1: Industry

Division A: Agriculture, Forestry, And Fishing	1
Division B: Mining	41
Division C: Construction	14
Division D: Manufacturing	321
Division E: Transportation, Communications, Electric, Gas, And Sanitary Services	100
Division F: Wholesale Trade	24
Division G: Retail Trade	56
Division H: Finance, Insurance, And Real Estate	140
Division I: Services	118
Division J: Public Administration	3
Total Firms	818

Table 2: Locations

Asia/Pacific	1
Europe	28
Latin America and Caribbean	6
United States and Canada	783
Total Firms	818

Overall there are 818 firms that were included from the two indexes as they had measures for all of the specified variables. As shown in Table 1, 783 of these firms have headquarters located in the United States and Canada, 6 have headquarters in Latin America and Caribbean, 28 have headquarters in Europe and 1 has its headquarters in Asia/Pacific. As Shown in Table 2, a Majority of firms were in four major industries; 321 of firms were Division D: Manufacturing, 100 were in Division E: Transportation, Communications, Electric, Gas, And Sanitary Services, 140 were in Division H: Finance, Insurance, And Real Estate and 118 were in Division I: Services. In contrast Division A: Agriculture, Forestry, And Fishing had only one firm and Division J: Public Administration had only three firms. The remaining divisions included

Division B: Mining, Division C: Construction, Division F: Wholesale Trade and Division G: Retail Trade, these remaining divisions all had under 60 firms.

Table 3: Firm Characteristics

Variables (mean)	Male CEO	Female CEO	Male CFO	Female CFO	Overall (mean)	Overall (median)
Firm Age (Decades)	6.7	7.5	6.6	8	6.7	5.3
Number Employees (Tens of Thousands)	3.3	5.8	3.2	5.6	3.4	1.2
Net Income (USD$ billions)	1.17	1.06	1.13	1.55	1.16	0.36
Total Assets (USD$ billions)	26.2	38	24.3	52.9	26.6	8.1
Return on Assets (Net income/total assets)	0.0588	0.0517	0.0582	0.0626	0.0585	0.0512
Total Revenue (USD$ millions)	14032.7	23044.3	13776	20888.6	14341.2	4932.2
Total Enterprise Value (USD$ millions)	33461.2	45806.7	31059.4	66603.1	33883.8	12444.4
# of observations	790	28	753	65	818	818

Table 3 shows firm characteristics by sub group. Of the 818 firms, only 28 had female CEOs and 65 had female CFOs. Analysis of the firm characteristics by sub group suggests that firms led by either Female CEOs or Female CFOs are on average larger firms, therefore it is necessary to control for firm size in the cross-sectional regression. On average firms with either Female CEOS or Female CFOs are older firms than firms with Male CEOs or Male CFOS. As well, both firms with Female CEOs or Female CFOs have on average a higher number of employees than male firms. The mean net income for all firms measured in USD billions is 1.16, while the median net income is .36 billion, implying that net income is skewed towards the right. Firms with female CEOs have on average a net income of 1.06 billion dollars while firms with male CEOs have on average a net income of 1.17 billion dollars. In contrast firms with Female CFOS have on average a net income of 1.55 billion USD and male CFOS have on average net income of 1.13 billion dollars. When examining the average total assets, it is apparent that both firms with female CEOs and female CFOs are much larger. Average total assets for all firms is 26.6 billion dollars while Female CEOs on average have 38 billion dollars in total assets and

Female CFOs have on average 52.9 billion dollars in total assets. Despite the large difference in total assets among firms, all firms have a relatively similar return on assets averaging around 5% implying that return on assets might not provide meaningful insight when included as a dependent variable. Both Total revenue and total enterprise value for both firms with Female CEOs and Female CFOs on average is higher than for male led firms. Across all of the variables observed, firms with Female CFOs have higher average values than firms with male CFOs.

METHODOLOGY

Rather than using market cap to measure firm performance this paper will use four main dependent variables. Total enterprise value is the main dependent variable analyzed as it serves as a prediction of the market's overall value for a firm, similarly Gilson et al.. Total enterprise value is measured by market cap (as specified above) added to net debt for each firm. Net debt is measured as the short-term borrowing added to the current portion of long term debt and the long-term debt and subtracting the cash and current short-term investments. Therefore, total enterprise value theoretically represents a more accurate market value of a firm as it represents all of the cash from the total market devoted to a specific firm. Total enterprise value is measured in millions of USD as of December 31st, 2017. As well, the natural log of total enterprise value will be taken to help normalize the data and provide a more easily interpretable coefficient within the regression.

Two other main dependent variables, net income and return on assets, will be analyzed to further examine firm value as Smith, Smith and Verner [2006] both use similar values in their empirical analyses. Net Income is calculated by the total amount of revenue then subtracting the costs of revenues and other operating expenses, including net interest expenses and other non-operating expenses before finally subtracting income tax expenses. Net income is measured in billions of USD$ as of December 31st, 2017 in order to provide the same unit of observation as total assets. Following Peni [2014], return on Assets (ROA) is calculated by taking the net income from the firm and dividing it by the total assets.

There are three main gender variables that represent the gender of the CEO, CFO as well as the proportion of women. The CEO gender dummy variable will be a variable for all of the firms that will equal 1 when there is a female CEO and 0 when there is a male CEO. Alongside the CEO gender dummy variable there will be another variable for the CFO gender. The variable CFO gender will attempt to provide more insight and more observations for female representation at the corporate level of the firm. Finally, there will be a variable for the proportion of females of the companies selected key professionals. The key professionals profiled are selected by each company and can have a maximum of 25 professionals profiled. The proportion of women variable is calculated by taking the total number of women of the key professionals for each firm and dividing it by the total of number of key professionals profiled.

Control variables will focus on the sector and firm size of each company. The sector controls were ten separate divisions as defined by the S&P net advantage platform. The firm size variables will be total assets, number of employees within the firm, and the firm age. Total assets is measured in USD $ billions as of December 31st, 2017. Similarly, to Rietz and Henrekson [2000] the number of employees is included as a control variable for firm size yet is measured in tens of thousands. Firm age is measured by subtracting the founding year of the firm from 2017 and is then divided by ten to be measured in decades as opposed to years. These control variables will allow for better comparison between smaller and larger firms. Additionally, controlling for the number of employees will allow to compare global companies with those that are more regionally based.

EMPIRICAL ANALYSIS OF CROSS SECTIONAL REGRESSIONS

There will be two main cross-sectional regressions that will be analyzed and are included here:

1) $value_i = \beta_0 + \beta_1 gender_{1i} + \beta_2 firmsize_{2i} + \beta_3 industry_{3i} + \ \varepsilon_i$

2) $value_i = \alpha + \beta_1 ceo_{1i} + \beta_2 cfo_{2i} + \beta_3 prop_{3i} + \beta_4 (ceo_{1i} * cfo_{2i}) + \beta_5 (ceo_{1i} * prop_{3i}) + \beta_6 (cfo_{2i} * prop_{3i}) + +\beta_7 firmsize_{7i} + \beta_8 industry_{8i} + \varepsilon_i$

The first of the two cross-sectional regressions will be run for each of the four dependent variables; total enterprise value, the natural log of total enterprise value, net income and total assets. Positive coefficients on the CEO and CFO gender variables in this case will be interpreted as a higher firm performance value for firms with female CEOs or female CFOs in comparison to firms with male CEOs or male CFOs. A positive coefficient on the gender variable proportion of women is interpreted as the proportion of women within a firm increases by .10 the specified firm value will increase as well.

The second of the two cross-sectional regressions include interaction terms for the three gender variables. The first is CEO_CFO which multiplies the CEO gender and CFO gender variables and represents the group of firms that have both a female CEO and female CFO. A positive coefficient of CEO_CFO would be interpreted as when there is both a female CEO and female CFO the firm value is larger when there is a male CEO and male CFO. The second interaction term is CEO_Prop which multiplies the CEO gender variable by the proportion of women variable and represent the relationship between increasing the proportion of women in firms with a female CEO. The third interaction term is CFO_Prop which multiplies the CFOgender variable by the proportion of women variable and represents the relationship between increasing the proportion of women in firms with a female CFO. Positive coefficients on both CEO_PROP and CFO Prop would be interpreted as when there is a female CEO or female CFO the total enterprise value will increase when there is a .10 increase in the proportion of women. As well the interaction model changes the interpretations of the remaining gender variables. A positive coefficient on CEO gender would now be interpreted as that firms with a female CEO will have a larger firm value than firms with a male CEO when there is a male CFO. A positive coefficient on CFO gender is interpreted as that firms with a female CFO will have a larger firm value than firms with a male CFO when there is a male CEO. A positive coefficient on proportion of women in the interaction model would be interpreted as that firms with a male CEO or male CFO would have a larger firm value for a percentage point increase in proportion of women in comparison to firms with a female CEO or female CFO.

All of the firm size variables would be interpreted similarly among all of the models. A positive and significant coefficient for total number of employees would be interpreted as for an increase in the total number of employees by 1,000 there is an increase in the firm value. Similarly, a positive and significant coefficient on firm age would be interpreted as for a 10-year increase in the firm age there is an increase in firm value. A positive and significant coefficient on Total assets would be interpreted as for a one billion dollar increase in total assets there is an increase in firm value.

LIMITATIONS OF CROSS SECTIONAL REGRESSIONS

One of the major limitations of the cross-sectional regressions is the possible risks of including total assets as a control variable for the different measures of firm value. Total enterprise value works to provide a market value of the firm through the use of net debt. Total assets are most likely in part financed with this debt and therefore could have potential endogeneity issues. When total assets are included it is important to ask whether or not they are a function of the firm value or if the firm value is a function of the total assets. A firm cannot build up a higher amount of assets without the use of more cash (which is turn is also an asset) without the use of cash or financing.

Another major limitation of the cross-sectional regressions is that they only observe the firms at one point in time. Almost exclusively all of the previous literature includes panel data that allows to control for firm specific characteristics over time. The lack of panel data is a major limitation but also plays directly into the use of control variables. Due to the majority of previous research using time fixed effects to control for firm specific characteristics, there is very little information on which control variables are important to include. In order to address this, the paper uses total assets, total number of employees and firm age.

The lack of proper control variables points to the omitted variable bias that undoubtedly is included in this paper. Two possible control variables that were not included in this paper were a variable for firm risk level and leverage. In recent review of the literature it seems crucial to include some indicators of risk or leverage.

Finally, the last limitation of this study is the use of both the small cap and large firms in this study as opposed to either group combined with the middle cap firms. Initially this paper examined only the large cap firms and added in the small cap firms in an attempt to find more observations for female CEOs. This action did not increase the value of female CEOs significantly.

The low observations of female CEOs and female CFOs are another major limitation of this study as they may not provide as reflective of a sample of all firms with female CEOs or female CFOs within the economy. Especially as this sample has a lower percentage of female CEOS then the relevant literature reviewed, this could be due to the fact that overall it is a smaller sample than the relevant literature or the fact again that this study contains the small and large cap indexes and not the mid cap index.

TOTAL ENTERPRISE VALUE

Table 4.1 represents the results of regression 1 which is a cross sectional regression of the total enterprise value on the gender variables while controlling for firm size though total number of employees and firm age and industry. Total number of employees is positive and significant at the .05 alpha level and Firm age is not significant.

When regressed on total enterprise value individually both CFO gender and proportion of women are statistically significant. The variable CFO gender is significant at the .01 alpha level and can be interpreted as that firms with female CFOs have a 2.8 billion dollar higher total enterprise value than firms with male CFOs. The proportion of women variable is statistically significant at the .05 alpha level. This implies that as the proportion of women within a firm increases by .10 the total enterprise value increase by 5.3 billion dollars while controlling for total number of employees, firm age, and industry.

When the three gender variables are regressed on total enterprise value together, the CFO gender coefficient and the proportion of women variable remain significant. When the three are regressed together the CEO gender does see a large decrease in magnitude but is not statistically significant individually. An F-test on the three variables reveals that combined the three gender variables are statistically significant at the .01 alpha level and therefore the positive relationship between CEO gender is worth noting.

The interaction model included in the final column of table 4.1 represents regression 2. Again, the coefficients on CFO gender and the proportion of women are positive and statistically significant at the .01 and .05 alpha level. As well an F-test on all three of the gender variables concludes that jointly the three gender variables are significant at the .01 alpha level. When all six gender variables are included in an F-test their result is joint statistical significance at the .01 alpha level. Yet, an F-test on the three interaction term variables reveal that jointly all three are not statistically significant and are not significant individually. Therefore, the positive and statistically significant relationship between the three gender variables serves as the most interesting result from table 4.1. This result implies that the number of women whether in the CEO, CFO or in the general of proportion of women there is an effect on total enterprise value.

Table 4.2 further examines regression 1 by including total assets as a firm size control variable. Table 4.1 had R-squared value of approximately .2, which can be interpreted as approximately 20% of the variation in total enterprise value can be explained by the variables included in the model. Therefore Table 4.2 includes total assets to see if the relationships between variables change in an attempt to see a higher r-squared value. When total assets are included, the r-squared value increases to approximately .48, meaning the variables now explain approximately 48% of the variation in total enterprise value.

Results from Table 4.2 show that all of the firm size variables are statistically significant on total enterprise value. Total assets are positive and significant at the .01 alpha level. Total number of employees is positive and significant at the .05 alpha level. Firm age is negative and significant at the .05 alpha level. Neither CEO gender nor proportion of women alone are significant when regressed on total enterprise value when assets are included. The variable CFO gender is significant on the total enterprise value at the .05 alpha level and is positive while controlling for total assets, number of employees and industry. This means that in comparison to firms with male CFOs, firms with female CFOs have a 1.4-billion-dollar higher enterprise value. When all of the gender variables are included CFO gender remains significant and the magnitudes of CEO gender changes. This change is irrelevant, however, when all three of the gender variables are included in an f-test as they are not jointly statistically significant.

In contrast, in the interaction model, the three gender variables are jointly statistically significant per an f-test. Furthermore, the three interaction variables and all six of the gender variables are statistically significant. These relationships are worth noting. The coefficient on CFO gender is 59339.1 and is significant at the .01 alpha level, this would be interpreted as that total enterprise value increases by 59.3 billion dollars for firms with female CFO when there is a male CEO. The coefficient on proportion of women is positive while the coefficient on CEO gender is negative. Similarly, the coefficients on ceo_cfo and cfo_prop are both negative while the coefficient on ceo_prop is positive. The ambiguity in these relationships allows us only to conclude that gender has an effect on total enterprise value but not exactly what that effect is.

Overall, the relationship between firm value, measured through total enterprise value, and gender is unclear as there are conflicting results whether or not total assets is included as a control variable. Through analysis of both tables 4.1 and 4.2 the relationship between CFO gender and total enterprise value is most interesting. The coefficient on CFO gender remains positive and significant across all models implying that firms with female CFOs have a higher total enterprise value than firms with male CFOs. As well, proportion of women remains positive and significant across all models in table 4.1 which does not control for total assets. Interaction terms become jointly statistically significant only when total assets are controlled for. Both tables 4.1 and 4.2 have joint statistical significance for all six of the gender variables implying that gender does have an effect on total enterprise value.

LN(TOTAL ENTERPISE VALUE)

Table 5.1 further examines the relationship between total enterprise value and the gender variables by using the natural log of total enterprise value. First this relationship is only examined by controlling for total number of employees, firm age and industry. The coefficient on the firm age variable is positive and significant at the .05 alpha level, when the gender variables are regressed on the natural log of total enterprise value individually, while the coefficient on the total number of employees remains positive and significant at the .05 alpha level across all the regressions.

As shown in Table 5.1, when regressed individually on the natural log of total enterprise value both CFO gender and proportion of women are statistically significant. CFO gender has a coefficient of .53 and is significant at the .01 alpha level implying that firms with female CFOs have a 53% higher total enterprise value than firms with male CFOs. The variable proportion of women is significant at the .01 alpha level on the natural log of total enterprise value while controlling for total number of employees, firm age and industry. Proportion of women has a coefficient of 1.5 implying that for a .10 increase in the proportion of women there is a 15-percentage point increase in total enterprise value.

When all of the gender variables are included both CFO gender and proportion of women remain statistically significant. Jointly all three variables together are positive and statistically significant, implying that female led firms have a positive impact on the natural log of total enterprise value. In addition, all three main gender variables remain jointly statistically significant in the interaction model. The coefficient for CFO gender is .80 and is significant at the .01 alpha level, this would be interpreted as that total enterprise value increases by 80% for firms with female CFO in comparison to firms with a male CFO, when there is a male CEO. The coefficient on proportion of women is 1.4 and is statistically significant at the .01 alpha level and is interpreted as for when there is a male CEO and male CFO, total enterprise value increases by 14 percentage points when there is a .10 increase in the proportion of women of the key professionals.

All three of the interaction terms and all six of the gender variables are jointly significant. The coefficient of CEO_CFO is -1.3 and is significant at the .05 alpha level, this is interpreted as when there is both a female CEO and female CFO the total enterprise value is 130% smaller than when there is a male CEO and male CFO. The coefficient on both CEO_PROP and CFO prop are negative and would be interpreted as when there is a female CEO or female CFO the total enterprise value will decrease as firms add more women to the list of their key professionals.

Table 5.2 further examines the relationship between the natural log of total enterprise value by including total assets as a firm size control variable. Table 5.1 had R-squared value of approximately .2, which can be interpreted as approximately 20% of the variation in total enterprise value can be explained by the variables included in the model, which holds as a similar relationship from the previous tables. Therefore Table 5.2 includes total assets to see if the relationships between variables will change as they did in Table 4.2. When total assets are included, the r-squared value increases to approximately .35, meaning the variables now explain approximately 35% of the variation in total enterprise value. The only firm size variables that are statistically significant in table 5.2 are total assets and total number of employees, which are both positive and significant at the .01 alpha level. Firm age is not statistically significant.

The only gender variable in table 5.2 that is not significant is CEO gender when regressed alone on total enterprise value and controlling for total assets. Both the CFO gender and the proportion of women variables are significant at the .01 alpha level on the natural log of total enterprise value while controlling for total assets, number of employees and industry. CFO gender has a coefficient of .35 implying that firms with female CFOs have a 35% higher total enterprise value than firms with male CFOs. Proportion of women has a coefficient of 1.13 implying that for a .10 increase in the proportion of women there is a 11.3 percentage point increase in total enterprise value.

When all of the gender variables are regressed together both CFO gender and proportion of women remain statistically significant. An F-test on all three of the gender variables reveal that jointly the three are statistically significant. The coefficients on all of the gender and firm size variables remain similar in their magnitudes and signs and are all positive. As well the three of the gender variables are jointly significant and positive when included in the interaction model. When all six of the gender variables are included in an f-test they are statistically significant, yet all three of the interaction terms jointly are not. The coefficient of CEO_CFO is -.9 and is significant at the .1 alpha level, this is interpreted as when there is both a female CEO and female CFO the total enterprise value is 90% smaller than when there is a male CEO and male CFO. The coefficient of CEO_PROP is positive while the coefficient of CFO_PROP is negative.

Again, the two variables that remain consistently positive and statistically significant among all models are CFO gender and proportion of women. Both remain significant when regressed individually, with all of the gender variables, in the interaction model and when controlling for total assets. Jointly all three gender variables remain significant throughout tables 5.1and 5.2, implying there is a relationship between gender and the natural log of total enterprise value. The three interaction terms are jointly insignificant while controlling for total assets, but all six terms are jointly significant throughout both tables 5.1 and 5.2. The continuing significance of CFO gender and proportion of women support the initial results that both have a positive effect on total enterprise value.

NET INCOME

Table 6.1 continues to examine regression 1 yet changes the dependent variable to net income. The models still control for firm size though total number of employees and firm age and industry. Total number of employees is positive and significant at the .01 alpha level and firm age is not significant.

When regressed on net income individually none of the gender variables are significant. When all three are regressed together none become significant as well; jointly the three gender variables are not significant. When the interaction terms between the three gender variables are included CFO gender and the interaction between CFO gender and proportion of women are both statistically significant at the .1 alpha level. The coefficient on CFO gender is 2.0 and would be interpreted as that net income is 2.0 billion dollars higher for firms with a female CFO when there is a male CEO, than firms with a male CFO. The coefficient on CFO_prop is -8.3 and would be interpreted as when there is a female CFO the net income of the firm will decrease by .83 billion dollars when there is a .10 increase in the proportion of women. Neither the set of three gender variables, three interaction terms or all six of the gender variables are jointly statistically significant.

Table 6.2 further examines regression 1 by including total assets as a firm size control variable. Table 6.1 had R-squared value of approximately .14, which can be interpreted as approximately 14% of the variation in net income can be explained by the variables included in the model. Therefore Table 6.2 includes total assets to see if the relationships between variables change in an attempt to see a higher r-squared value. When total assets are included, the r-squared value increases to approximately .40, meaning the variables now explain approximately 40% of the variation in net income. Total assets is positive and significant at the .01 alpha level when added to the model implying that for a one billion dollar increase in total assets there is approximately a 30 million dollar increase in net income while controlling for gender, number of employees, firm age and industry. Total number of employees remains significant. Firm age is also statistically significant at the .1 alpha level and would be interpreted as for a 10-year increase in the firm's age there is a decrease in the net income of the firm by approximately 41 million dollars.

When individually regressed on net income, none of the gender variables are significant. When all three are regressed together none become significant as well jointly the three gender variables are not significant. When the interaction terms between the three gender variables are included CFO gender and the interaction between CFO gender and the proportion of women are both statistically significant. The coefficient on CFO gender is 1.7 and is significant at the .1 alpha level, this would be interpreted as that net income is 1.7 billion dollars higher for firms with a female CFO when there is a male CEO, than firms with a male CFO. The coefficient on CFO_prop is -10.00 and is significant at the .01 alpha level and would be interpreted as when there is a female CFO the net income of the firm will decrease by 100 million dollars when there is a .10 increase in the proportion of women. Jointly the three gender variables are not statistically significant when included in the interaction model, yet the three interaction terms jointly are. As well all six of the gender variables when included are jointly statistically significant.

The interaction model of gender on net income provides consistent results with those found on total enterprise value. CFO gender is positive and statistically significant when included in the interaction model regardless of controlling for total assets. Similarly, proportion of women is negative but still statistically significant regardless of controlling for total assets. Furthermore, when total assets are controlled for, all six of the gender variables in the interaction model are jointly significant implying that there is a relationship between gender and net income.

RETURN ON ASSETS

Table 7.1 continues to expand upon regression 1 through using return on assets as the dependent variable. The model still controls for firm size though total number of employees and firm age and industry. Neither of the firm size variables are statistically significant or any of the industry controls. None of the gender variables are significant when regressed in individually on return on assets, or jointly when they are regressed together and in the interaction models.

The lack of statistical significance could be explained by a low r^2 value. Table 7.1 had R-squared value of approximately .08, which can be interpreted as approximately 8% of the variation in return on assets can be explained by the variables included in the model, indicating that the variables included most likely aren't good explanatory variables as R^2 is bound by zero and one. Table 7.2 therefore includes total assets as a control variable in the models, yet total assets is included in the denominator of the dependent variables and therefore any statistical significance should be interpreted with caution due to the endogeneity.

When total assets are included, the r-squared value remains approximately .08, meaning the variables still explain approximately only 8% of the variation in return on assets. Total assets is positive and significant at the .01 alpha level when added to the model implying that for a one billion dollar increase in total assets there is approximately a 3 million dollar increase in net income while controlling for gender, number of employees, firm age and industry. Again, neither of the firm size variables are statistically significant or any of the industry controls. None of the gender variables are significant when regressed in individually on return on assets, or jointly when they are regressed together and in the interaction models. Overall, the regressions on return on assets provide no statistical values worth noting.

BLINDER-OAXACA DECOMPOSITION

1) $\ln(\text{TE})_i = x_i' \beta_{Pooled*} + \delta D_i + \varepsilon_i$

The final regressions analyzed follow the Blinder-Oaxaca decomposition method. Regression 3 illustrates the Blinder-Oaxaca decomposition equation. The regression equation above follows Castro [2015] where D_i is the dummy variable for either CEO or CFO gender as this paper uses the twofold decomposition of pooled groups. The twofold decomposition assumes that each group has the same returns to the explanatory variables. This method uses the natural log of total enterprise value as total enterprise value is the only dependent variable that cannot be negative in nature. The natural log of total enterprise value is taken in order to normalize the data. Due to the nature of the Oaxaca command, industry was not allowed to be a control variable in the regressions therefore the only explanatory variables included were total assets, total number of employees and firm age.

Table 8.1 shows the Blinder-Oaxaca Decomposition for CEO gender on the natural log of total enterprise value. The decomposition shows that the difference between the two groups is -.47. implying that the natural log of total enterprise value is higher for female CEOs therefore we see a negative difference. This difference is significant at the .1 alpha level, neither of the coefficients for explained or unexplained are statistically significant and therefore have no meaning.

Table 8.2 shows the Blinder Oaxaca Decomposition for CFO gender on the natural log of total enterprise value. The decomposition again shows that the difference between the two groups is -.64 and is significant at the .01 alpha level, implying that the natural log of total enterprise value is higher for female CFOs therefore we see a negative difference. This coefficient also means that if we were to adjust the women's firms' characteristics to be the same as male firms then the female firms' total enterprise value would decrease total enterprise value by 64%. The coefficient for explained and unexplained are both equal to -.32 and are significant at the .01 and .05 alpha level. This means that the observed variables explain approximately half of the difference of the total enterprise value gap

LIMITATIONS OF BLINDER-OAXACA DECOMPOSITION

The major limitation of the Blinder-Oaxaca decomposition is the lower r-squared value for the natural log of total enterprise value. Any unexplained differences are most likely due to omitted variable bias as opposed to discrimination. Especially because this method did not allow for industry controls. Furthermore, the assumption of the two-fold decomposition, that both groups have the same returns to the explanatory variables, could be untrue rendering this regression uninformative.

CONCLUSIONS

The major conclusions from this paper come entirely from the cross-sectional regressions outlined above. The lack of significance for the CEO gender variable is quite interesting as it could either signify that there are not enough observations to have statistical significance of this variable or the market is indifferent to the gender of the CEO. This result in itself poses one similar to the relevant literature that finds no difference between the gender of leaders.

Through analysis of the cross sectional regressions it is clear that there is a relationship between gender and firm value, when using total enterprise value, the natural log of total enterprise value or net income. This relationship is most apparent through the CFO gender variable. Tables 4.1, 4.2, 5.1, and 5.2 show that the coefficient on CFO gender remains positive and significant across all models implying that firms with female CFOs have a higher total enterprise value than firms with male CFOs. As well, tables 6.1 and 6.2 show the same relationship when CFO gender is included in the interaction model. Total enterprise value adds the net debt into the market cap in order to provide a better representation of the cost of the company. Due to the nature of total enterprise value this result could simply explain that female CFOs simply borrow more debt than firms with male CFOs, yet in order to actually establish this there would need to be a variable for market cap. As well, this paper only included publicly traded companies all of which have a CFO, the lack of significance of the CEO gender variable in contrast to the significance of the CFO gender variable could mean that the CFO position has more of an impact in publicly traded firms on measures of firm performance.

This paper also provides support for a relationship between the proportion of women on firm value, yet the scope and direction of this value is less clear. The proportion of women is positive and significant in table 4.1 when total assets are not controlled for. Tables 6.1 and 6.2 show the relationship between proportion of women being negative but is significant regardless of if total assets are controlled for. This relationship provides support that it may not matter what the genders of the c-suite are and that gender diversity of the leadership has some effect on the firm value. This could be because the genders of two individuals may make less of an impact than the genders of 25 key professionals and they have more overall impact than those leading them.

Additionally, both tables 4.1 and 4.2 have joint statistical significance for all six of the gender variables implying that gender does have an effect on total enterprise value. Jointly all three gender variables remain significant throughout tables 5.1and 5.2, implying there is a relationship between gender and the natural log of total enterprise value. Furthermore, when total assets are controlled for, all six of the gender variables in the interaction model are jointly significant implying that there is a relationship between gender and net income. This result proves interesting as net income doesn't factor in the net debt of the firm and more accurately could point to the firm performance than total enterprise value. This result then signals that gender has some impact on firm performance but again this relationship is unclear. Again, this could be due to the fact that it isn't the genders of the CEO and CFO that matter but the genders of the entire leadership that play more of a role in firm value.

Overall, the regressions on return on assets provide no statistical values worth noting which provides questions about the worth of this entire model on firm performance. The lack of significance across all of the variables in the return on assets as well as the low r-squared value signal that we might not be using the right variables on the right-hand side of the regression and there might be large omitted variable bias across this entire paper. Therefore, extensions of this work could include adding more years or finding better fit variables to control for firm fixed effects while still including a CFO gender and proportion of women variable.

TABLES AND FIGURES

Table 4.1: Cross Sectional Regressions

Total Enterprise Value					
Variables:					*interaction*
CEOgender	5566.1			785.4	8998.7
	(12169.2)			(12188.3)	(35845.0)
CFOgender		28169***		26141.2***	65763.6***
		(8153.4)		(8207.7)	(21234.4)
Proportion of Women			52948.1**	44025.4**	54074.6**
			(22135.2)	(22402.1)	(23357.0)
CEO_CFO					-43104.3
					(35220.7)
CEO_PROP					-6578.7)
					(125592.7)
CFO_Prop					-159024.4
					(84720.0)
Total Number of Employees	3000***	2982.9***	3004.5***	3985.2***	2963.4***
	(237.7)	(236)	(236.8)	(235.8)	(235.9)
Age	-68.2	-210.1	-225.6	-335.7	-286.7
	(509.0)	(507)	(511.7)	(510.3)	(510.2)
Industry:					
Division B: Mining	-34006.5	-35383.8	-22342.3	-25691.4	-25155.7
	(63688.6)	(63230.8)	(63654.5)	(63349.28)	(63246.0)
Division C: Construction	-47751.8	-47157.8	-36086.5	-37481.0	-35608.8
	(65135.5)	(64666.6)	(65097.3)	(64774.3)	(64675)
Division D: Manufacturing	-23865.7	-24849.9	-15204.8	-17702.4	-16738.1
	(6328.6)	(62610)	(62949.5)	(62642.5)	(62538.2)
Division E: Transportation, Communications, Electric, Gas, And Sanitary Services	-20179.4	-21174.7	-13953.8	-16244.7	-15740.7
	(63283.6)	(62824.3)	(63111.2)	(62807.3)	(62701.8)
Division F: Wholesale Trade	-46712.3	-48377.1	-37713	-40750.0	-40591.5
	(64234.8)	(63773.9)	(64127.2)	(63813.2)	(63705.7)
Division G: Retail Trade	-52508.4	-55827.5	-47844.7	-52014.5	-50031.1
	(63552.9)	(63099.7)	(63358.0)	(63059.9)	(62970.7)
Division H: Finance, Insurance, And Real Estate	-31187.9	-32292.5	-24493.1	-26735.1	-25720.0
	(63154.5)	(62700.2)	(62999.4)	(62689.1)	(62586.3)
Division I: Services	-27064.0	-28829.4	-20441.7	-23303.4	-22815.2
	(63180.1)	(62726.8)	(63023.0)	(62715.4)	(62610.5)

Division J: Public Administration	170976.6**	163433.7**	176268.7**	168494.7**	173043.9**
	(73016.5)	(72521.7)	(72802.6)	(72477.5)	(72411.6)
Constant	51816.6	52092.9	35528.7	38543.8	35364.97
	(62899.6)	(62446.6)	(63053.5)	(62750.6)	(62675)
N	818	818	818	818	818
R^2	0.2217	0.2329	0.227	0.2367	0.2422
Adj R^2	0.2101	0.2214	0.2155	0.2234	0.2261
F-Tests:					
Overall	19.11***	20.37***	19.7***	17.78***	15.04***
ceogender, cfogender, propwomen				5.31***	4.29***
ceo_cfo, ceo_prop, cfo_prop					1.95
all gender variables					3.64***

Legend: * p<.1, ** p<.05, ***p<.01

Table 4.2: Cross Sectional Regressions

Total Enterprise Value					
Variables:					*interaction*
CEOgender	153.7			-2040.5	-14522.2
	(9948.1)			(10021.7)	(29445.6)
CFOgender		14460.6**		13626.5**	59339.1***
		(6727.8)		(6778)	(17432.1)
Proportion of Women			24230.2	20480.3	31412.6
			(18187.6)	(18456.8)	(19205.8)
CEO_CFO					-10291.6
					(28956.9)
CEO_PROP					53474.9
					(103131)
CFO_Prop					-193307.6
					(69559.6)
Total Assets	644.3***	637.2***	640.9***	634.9***	636.3***
	(32.2)	(32.2)	(32.2)	(32.3)	(32.3)
Total Number of Employees	1827.8***	1830.5***	1834.7**	1837.0**	1827.8**
	(202.9)	(202.3)	(202.7)	(202.5)	(202.0)
Age	-917.5**	-983.6**	-987.4**	-1037.2**	-986.4**
	(418.1)	(417.6)	(420.9)	(421.1)	(420.3)
Industry:					
Division B: Mining	-27721.4	-28553.5	-22466.3	-24021.1	-23187.5
	(52045.9)	(51898.0)	(52137.3)	(52082.7)	(51912.1)
Division C: Construction	-34396.7	-34228.9	-29119.29	-29782.1	-27708.1
	(4340.7)	(53079.3)	(53320.2)	(53255.7)	(53086.5)
Division D: Manufacturing	-17561.95	-18204.8	-13692.7	-14845.4	-13655.5
	(51535.6)	(51388.4)	(51560)	(51501.8)	(51331.3)
Division E: Transportation, Communications, Electric, Gas, And Sanitary Services	-22771.0	-23421.1	-20058.5	-20967.9	-20344.5
	(51714.2)	(51563.4)	(51693.2)	(51637.6)	(51465.9)
Division F: Wholesale Trade	-34807.5	-35780.9	-30740.4	-32293.4	-32044.5
	(52494.7)	(52346.5)	(52525.7)	(52465.8)	(52291.2)
Division G: Retail Trade	-30333.5	-32442.7	-28459.3	-30613	-28807.3
	(51945.8)	(51802.8)	(51903.6)	(51856.2)	(51697.3)
Division H: Finance, Insurance, And Real Estate	-39161.1	-39686.8	-36097.3	-37034.5	-35599.6
	(51610.0)	(51462.7)	(51604.1)	(51542.6)	(51373.0)
Division I: Services	-17766.5	-18832.2	-14835.6	-16249.3	-15437.6
	(51631.5)	(51485.7)	(51620.9)	(51562.7)	(51391.8)

Division J: Public Administration	-20689.4	-22380.5	-17203.2	-19432.9	-13995.9
	(60429.4)	(60359.6)	(60417.8)	(60350.2)	(60188.0)
Constant	40756.1	41207.6	33367.2	34758.1	31244.6
	(51403.2)	(51256.3)	(51645.2)	(51590.8)	(51443.8)
N	818	818	818	818	818
R^2	0.4809	0.4839	0.4821	0.4847	0.4901
Adj R^2	0.4725	0.4755	0.4737	0.475	0.4786
F-Tests:					
Overall	57.3***	57.98***	57.56***	50.29***	42.67***
ceogender, cfogender, propwomen				1.95	4.34***
ceo_cfo, ceo_prop, cfo_prop					2.38**
all gender variables					2.4**

Legend: * p<.1, ** p<.05, ***p<.01

Table 5.1: Cross Sectional Regressions

ln(Total Enterprise Value)					
Variables:					*interaction*
CEOgender	0.32			0.2	0.56
	(.21)			(.21)	(.61)
CFOgender		.53***		.47***	.80**
		(.14)		(.14)	(.36)
Proportion of Women			1.5***	1.3***	1.4***
			(.38)	(0.38)	(0.40)
CEO_CFO					-1.3**
					(.60)
CEO_PROP					-.65
					(2.1)
CFO_Prop					-1.1
					(1.4)
Total Number of Employees	.046***	.046***	.046***	.046***	.046***
	(.004)	(.004)	(.004)	(.004)	(.004)
Age	.017**	.014*	.012**	.01	.01
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Industry:					
Division B: Mining	-1.6	-1.6	-1.3	-1.3	-1.3
	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
Division C: Construction	-2.2**	-2.2**	-1.8*	-1.9*	-1.9*
	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
Division D: Manufacturing	-1.5	-1.5	-1.2	-1.3	-1.3
	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
Division E: Transportation, Communications, Electric, Gas, And Sanitary Services	-1.2	-1.2	-1.0	-1.0	-1.0
	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
Division F: Wholesale Trade	-2.0*	-2.1*	-1.8*	-1.8*	-1.8*
	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
Division G: Retail Trade	-2.1**	-2.2**	-2.0*	-2.1*	-2.1*
	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
Division H: Finance, Insurance, And Real Estate	-1.5	-1.5	-1.3	-1.3	-1.3
	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
Division I: Services	-1.6	-1.6	-1.4	-1.5	-1.5
	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
Division J: Public Administration	.17	0.02	.31	.18	.18
	(1.2)	(1.2)	(1.1)	(1.2)	(1.2)

Constant	10.8	10.8	10.4	10.4	10.4
	(1.07)	(1.07)	(1.07)	(1.06)	(1.06)
N	818	818	818	818	818
R^2	0.1955	0.2075	0.209	0.221	0.2272
Adj R^2	0.1835	0.1956	0.1972	0.2074	0.2108
F-Tests:					
Overall	16.3***	17.56***	17.72***	16.27***	13.84***
ceogender, cfogender, propwomen				9.62***	5.09***
ceo_cfo, ceo_prop, cfo_prop					2.15*
all gender variables					5.91***

Legend: * p<.1, ** p<.05, ***p<.01

Table 5.2: Cross Sectional Regressions

ln(Total Enterprise Value)					
Variables:					*interaction*
CEOgender	0.25			.16	0.25
	(.18)			(.19)	(.54)
CFOgender		.35***		.30**	.71**
		(.12)		(.12)	(.32)
Proportion of Women			1.13***	.99***	1.1***
			(.34)	(.34)	(.35)
CEO_CFO					-.9*
					(.53)
CEO_PROP					.14
					(1.9)
CFO_Prop					-1.5
					(1.3)
Total Assets	0.009***	.009***	.009***	.009***	.008***
	(.006)	(.001)	(.001)	(.000)	(.001)
Total Number of Employees	0.030***	0.030***	0.031***	0.031***	0.03***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Age	0.005	0.004	0.002	0.001	0.002
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Industry:					
Division B: Mining	-1.5	-1.5	-1.2	-1.3	-1.3
	(.96)	(.96)	(.96)	(.96)	(.96)
Division C: Construction	-2.0**	-2.0**	-1.7*	-1.8*	-1.8*
	(.99)	(.98)	(.98)	(.98)	(.98)
Division D: Manufacturing	-1.4	-1.4	-1.2	-1.3	-1.3
	(.96)	(.95)	(.95)	(.95)	(.95)
Division E: Transportation, Communications, Electric, Gas, And Sanitary Services	-1.2**	-1.2**	-1.0	-1.1	-1.1
	(.96)	(.95)	(.95)	(.95)	(.95)
Division F: Wholesale Trade	-1.9**	-1.9**	-1.7*	-1.7*	-1.7*
	(.98)	(.97)	(.97)	(.97)	(.97)
Division G: Retail Trade	-1.8**	-1.9**	-1.7*	-1.8*	-1.8*
	(.96)	(.96)	(.97)	(.96)	(.96)
Division H: Finance, Insurance, And Real Estate	-1.6*	-1.6*	-1.4	-1.4	-1.4
	(.96)	(.95)	(.95)	(.95)	(.95)
Division I: Services	-1.5	-1.6	-1.3	-1.4	-1.4
	(.96)	(.95)	(.95)	(.95)	(.95)

Division J: Public Administration	-2.4**	-2.5**	-2.3**	-2.3**	-2.3**
	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)
Constant	10.7	10.7	10.4	10.4	10.4
	(.95)	(.95)	(.95)	(.95)	(.95)
N	818	818	818	818	818
R^2	0.3648	0.3695	0.3722	0.3774	0.3812
Adj R^2	0.3546	0.3593	0.362	0.3657	0.3673
F-Tests:					
Overall	35.52***	36.24***	36.66***	32.4***	27.34***
ceogender, cfogender, propwomen				6.01***	4.07***
ceo_cfo, ceo_prop, cfo_prop					1.65
all gender varaibles					3.84***

Legend: * p<.1, ** p<.05, ***p<.01

Table 6.1: Cross Sectional Regressions

Net Income					
Variables:					*interaction*
CEOgender	-.44			-.57	-1.2
	(.64)			(.64)	(1.9)
CFOgender		.11		.05	2.0*
		(.43		(.43)	(1.1)
Proportion of Women			1.4	1.6	2.0
			(1.2)	(1.2)	(1.2)
CEO_CFO					-.07
					(1.9)
CEO_PROP					2.6
					(6.7)
CFO_Prop					-8.3*
					(4.5)
Total Number of Employees	.10***	.10***	.10***	.10***	.10***
	(.013)	(.013)	(.013)	(.013)	(.013)
Age	.001	.001	.001	-.004	-.002
	(.03)	(.03)	(.03)	(.03)	(.03)
Industry:					
Division B: Mining	-2.4	-2.4	-2.1	-2.0	-2.0
	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)
Division C: Construction	-2.0	-2.0	-1.7	-1.6	-1.5
	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)
Division D: Manufacturing	-1.3	-1.3	-1.1	-1.0	-.98
	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)
Division E: Transportation, Communications, Electric, Gas, And Sanitary Services	-.34	-.37	-.20	-.16	-.13
	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)
Division F: Wholesale Trade	-1.8	-1.8	-1.5	-1.5	-1.5
	(3.4)	(3.4)	(3.3)	(3.4)	(3.4)
Division G: Retail Trade	-2.3	-2.3	2.2	2.2	-2.1
	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)
Division H: Finance, Insurance, And Real Estate	-1.5	-1.5	-1.3	-1.3	-1.2
	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)
Division I: Services	-1.6	-1.6	-1.5	-1.4	-1.4
	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)
Division J: Public Administration	8.6**	8.5**	8.7**	8.7**	9.0*
	(3.8)	(3.8)	(3.8)	(3.8)	(3.8)

Constant	2.2	2.2	1.7	1.7	1.6
	(3.3)	(3.3)	(3.3)	(3.3)	(3.3)
n	818	818	818	818	818
R^2	0.1406	0.1401	0.1417	0.1425	0.1464
Adj R^2	0.1278	0.1273	0.1289	0.1276	0.1283
F-Tests:					
Overall	10.97***	10.93***	11.08***	9.53***	8.07***
ceogender, cfogender, propwomen				0.77	1.85
ceo_cfo, ceo_prop, cfo_prop					1.21
all gender varaibles					0.99

Legend: * p<.1, ** p<.05, ***p<.01

Table 6.2: Cross Sectional Regressions

Net Income					
Variables:					*interaction*
CEOgender	-.72			-713.3	-2.5
	(.53)			(537.3)	(1.6)
CFOgender		-591.5		-590.5	1.7*
		(360.8)		(363.3)	(.93)
Proportion of Women			-7.9	357.2	.861.0
			(975.2)	(989.4)	(1.0)
CEO_CFO					1.6
					(1.6)
CEO_PROP					5.7
					(5.5)
CFO_Prop					-10.0***
					(3.7)
Total Assets	.032***	.032***	.032***	.032***	.033***
	(.001)	(.001)	(.001)	(.001)	(.001)
Total Number of Employees	.044***	.044***	.044***	.044***	.045***
	(.011)	(.011)	(.011)	(.011)	(.011)
Age	-.041*	-.041*	-.041*	-.041*	-.038*
	(.022)	(.022)	(.022)	(.022)	(.022)
Industry:					
Division B: Mining	-2.0	-2.0	-2.1	-1.9	-1.9
	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
Division C: Construction	-1.3	-1.3	-1.3	-1.2	-1.1
	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
Division D: Manufacturing	-.97	-.96	-.99	-.88	-.82
	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
Division E: Transportation, Communications, Electric, Gas, And Sanitary Services	-.47	-.49	-.51	-.40	-.37
	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
Division F: Wholesale Trade	-1.2	-1.2	-1.2	-1.1	-1.1
	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
Division G: Retail Trade	-1.2	-1.1	-1.2	-1.1	-1.0
	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
Division H: Finance, Insurance, And Real Estate	-1.9	-1.9	-1.9	-1.8	-1.7
	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
Division I: Services	-1.2	-1.1	-1.2	-1.1	-1.0
	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)

Division J: Public Administration	-1.1	-.97	-1.0	-.96	-.71
	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)
Constant	1.6	1.6	1.5	1.5	1.3
	(2.7)	(2.8)	(2.8)	(2.8)	(2.8)
N	818	818	818	818	818
R-squared	0.4035	0.4041	0.4021	0.4055	0.412
Adj R-squared	0.3938	0.3945	0.3925	0.3943	0.3987
F-Tests:					
Overall	41.83***	41.94***	41.6***	36.46***	31.1***
ceogender, cfogender, propwomen				1.49	1.99
ceo_cfo, ceo_prop, cfo_prop					2.95**
all gender varaibles					2.33**

Legend: * p<.1, ** p<.05, ***p<.01

Table 7.1: Cross Sectional Regressions

Return on Assets					
Variables:					*interaction*
CEOgender	-0.012			-0.012	-0.021
	(0.01)			(0.01)	(0.04)
CFOgender		0.0004		0.001	0.008
		(0.01)		(0.01)	(0.02)
Proportion of Women			-0.006	-0.003	-0.007
			(0.02)	(0.02)	(0.02)
CEO_CFO					0.032
					(.04)
CEO_PROP					.016
					(.13)
CFO_Prop					-.038
					(.08)
Total Number of Employees	-0.00003	-0.00003	-0.00003	-0.00003	-0.00002
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Age	-0.0004	-0.0004	-0.0004	-0.0004	-0.0004
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Industry:					
Division B: Mining	-0.09	-0.09	-0.09	-0.09	-0.09
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division C: Construction	-0.04	-0.04	-0.04	-0.04	-0.04
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division D: Manufacturing	-0.04	-0.04	-0.04	-0.04	-0.04
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division E: Transportation, Communications, Electric, Gas, And Sanitary Services	-0.05	-0.05	-0.05	-0.05	-0.05
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division F: Wholesale Trade	-0.05	-0.05	-0.05	-0.05	-0.05
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division G: Retail Trade	0.02	0.02	0.02	0.02	0.02
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division H: Finance, Insurance, And Real Estate	-0.06	-0.06	-0.06	-0.06	-0.06
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division I: Services	-0.04	-0.04	-0.04	-0.04	-0.04
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division J: Public Administration	-0.07	-0.07	-0.07	-0.07	-0.07

	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Constant	.10	.10	.10	.10	.10
	(.07)	(.07)	(.07)	(.07)	(.07)
N	818	818	818	818	818
R^2	0.0843	0.0832	0.0833	0.0843	0.0853
Adj R^2	0.0706	0.0695	0.0696	0.0683	0.0658
F-Tests:					
Overall	6.17***	6.09***	6.09***	5.28***	4.39***
ceogender, cfogender, propwomen				0.32	0.14
ceo_cfo, ceo_prop, cfo_prop					0.28
all gender varaibles					0.3

Legend: * p<.1, ** p<.05, ***p<.01

Table 7.2: Cross Sectional Regressions

Return on Assets					
Variables:					*interaction*
CEOgender	-0.012			-0.012	-0.018
	(0.01)			(0.01)	(0.04)
CFOgender		0.002		0.003	0.009
		(0.01)		(0.01)	(0.02)
Proportion of Women			-0.003	-0.006	0.002
			(0.02)	(0.02)	(0.02)
CEO_CFO					0.028
					(.04)
CEO_PROP					.008
					(.13)
CFO_Prop					-.034
					(.09)
Total Assets	-0.00008**	-.00008**	-.00008***	-.00008***	-.00008***
	(.00003)	(0.00003)	(0.003)	(0.00003)	(0.00003)
Total Number of Employees	0.0001	0.0001	0.0001	0.0001	0.0001
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Age	-.0003	-0.0003	-0.0003	-0.0003	-0.0003
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Industry:					
Division B: Mining	-0.09	-0.09	-0.09	-0.09	-0.09
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division C: Construction	-0.04	-0.04	-0.04	-0.04	-0.04
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division D: Manufacturing	-0.04	-0.04	-0.04	-0.04	-0.04
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division E: Transportation, Communications, Electric, Gas, And Sanitary Services	-0.05	-0.05	-0.05	-0.05	-0.05
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division F: Wholesale Trade	-0.05	-0.05	-0.05	-0.05	-0.05
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division G: Retail Trade	0.01	0.01	0.01	0.01	0.01
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division H: Finance, Insurance, And Real Estate	-0.06	-0.06	-0.06	-0.06	-0.06
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)

Division I: Services	-0.04	-0.04	-0.04	-0.04	-0.04
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Division J: Public Administration	-0.05	-0.05	-0.05	-0.05	-0.05
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Constant	.11	0.11	0.11	0.11	.10
	(.07)	(.07)	(.07)	(.07)	(.07)
N	818	818	818	818	818
R^2	0.0886	0.0878	0.0877	0.0887	0.0894
Adj R^2	0.039	0.073	0.0729	0.0717	0.0689
F-Tests:					
Overall	6.01***	5.95***	5.94***	5.21***	4.36***
ceogender, cfogender, propwomen				0.3	0.12
ceo_cfo, ceo_prop, cfo_prop					0.21
all gender varaibles					0.26

Legend: * p<.1, ** p<.05, ***p<.01

Table 8.1: Blinder-Oaxaca Decomposition

	LN(Total Ent) with CEO gender	
Decomposition	Coefficient	SE
prediction_1	9.6***	(.04)
prediction_2	10.0***	(.24)
difference	-.47*	(.25)
explained	-.18	(.12)
unexplained	-.29	(.18)

Legend: * p<.1, ** p<.05, ***p<.01

Table 8.2: Blinder-Oaxaca Decomposition

	LN(Total Ent) with CFO gender	
Decomposition	Coefficient	SE
prediction_1	9.5***	(.04)
prediction_2	10.2***	(.16)
difference	-.64***	(.17)
explained	-.32***	(.12)
unexplained	-.32**	(.14)

Legend: * p<.1, ** p<.05, ***p<.01

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