

EFA
Eastern
Finance
Association

The Financial Review 38 (2003) 33-53

The
Financial
Review



Corporate Governance, Board Diversity, and Firm Value

David A. Carter
Betty J. Simkins*
W. Gary Simpson

Oklahoma State University

Abstract

This study examines the relationship between board diversity and firm value for *Fortune* 1000 firms. Board diversity is defined as the percentage of women, African Americans, Asians, and Hispanics on the board of directors. This research is important because it presents the first empirical evidence examining whether board diversity is associated with improved financial value. After controlling for size, industry, and other corporate governance measures, we find significant positive relationships between the fraction of women or minorities on the board and firm value. We also find that the proportion of women and minorities on boards increases with firm size and board size, but decreases as the number of insiders increases.

Keywords: corporate governance, diversity, board of directors, financial value

JEL Classifications: G38/M14/J15/J16

*Corresponding author: Department of Finance, Oklahoma State University, 336 Business Bldg, Stillwater, OK 74078-4011; Phone: (405) 744-8625; Fax: (405) 744-5180; E-mail: simkins@okstate.edu

We wish to thank Ken Borokhovich, Claire Crutchley, Charles Elson, Melissa Fry, Philip Hersch, Joanne Li, Stan Longhofer, and seminar participants at Wichita State University, the 2001 Financial Management Association International Annual meetings, 2002 Eastern Finance Association meetings, and the 2002 European Financial Management Association Annual meetings for their helpful suggestions and comments.

1. Introduction

One of the most significant governance issues currently facing the managers, directors, and shareholders of the modern corporation is the gender, racial, and cultural composition of the board of directors. The issue has taken on a high public profile as a result of reports in the popular press, shareholder proposals from advocacy groups, and policy statements from major institutional investors. For example, the Interfaith Center on Corporate Responsibility (ICCR) has sponsored numerous shareholder proposals that would require corporations to increase and report board diversity at major corporations, including Texaco, First Data, Unocal, Circuit City Stores, Sprint, and York International.¹ TIAA-CREF adopted a policy statement on corporate governance that states the board should be composed of “qualified individuals who reflect diversity of experience, gender, race, and age” (TIAA-CREF, 1997). Diversity is a key investment criterion for TIAA-CREF because they believe a diverse board will be less beholden to management. Additionally, the National Association of Corporate Directors Blue Ribbon Commission recommended that gender, racial, age, and nationality diversity should be considered in the selection of directors (National Association of Corporate Directors, 1994).

Many corporations also see board of director make-up as a significant issue. For example, Sun Oil’s CEO, Robert Campbell states: “Often what a woman or minority person can bring to the board is some perspective a company has not had before—adding some modern-day reality to the deliberation process. Those perspectives are of great value, and often missing from an all-white, male gathering. They can also be inspiration to the company’s diverse workforce” (Campbell, 1996). There is evidence to support the argument that corporations are increasing board diversity over time.²

There are at least two important aspects to the issue of board diversity as suggested by Karen J. Curtin, executive vice president of Bank America: “There is real debate between those who think we should be more diverse because it is the right thing to do and those who think we should be more diverse because it actually enhances shareholder value. Unless we get the second point across, and people believe it, we’re only going to have tokenism” (Brancato and Patterson, 1999). One aspect is equity and the other shareholder value. Many corporate leaders and other parties believe that board diversity must be considered in the context of shareholder value. For example, participants at a forum sponsored by the Conference Board “immediately rejected the notion that board diversity for its own sake, without a business case, was sufficient reason to act” (Brancato and Patterson, 1999). The participants in this forum represented many different organizational perspectives including major

¹ For more information about ICCR’s shareholder proposals addressing diversity on the board of directors, see <http://www.iccr.org>.

² Refer to Brancato and Patterson (1999) and Daily, Certo, and Dalton (1999). Board diversity has increased over time, although the adequacy of the increase may be viewed differently by various groups.

corporations, e.g., Bank of America, Sara Lee Corporation, Motorola, Inc., PepsiCo, Inc., TIAA-CREF, the Society for Human Resource Management, the Hispanic Association on Corporate Responsibility, the Children's Defense Fund, the National Council of Negro Women, Fannie Mae, the Securities and Exchange Commission, and a variety of consulting groups. Referring to internal control mechanisms, Jensen (1993) argues that "suggestions to model the board process after a democratic political model in which various constituencies are represented are likely to make the process even weaker." The policy statement by TIAA-CREF also specifically recommends against constituency directors, stating that "Each director should represent all shareholders: therefore, TIAA-CREF opposes the nomination of specific representational directors and the practice of cumulative voting in the election of directors" (TIAA-CREF, 1997).

Many corporate managers and others interested in good governance believe that a positive link exists between board diversity and shareholder value. Veronica A. Haggart, Corporate Vice President and Director of Government Relations at Motorola, Inc. argues: "We have to look at the connection between diversity, the success of the board, and a successful company. We should look in a broader sense at good governance, not just because it includes a broad spectrum of people, but because it means running a good company. That means the numbers show up in the financials which, in turn, means that the issue is going to make a difference to shareholders" (Brancato and Patterson, 1999). The Conference Board report on board diversity, discussed above, concludes that good economic arguments exist for increasing the diversity of boards. However, this same report also comes to the rather contradictory conclusion that "changes in corporate value (and presumably shareholder value) cannot be statistically attributed solely to the presence or absence of a small number of individuals of any background on a board of directors," and, in reference to the process of board diversity creating shareholder value, "Metrics measuring the chain of events are not precise. Moreover, in the opinion of most working group members, too much emphasis can be placed on the need to definitively prove such a connection." Despite the often-stated assumption that board diversity creates shareholder value, we could find no evidence that directly supports this hypothesis.³

Given the emphasis being placed on board diversity as a part of good corporate governance, the relationship between board diversity and shareholder value creation deserves both theoretical and empirical investigation. The purpose of this paper is to empirically examine this relationship by studying *Fortune* 1000 firms.⁴ Board

³ The Conference Board report on board diversity in U.S. corporations did not present any statistical tests of the relationship between board diversity and firm value (Brancato and Patterson, 1999). See Section II of our paper for a discussion of empirical evidence on this topic.

⁴ It is important to note what this paper does not do. We do not evaluate the issue of equity and board diversity. Our goal is to explore the economic implications of board diversity and leave the sociological and political implications to others.

diversity is defined as the percentage of women or minorities (i.e., African Americans, Asians, and Hispanics) on the board of directors and firm value is measured by Tobin's Q. We control for possible endogeneity between firm value and diversity using two-stage least squares analysis. Overall, we find a positive significant relationship between board diversity and firm value. This result holds after controlling for size, industry, and other corporate governance measures. Our results are important because we present some of the first empirical evidence that indicates board diversity is associated with improved financial performance.

The remainder of the paper is organized as follows. Section 2 presents the conceptual case for a relationship between board diversity and firm value, and Section 3 examines prior empirical evidence on board composition and firm value relevant to our study. Section 4 discusses the data and empirical methodology employed. The results of the empirical analysis are presented in Section 5, while Section 6 concludes the paper.

2. Board diversity and firm value

2.1. *The business case for a positive relationship between board diversity and firm value*

Cox and Blake (1991) and Robinson and Dechant (1997) provide good summaries of the conceptual case for diversity often heard in the corporate world. While they focus on workplace diversity in general, the points are similar for board diversity. Diversity is believed to affect a firm's long-term and short-term financial value in several ways. While these propositions do not flow from any single theoretical framework, Robinson and Dechant (1997) cite limited empirical evidence and provide intuitive examples to support each proposition.

These propositions are as follows. First, corporate diversity promotes a better understanding of the marketplace. Because demographic projections indicate the marketplace is becoming more diverse, matching the diversity of a company to the diversity of the company's potential customers and suppliers increases the ability to penetrate markets. Second, diversity increases creativity and innovation. According to this view, "attitudes, cognitive functioning, and beliefs are not randomly distributed in the population, but tend to vary systematically with demographic variables such as age, race, and gender" (Robinson and Dechant, 1997). Third, diversity produces more effective problem-solving. While heterogeneity may initially produce more conflict in the decision making process, the variety of perspectives that emerges cause decision makers to evaluate more alternatives and more carefully explore the consequences of these alternatives. Fourth, diversity enhances the effectiveness of corporate leadership. Homogeneity at the top of a company is believed to result in a narrow perspective while diverse top managers take a broader view. The result of diversity at the top is a better understanding of the complexities of the environment and more astute decisions. Finally, diversity promotes more effective global relationships. Cultural sensitivity is

critical in an international environment and ethno-cultural diversity makes corporate leaders more sensitive to cultures not in North America.

Additionally, Cox and Blake (1991) argue that substantial costs exist for firms that do a poor job of integrating their diverse workforce. These costs are related to turnover and absenteeism of women and minorities that are dissatisfied with their careers and prospects for advancement. Firms that deal with diversity-related issues should have cost advantages over firms that do not. To assess the impact of diversity on firm performance, Keys, Turner, and Friday (2002) compare firms ranked by *Fortune* as being among the “diversity elite” with firms not ranked as such. They find that diversity promoters add more value to shareholders than nondiversity promoters do.

2.2. Agency theory and the link between board diversity and firm value

Agency theory is the theoretical framework most often used by investigators in finance and economics to understand the link between board characteristics and firm value. The arguments of Fama and Jensen (1983) are well known but, as a general statement, they propose a very important role for the board as a mechanism to control and monitor managers. The role of the board in an agency framework is to resolve agency problems between managers and shareholders by setting compensation and replacing managers that do not create value for the shareholders. One of the key elements of an agency view of the board is that outside board members will not collude with inside directors to subvert shareholder interests because directors have incentives to build reputations as expert monitors. Board independence is critical for boards to function in the best interests of shareholders. The central question for our analysis is the impact board diversity would have on board independence. In other words, should we expect a more diverse board to be a better monitor of management and less likely to subvert the interest of shareholders?

One argument is that diversity increases board independence because people with a different gender, ethnicity, or cultural background might ask questions that would not come from directors with more traditional backgrounds. In other words, a more diverse board might be a more activist board because outside directors with nontraditional characteristics could be considered the ultimate outsider. However, a different perspective may not necessarily result in more effective monitoring because diverse board members may be marginalized. We can see no *a priori* reason to expect diversity to affect the incentives for directors to build their reputations as expert monitors.

Hermalin and Weisbach (2000) make the following statement, “Although such principal-agent modeling provides many insights, it is not particularly useful for explaining board-specific phenomena: For example, why the ratio of insiders to outsiders matters or changes: or why management seems to have such influence in the selection of directors.” Hermalin and Weisbach’s (2000) point is important to our study because agency theory simply does not provide a clear-cut prediction concerning the link between board diversity and firm value.

The preceding discussion highlights our dilemma. The most promising theoretical framework does not give a clear prediction of the role of board diversity in firm value, while at the same time the intuitive belief in a positive relationship appears to be strong in the corporate world. We submit that the issue becomes an empirical question until a theoretical framework that predicts the nature of the relationship is developed. The importance of the topic justifies empirical examination. Next, we discuss relevant studies on board composition and firm value that lead to the development of our research methodology.

3. Previous evidence on board composition and firm value

Investigators of board composition have explored numerous board characteristics including the number of directors on the board, the percentage of outside directors on the board, the ownership position of inside directors, the board committee structure, and the number of meetings held annually.⁵ As stated previously, few academic studies address the relationship between board diversity and firm value. The facet of board composition most often studied is the number of outside directors relative to inside directors on the board (Hermalin and Weisbach, 2000). This aspect of board composition appears to have relevance to our analysis because a more diverse board is likely to be a more independent or activist board.

Shrader, Blackburn, and Iles (1997) investigate the relationship between the percentage of female board members and two accounting measures of financial value (e.g. ROA and ROE) for a sample of approximately 200 *Fortune* 500 firms.⁶ They find a significant negative relationship between the percentage of women on the board and firm value in some tests. Zahra and Stanton (1988) use canonical analysis to test the relationship between the percentage of ethnic minority directors and several accounting measures of financial value (e.g. ROE and EPS). However, they find no statistically significant relationship.⁷

An early study by Baysinger and Butler (1985) tests the relationship between the percentage of independent directors and a relative measure of return on equity. They find that boards with more outsiders outperformed other firms but that a majority of independent directors was not necessary to insure above average value. Baysinger

⁵ Refer to Hermalin and Weisbach (2000), Bhagat and Black (1999), and Shultz (2000) for a review of the evidence on corporate boards.

⁶ The investigation controls indirectly for firm size, but includes no other variables in a simple OLS regression equation. The average firm in the sample had approximately one woman on the board.

⁷ Two other studies marginally related to our analysis explore diversity in the work place. Wright, Ferris, Hiller, and Kroll (1995) find significant positive excess returns when firms were recognized with U. S. Department of Labor awards for affirmative action programs and significant negative excess returns when firms announced discrimination settlements in lawsuits. Richard (2000) finds a positive relationship between a firm's ROE and employee diversity for firms following a growth strategy.

and Butler conclude that boards with both insiders and outsiders produce the best financial value. Hermalin and Weisbach (1991) compare the percentage of outsiders on boards to a relative measure of Tobin's Q. They conclude that there is no relationship between the percentage of outsiders on the board and firm value. Yermack (1996), Bhagat and Black (1999), and Agrawal and Knoeber (1996) find a negative correlation between Tobin's Q and the proportion of independent directors on the board. Bhagat and Black (2000) find no relationship between long-term market returns and board independence. Rosenstein and Wyatt (1990) use event study methodology and find a very slight increase in stock prices when a company appointed an additional outside director. MacAvoy and Millstein (1999) argue that the mixed results have followed from concentrating on periods when boards were largely irrelevant and using unreliable proxies for board independence. They use two measures of activism developed by CALPERS as an indication of board independence and Economic Value Added as the measure of financial value. MacAvoy and Millstein find a positive relationship between board independence and financial value. The results are obviously mixed and Hermalin and Weisbach (2000) argue that "Overall, there is little to suggest that board composition has any cross-sectional relation with firm value."

While it is difficult to predict the relation between board diversity and firm value based on prior studies, these studies provide a basis for our empirical tests. The following section discusses our data sources and the methods used to investigate the relationship between board of director diversity and firm value.

4. Data sources and methodology

4.1. Sample and sources of data

To investigate the relationships among corporate governance, board of director diversity, and firm value, we focus our analysis on publicly traded *Fortune* 1000 firms. For these firms, data on board of director characteristics for 1997 were obtained from *Significant Data for Directors 1999: Board Policies and Governance Trends*, prepared by Directorship.^{8,9} In addition, accounting data for the firms in our sample were taken

⁸ Directorship is a corporate governance consulting organization. The bulk of the data in Directorship's board of director database originated from proxy statements issued by the firms during 1997.

⁹ We recognize the limitations of using a single year of diversity data in this investigation. However, because these data are not regularly reported or collected, there are few viable options for obtaining detailed information on the demographic characteristics of board members for a large sample of firms (note: Directorship does not collect and report these data annually). One potential way to obtain this information is to use pictures of the board members provided in annual reports. However, many firms do not provide pictures of their boards. Further, firms that do include pictures of their board often do not do so in a consistent manner. The use of surveys would seem to be another way to obtain the data needed for this study. However, survey data is notorious for having low response rates and would likely provide data on far fewer firms. Further, survey data would likely be biased toward those firms wishing to "showcase" their diverse boards. On balance, we believe that the use of the Directorship data is reasonable given the difficulty of obtaining data for a large sample of firms over several years.

Table 1

Descriptive statistics for sample firms

This table presents descriptive statistics for sample firms. The sample is drawn from the *Fortune* 1000 firms. Data related to board of director characteristics are taken from *Significant Data for Directors 1999: Board Policies and Governance Trends*, compiled by Directorship.

Variable	Number of firms	Mean	Standard deviation
Total assets (\$ million)	737	13,342	36,752
Duality of CEO and board chair	797	0.777	0.417
Number of annual board meetings	797	7.448	2.866
Age of directors	797	59.006	3.759
Number of directors	797	10.986	3.105
Number of inside directors	797	2.802	1.594
% of insiders on board	797	0.262	0.138
Number of women directors	797	1.093	0.860
% of women on board	797	0.096	0.074
Number of minority directors	797	0.693	0.924
% of minorities on board	797	0.059	0.075

from the COMPUSTAT database. There are 797 firms with a complete set of board of director data. Due to missing accounting data, the sample is reduced to 638 firms with a complete set of all the data items.

Table 1 provides descriptive statistics for our sample firms. The average size (total assets) of the firms in our sample is \$13.3 billion. In almost 78% of the firms, the chair of the board is also the CEO. The boards meet 7.4 times per year, on average, and the mean age of the directors is 59 years. The average board is made-up of 11 directors, of whom, on average, 2.8 are insiders, 1.1 are women, and 0.7 are minorities.

Table 2 provides a breakdown of the women and minority directors by industry. Panel A reports the distribution of female directors, while Panel B reports the breakdown of minority directors. As can be seen in Panel A, just under one half (46.9%) of the sample firms have one woman on their board of directors, while a quarter (24.8%) do not have women on their boards of directors at all. Around 28% of the firms have two or more female directors, with nine firms having four or more. Nine financial-services firms have three female directors and another four have four or more directors that are women. Firms in food, apparel, paper, and chemical manufacturing (one-digit SIC = 2) and transportation and communications (one-digit SIC = 4) have the lowest percentage of firms with no female directors (15.9% and 16.4% respectively). By contrast, three industries (one-digit SIC = 1, 7, and 8) have no firms with more than two female directors.

As reported in Panel B, almost half of the firms (49.7%) do not have a single minority director, while only three firms have four or more directors that are minorities. Further, only three sample firms have four or more minority directors. However, approximately half of the sample firms have one or more minority directors. As with women, financial-services firms are most likely to have larger numbers of minorities

Table 2

Breakdown of women and minorities on boards of directors for sample firms by industry

This table presents a breakdown of the number of women and minorities on boards of directors for sample firms by industry. Panel A presents the breakdown of women on boards, while Panel B presents the breakdown of minorities on boards. The sample is drawn from the *Fortune* 1000 firms. Data related to board of director characteristics are taken from *Significant Data for Directors 1999: Board Policies and Governance Trends*, compiled by Directorship.

Panel A: The number and % of women on boards of directors by industry

One-digit SIC	Industry description	Number of women on board								Total firms		
		0		1		2		3			4+	
		Num. of firms	% of firms	Num. of firms	% of firms	Num. of firms	% of firms	Num. of firms	% of firms	Num. of firms	% of firms	
1	Mining & construction	12	44.4%	12	44.4%	3	11.1%	0	0.0%	0	0.0%	27
2	Manufacturing: food, apparel, paper, & chemical	26	15.9%	68	41.5%	61	37.2%	8	4.9%	1	0.6%	164
3	Manufacturing: rubber, leather, stone, metal, & electronic	61	32.6%	87	46.5%	33	17.6%	4	2.1%	2	1.1%	187
4	Transportation & communications	18	16.4%	60	54.5%	27	24.5%	3	2.7%	2	1.8%	110
5	Wholesale & retail trade	40	31.7%	59	46.8%	25	19.8%	2	1.6%	0	0.0%	126
6	Financial services	27	23.3%	47	40.5%	29	25.0%	9	7.8%	4	3.4%	116
7	Travel & entertainment	11	25.0%	27	61.4%	6	13.6%	0	0.0%	0	0.0%	44
8	Other services	3	13.0%	14	60.9%	6	26.1%	0	0.0%	0	0.0%	23
Total		198	24.8%	374	46.9%	190	23.8%	26	3.3%	9	1.1%	797

(continued)

Table 2 (continued)
Breakdown of women and minorities on boards of directors for sample firms by industry

Panel B: The number and % of minorities on boards of directors by industry

One-digit SIC	Industry description	Number of minorities on board					Total firms			
		0	1	2	3	4+				
		Num. of firms	% of firms	Num. of firms	% of firms	Num. of firms	% of firms	Num. of firms	% of firms	Total firms
1	Mining & construction	19	70.4%	5	18.5%	3	11.1%	0	0.0%	27
2	Manufacturing: food, apparel, paper, & chemical	62	37.8%	75	45.7%	22	13.4%	5	3.0%	164
3	Manufacturing: rubber, leather, stone, metal, & electronic	113	60.4%	56	29.9%	17	9.1%	1	0.5%	187
4	Transportation & communications	39	35.5%	48	43.6%	17	15.5%	5	4.5%	110
5	Wholesale & retail trade	71	56.3%	42	33.3%	11	8.7%	2	1.6%	126
6	Financial services	46	39.7%	43	37.1%	18	15.5%	7	6.0%	116
7	Travel & entertainment	26	59.1%	14	31.8%	4	9.1%	0	0.0%	44
8	Other services	20	87.0%	3	13.0%	0	0.0%	0	0.0%	23
Total		396	49.7%	286	35.9%	92	11.5%	20	2.5%	797

on their boards, with seven firms having three minority directors and two firms with four or more minority directors. Transportation and communications firms (one-digit SIC = 4) and food, apparel, paper, and chemical manufacturing firms (one-digit SIC = 2) have the lowest percentage of firms with no minority directors (35.5% and 37.8% respectively). Firms in other services (one-digit SIC = 8) and mining and construction (one-digit SIC = 1) have the highest percentage of firms without any minority directors (87.0% and 70.4% respectively).

4.2. Empirical methodology and hypotheses

We use both comparisons of means and regression analysis to examine the effect of board of director diversity and firm value. With respect to our estimation procedure, we regress a measure of firm value against measures of board of director diversity as follows:

$$\text{Firm Value} = \alpha_0 + \alpha_1 \text{Diversity} + \Sigma \alpha x + \varepsilon \quad (1)$$

where the approximation of Tobin's Q [see Chung and Pruitt (1994)] is the measure of firm value and x is a vector of other explanatory variables. We use both a dummy variable indicating the presence of women/minorities on the board and the percentage of women/minorities on the board as measures of board of director diversity.

In the estimation, we include several corporate control variables that have previously been studied. Mork, Shleifer, and Vishny (1988) and other studies suggest a positive, nonlinear relationship between the ownership position of the board and Tobin's Q. Yermack (1996) finds a negative relationship between board size and Tobin's Q and Vafeas (1999) reports a negative relationship between board activity (as measured by the number of board meetings) and firm value. Perry (1999) finds evidence that stock based compensation plans for directors provide incentives to monitor management. Finally, Brickley, Coles, and Terry (1994) and Borokhovich, Parrino, and Trapani (1996) demonstrate the importance of the monitoring role by outside directors. Therefore, we include the following control variables: board size (natural logarithm of the number of directors), the logarithm of the number of meetings annually, CEO/chair duality, a dummy indicating whether directors receive stock compensation, insider ownership, and the percentage of insiders on the board. We also include a measure of firm size (e.g., natural logarithm of total assets), return on assets (ROA), and one-digit SIC dummies as control variables.

Hermalin and Weisback (2000) point out the problem of endogeneity in examining board composition and value. While board diversity could affect firm value, firm value could also affect board diversity. If this is the case, estimation of Equation (1) using OLS can produce biased coefficient estimates. To control for the possibility of endogeneity, we estimate the following system of equations using 2SLS:

$$\text{Firm Value} = \alpha_0 + \alpha_1 \text{Diversity} + \Sigma \alpha x + \varepsilon \quad (2)$$

$$\text{Diversity} = \delta_0 + \delta_1 \text{Firm Value} + \Sigma \delta z + \nu \quad (3)$$

where x and z are vectors of other explanatory variables. Vector z includes firm size (natural logarithm of total assets), board size (natural logarithm of the number of directors), CEO/chair duality dummy, the natural logarithm of the average age of the board, the percentage of insiders on the board, and the approximation of Tobin's Q .

Estimation of our system of equations allows us to test the following null hypothesis:

Hypothesis: Board of director diversity does not affect firm value ($\alpha_1 = 0$).

Rejection of the null hypothesis implies that having a diverse board of directors affects firm value. If the null hypothesis is rejected, the sign of the estimated α_1 could be either positive, suggesting firm value is enhanced by the presence of women, minorities, or both, on boards of directors or negative, implying that the presence of women and/or minorities on boards reduces firm value. Failure to reject the null hypothesis suggests that board of director diversity does not add value. It should be pointed out that either significant negative or nonsignificant estimates of α_1 do not mean that women or minorities make poor directors. Instead, these results may imply that firms are using women or minority directors as "window dressing," or that the culture of the firm is not conducive to their success as directors. Because our data only provide the number of women and minority directors for each firm, but not the overlap between the two groups (e.g., female directors are also minorities), we estimate our system of equations separately for women and minorities and test our null hypothesis for each.

5. Empirical results

In this section, we present the empirical results for our investigation of the relationship between board of director diversity and firm value. We present comparisons of means for firms with high and low representation of women and minorities on their boards. These comparisons are made for the full sample and for a subset of the firms matched by size and two-digit SICs (Table 3). Finally, we present 2SLS estimates of the relationship between firm value and board of director diversity (Tables 4 and 5).

5.1. Comparisons of firms with and without diverse boards

In Table 3, we present t -tests of differences in means for firms with high and low levels of women and minorities on their boards. We define low women or minority firms as those firms with no women or minority directors. High women or minority firms are those with two or more women or minorities on their boards. Firms with a single woman or minority director are eliminated from the t -tests of means to reduce the possibility of "token" female or minority directors in our comparisons. Further, we want to provide greater dichotomy in the comparisons. We examine the effect of the presence of women and minorities on boards separately. Panel A presents the t -tests of differences in means for firms with high and low levels of women on their boards, while Panel B presents the tests for firms with high and low levels of minority directors.

Table 3

Comparison of means for firms with low and high levels of representation by women and minorities on their boards of directors

This table presents tests of differences in means for several variables, between firms with low or high representation of women or minorities on their boards of directors. Firms with no representation of women or minorities on their boards of directors are classified as low representation firms, while firms with two or more women or minorities on their boards are classified as high representation firms. The matched sample is created by matching on two-digit SIC and size (+/- 20%). Panel A presents the comparisons for firms with low and high representation of women on their boards, while Panel B presents the comparisons for firms with low and high representation of minorities on their boards. The sample is drawn from the *Fortune* 1000 firms. Data related to board of director characteristics are taken from *Significant Data for Directors 1999: Board Policies and Governance Trends*, compiled by Directorship.

Variable	Unmatched sample			Matched sample			t statistic
	Low women firms (N = 178)	High women firms (N = 207)	t statistic	Low women firms (N = 65)	High women firms (N = 65)	t statistic	
Total assets (\$ million)	5,002.1 (12,104.0)	26,523.0 (61,243.0)	4.94***	9,382.0 (14,071.0)	9,606.6 (14,082.0)	0.09	
Average age of directors	58.6940 (4.5062)	59.2130 (3.1405)	1.29	59.7780 (4.7711)	59.0170 (3.8993)	1.00	
Board size (number directors on board)	8.8933 (2.2486)	12.7120 (2.9428)	14.43***	9.3077 (2.3974)	12.2620 (3.0274)	6.17***	
Number of annual board meetings	7.2022 (3.2562)	8.2115 (2.6528)	3.30***	7.7385 (3.5850)	8.2308 (3.0144)	0.85	
% of insiders on board	0.3169 (0.1543)	0.2169 (0.1069)	7.27***	0.3011 (0.1608)	0.2342 (0.1265)	2.64***	
% of minorities on board	0.0286 (0.0833)	0.0863 (0.0653)	7.48***	0.0418 (0.1188)	0.0782 (0.0732)	2.10**	
Duality of CEO and board chair	0.7247 (0.4479)	0.7885 (0.4094)	1.45	0.7385 (0.4429)	0.8308 (0.3779)	1.28	
Tobin's Q	1.0360 (1.0825)	1.5836 (1.6170)	4.01***	0.9548 (0.8231)	1.3156 (1.1631)	1.98**	

(continued)

Table 3 (continued)
 Comparison of means for firms with low and high levels of representation by women and minorities on their boards of directors
 Panel B: Comparison of firms with low and high representation of minorities on their boards of directors

Variable	Unmatched sample		Matched sample		t statistic	t statistic
	Low minority firms (N = 356)	High minority firms (N = 102)	Low minority firms (N = 44)	High minority firms (N = 44)		
Total assets (\$ million)	5,398.9 (11,429.0)	30,596.0 (62,255.0)	9,417.7 (11,891.0)	9,844.2 (12,982.0)	4.07***	0.16
Average age of directors	58.8980 (4.3019)	59.7180 (2.4282)	59.9110 (4.1521)	59.3360 (2.4782)	2.47**	0.79
Board size (number directors on board)	9.8455 (2.7396)	12.9800 (3.3537)	11.4320 (3.2307)	12.4770 (2.7406)	8.65***	1.64
Number of annual board meetings	7.0365 (2.8574)	8.1863 (2.7095)	7.9091 (3.1536)	7.7955 (2.2883)	3.73***	0.19
% of insiders on board	0.2940 (0.1525)	0.2127 (0.1064)	0.2786 (0.1362)	0.2088 (0.0835)	6.12***	2.90***
% of women on board	0.0740 (0.0733)	0.1327 (0.0780)	0.0896 (0.0663)	0.1273 (0.0730)	7.03***	2.54**
Duality of CEO and board chair	0.7275 (0.4459)	0.8431 (0.3655)	0.7273 (0.4505)	0.8864 (0.3210)	2.67***	1.91*
Tobin's Q	1.2725 (1.4087)	1.5761 (1.6751)	1.5022 (1.9716)	1.8892 (2.2644)	1.66*	0.84

*** Indicates statistical significance at the 0.01 level.

** Indicates statistical significance at the 0.05 level.

* Indicates statistical significance at the 0.10 level.

Table 4

2SLS estimates of the relationship between firm value and the presence of women on boards of directors

This table presents 2SLS results for the relationship between firm value and the presence of women on boards of directors. The sample is drawn from the *Fortune* 1000 firms. Data related to board of director characteristics are taken from *Significant Data for Directors 1999: Board Policies and Governance Trends*, compiled by Directorship. The measure of firm value is Tobin's Q, calculated using the method suggested by Chung and Pruitt (1994). Standard errors are reported in parentheses, beneath the parameter estimates.

Variable	Dep. Var. = Tobin's Q (1a)	Dep. Var. = woman director on board (1/0) (1b)	Dep. Var. = Tobin's Q (2a)	Dep. Var. = % of women on board (2b)
Constant	1.0570 (1.0252)	-0.1454 (1.0485)	-0.0482 (0.7943)	0.2902 (0.1972)
Size (log of total assets)	0.0841 (0.0741)	0.0249* (0.0150)	0.0908 (0.0722)	0.0051* (0.0028)
Board size (log of number of directors)	-1.0062** (0.4917)	0.4752*** (0.0664)	-0.3059 (0.2776)	0.0188 (0.0122)
Log of number of annual board meetings	0.2595 (0.1929)		0.1105 (0.1832)	
Log of average age of board		-0.1554 (0.2616)		-0.0775 (0.0491)
Duality of CEO and board chair	-0.3894*** (0.1492)	0.0459 (0.0365)	-0.4004*** (0.1521)	0.0096 (0.0069)
Stock compensation	0.0821 (0.1738)		0.1845 (0.1591)	
Insider ownership %	2.2243* (1.2530)		2.2573* (1.2599)	
Insider ownership % squared	-2.7103 (1.8251)		-2.9080 (1.8727)	
% of insiders on board	0.5601 (0.5914)	-0.3816*** (0.1138)	0.7160 (0.6336)	-0.0871*** (0.0212)
Minority director on board (1/0)		0.1449*** (0.0340)		0.1536*** (0.0388)
ROA	0.1026*** (0.0111)		0.0998*** (0.0119)	
Tobin's Q		0.0619*** (0.0194)		0.0124*** (0.0037)
Woman director on board (1/0)	1.6794** (0.8475)			
% of women on board			9.4255** (4.5493)	
One-digit SIC dummies	Yes	Yes	Yes	Yes
N	638	638	638	638
Adjusted R ²	0.256	0.263	0.250	0.149
F-Statistic	13.90**	17.25***	13.51***	8.99**

*** Indicates statistical significance at the 0.01 level.

** Indicates statistical significance at the 0.05 level.

* Indicates statistical significance at the 0.10 level.

Table 5

2SLS estimates of the relationship between firm performance and the presence of minorities on boards of directors

This table presents 2SLS results for the relationship between firm value and the presence of minorities on boards of directors. The sample is drawn from the *Fortune* 1000 firms. Data related to board of director characteristics are taken from *Significant Data for Directors 1999: Board Policies and Governance Trends*, compiled by Directorship. The measure of firm value is Tobin's Q, calculated using the method suggested by Chung and Pruitt (1994). Standard errors are reported in parentheses, beneath the parameter estimates.

Variable	Dep. Var. =	Dep. Var. =	Dep. Var. =	Dep. Var. =
	Tobin's Q	minority director on board (1/0)	Tobin's Q	% of minorities on board
	(1a)	(1b)	(2a)	(2b)
Constant	1.4608 (1.0714)	1.6362 (1.2208)	0.1746 (0.8145)	0.1486 (0.2017)
Size (log of total assets)	0.0389 (0.0821)	0.0841*** (0.0173)	0.0858 (0.0779)	0.0108*** (0.0028)
Board size (log of number of directors)	-0.7657** (0.3640)	0.2896*** (0.0797)	-0.2355 (0.2670)	0.0069 (0.0125)
Log of number of annual board meetings	0.0539 (0.1865)		0.0640 (0.1825)	
Log of average age of board		-0.6490** (0.3040)		-0.0519 (0.0503)
Duality of CEO and board chair	-0.3706** (0.1508)	0.0083 (0.0426)	-0.3813*** (0.1479)	0.0038 (0.0070)
Stock compensation	0.2398 (0.1578)		0.2554* (0.1535)	
Insider ownership %	1.6383 (1.1272)		1.2332 (1.0719)	
Insider ownership % squared	-1.1020 (1.5533)		-0.7843 (1.4999)	
% of insiders on board	0.7596 (0.6137)	-0.5136*** (0.1322)	0.4025 (0.5719)	-0.0574*** (0.0219)
Woman director on board (1/0)		0.2184*** (0.0475)		0.1788*** (0.0418)
ROA	0.1138*** (0.0094)		0.1139*** (0.0091)	
Tobin's Q		-0.0130 (0.0231)		-0.0016 (0.0038)
Minority director on board (1/0)	1.5975** (0.6655)			
% of minorities on board			7.5735* (4.5709)	
One-digit SIC dummies	Yes	Yes	Yes	Yes
N	638	638	638	638
Adjusted R ²	0.249	0.248	0.259	0.121
F-Statistic	13.45***	15.98***	14.06***	7.29***

*** Indicates statistical significance at the 0.01 level.

** Indicates statistical significance at the 0.05 level.

* Indicates statistical significance at the 0.10 level.

Because differences in firm value and corporate governance may be related to both size and industry, we create subsets of our sample, matched by size and two-digit SIC. We also conduct *t*-tests of differences in means for our matched sample. The matching procedure we employ produces 65 pairs of firms for our comparison of high and low women boards and 44 pairs for high and low minority boards. These results are also presented in Table 3.

On examination of Panel A, it is readily apparent that significant differences exist for several variables. Firms with two or more women directors are larger (\$26.5 billion in total assets versus \$5.0 billion), have larger boards (12.7 directors versus 8.9 directors), have more annual meetings (8.2 versus 7.2), and have a greater proportion of minority directors (8.6% versus 2.9%). Firms with two or more women directors also perform better, as measured by Tobin's Q (1.58 versus 1.03) or return on assets (5.2% versus 2.5%). Interestingly, firms with no women on their boards have more inside directors.

Panel A of Table 3 also presents *t*-tests of differences in means for firms with high and low representation of women on their boards for our matched sample of firms. We find several interesting differences between firms with two or more directors and those firms with no women on their boards. The boards of high representation firms are significantly larger (12.3 directors versus 9.3 directors), have a greater proportion of minorities (7.8% versus 4.2%), and have fewer insiders (23.4% versus 30.1%). Importantly, even after controlling for size and industry, there are significant differences in value ($p = 0.05$), as measured by Tobin's Q, between the two groups of firms, with the high representation firms outperforming the low representation firms. This last result suggests an important association between firm performance and the presence of women on boards of directors.

Panel B of Table 3 reports *t*-tests of differences in means for firms with high and low minority representation on their boards of directors. In many respects, the results are similar to that presented above for firms with high and low representation of women directors. Significant differences exist for several variables. Firms with two or more minority directors are larger (\$30.6 billion versus \$5.4 billion), have larger boards (13.0 directors versus 9.8 directors), have more board meetings per year (8.2 versus 7.0), and have a greater proportion of women on their boards (13.3% versus 7.4%). As before, firms with no minority directors have a greater percentage of insiders on their boards (29.4% versus 21.3%). In addition, firms with two or more minority directors are more likely to have a CEO who is also the board chair (84.3% versus 72.8%). Differences in value are less pronounced than was the case for firms with women directors. Tobin's Q is larger, on average, for firms with two or more minority directors than for those with no minority board members (1.58 versus 1.27). However, the difference is marginally significant.

Comparisons of firms with high and low representation of minorities on their boards for our matched sample of firms are also presented in Panel B. The high minority representation firms have a greater proportion of women on their boards (12.7% versus 9.0%) but fewer insiders (20.9% versus 27.9%). We find weak evidence

that firms with CEOs serving as board chairs are more likely to have minority directors. Almost 73% of the low representation group have duality between the CEO and the board chair, while almost 89% of the high representation firms have CEOs that are also chairs. Unlike the case for women directors, we do not find statistically significant differences in value between the two groups of firms. This may be due to the relatively small number of firms being compared.

Overall, the matched sample *t*-tests suggest that boards with greater proportions of insiders are less likely to have women and minority members, suggesting that women and minorities are likely to be outsiders. In addition, firms with women directors are also likely to have more minority directors, and vice versa. This result suggests effort by these firms to have more representative boards. We also find linkages between the presence of female directors and board size and firm value. In the next section we use regression to further explore relationships between board diversity and a number of corporate control variables.

5.2. Regression results: Board of director diversity and firm value

Tables 4 and 5 report the 2SLS estimates of the relationship between firm value and board of director diversity. The estimates for the effect of female directors on firm value are found in Table 4, while those for minority directors are found in Table 5.

The dependent variable in models (1a) and (2a) is Tobin's Q, while the dependent variable in models (1b) and (2b) is a measure of the presence of women on the board of directors. To capture the relationship between the presence of women on the board of directors and firm value, we use two variables: a dummy variable coded as one if there is at least one female member of the board of directors [model (1a)] and zero otherwise, and the percentage of women on the board [model (2a)].

The estimated coefficients for several of the dependent variables in the Tobin's Q equations [models (1a) and (2a)] are statistically significant. The estimates for board size are negative but significant only in model (1a). Interestingly, the coefficient estimates for CEO/board chair duality are negative and significant in both models (1a) and (2a), suggesting that firm value declines when CEOs are also board chairs. We also find that return on assets is significant in explaining Tobin's Q. Importantly, we find significant positive estimates for both the women director indicator variable [model (1a)] and the percentage of women on the board [model (2a)]. The estimated coefficient for the woman director on board variable is 1.6794 ($p = 0.048$) while the estimate for the percentage of women on board variable is 9.4255 ($p = 0.039$). These results provide strong evidence of the association between firm value and the presence of women directors.

In the woman director on board equation [model (1b)], we find positive relationships between the presence of a female director and firm size, board size, and Tobin's Q. Interestingly, we find an inverse relationship between the percentage of insiders on the board and whether or not there are women directors. However, we find a positive relationship between the presence of minority directors and that of women

directors. Similar results are found in model (2b) where the dependent variable is the percentage of women on the board.

The estimates for the relationship between firm value and the percentage of minorities on the board of directors are presented in Table 5. As before, the dependent variable in models (1a) and (2a) is Tobin's Q. The dependent variable in models (1b) and (2b) is a measure of the presence of minorities on the board of directors. We use two different independent variables in models (1a) and (2a) to determine whether a relationship exists between firm value and the presence of minority directors. The first measure of minority board representation is an indicator variable, coded as one if there are minority directors and zero otherwise [model (1a)]. The second measure of minority board membership is the percentage of minorities on the board [model (2a)].

Overall, the results are similar to those presented in Table 4 for women. As before, the estimates for CEO/board chair duality are negative and significant, suggesting that firm value is decreased by CEOs that are also board chairs. We also find that return on assets is significant in explaining firm value. The estimates for both the minority director indicator variable [model (1a)] and the percentage of minorities on the board [model (2a)] are positive and significant. The estimated coefficient for the minority director on board variable is 1.5975 ($p = 0.017$) while the estimate for the percentage of women on board variable is 7.5735 ($p = 0.098$). These results suggest that firms with minority directors have greater value.

In models (1b) and (2b), in which the dependent variable is a measure of minorities on the board, we find significant positive estimates for firm size and the woman director on board indicator variable. As was the case for women, we find an inverse relationship between the percentage of insiders on the board and whether or not there are minority directors. However, we find a positive relationship between the presence of minority directors and that of women directors.

6. Conclusion

A critical factor in good corporate governance appears to be the relationship between board diversity and shareholder value creation. Our research examines the relationships among corporate governance, board diversity, and firm value for *Fortune* 1000 firms. Board diversity is defined as the percentage of women, African Americans, Asians, Hispanics, and other minorities on the board of directors. Our most important finding is as follows. After controlling for size, industry, and other corporate governance measures, we find statistically significant positive relationships between the presence of women or minorities on the board and firm value, as measured by Tobin's Q. We also find that the fraction of women and minorities directors increases with firm size but decreases as the number of insiders increases. Our results suggest that firms making a commitment to increasing the number of women on boards also have more minorities on their boards and vice versa. Overall, our results provide important evidence of a positive relation between firm value and diversity on the board of directors.

References

- Agrawal, A. and C.R. Knoeber, 1996. Firm value and mechanisms to control agency problems between managers and shareholders, *Journal of Financial and Quantitative Analysis* 31, 377–397.
- Baysinger, B.D. and H.N. Butler, 1985. Corporate governance and the board of directors: Value effects of changes in board composition, *Journal of Law, Economics and Organization* 1, 101–124.
- Bhagat, S. and B. Black, 2000. Board independence and long term firm value. *Working paper* No. 143, Columbia Law School, The Center for Law and Economic Studies.
- Bhagat, S. and B. Black, 1999. The uncertain relationship between board composition and firm value, *Business Lawyer* 54, 921–963.
- Borokhovich, K., R. Parrino, and T. Trapani, 1996. Outside directors and CEO selection, *Journal of Financial and Quantitative Analysis* 31, 337–355.
- Brancato, C.K. and D.J. Patterson, 1999. Board diversity in U. S. corporations: Best practices for broadening the profile of corporate boards, *Research Report* 1230-99-RR, The Conference Board.
- Brickley, J., J. Coles, and R. Terry, 1994. Outside directors and the adoption of poison pills, *Journal of Financial Economics* 34, 371–390.
- Campbell, R.H., 1996. Letters to the Editor: CEO vs. Nun: It's a Draw, *Wall Street Journal*, August 12, Section A.
- Chung, K.H. and S.W. Pruitt, 1994. A simple approximation of Tobin's q, *Financial Management* 23, 70–74.
- Cox, T.H. and S. Blake, 1991. Managing cultural diversity: Implications for organizational competitiveness, *Academy of Management Executive* 5, 45–56.
- Daily, C.M., S.T. Certo, and D.R. Dalton, 1999. A decade of corporate women: Some progress in the board room, none in the executive suite, *Strategic Management Journal* 20, 93–99.
- Fama, E.F. and M.C. Jensen, 1983. Separation of ownership and control, *Journal of Law and Economics* 24, 301–325.
- Hermalin, B.E. and M.S. Weisbach, 2000. Boards of directors as an endogenously determined institution: A survey of the economic literature. *Working paper*, University of California at Berkeley.
- Hermalin, B.E. and M.W. Weisbach, 1991. The effects of board composition and direct incentives on firm value, *Financial Management* 20, 101–112.
- Jensen, M.C., 1993. The modern industrial revolution, exit, and the failure of internal control systems, *Journal of Finance* 48, 831–880.
- Keys, P.Y., P.A. Turner, and S.S. Friday, 2002. Shareholder benefits of diversity. *Working paper*, University of Delaware.
- MacAvoy, P.W. and I.M. Millstein, 1999. The active board of directors and its effect on the value of the large publicly traded corporation, *Journal of Applied Corporate Finance* 11, 8–20.
- Morck, R., A. Shleifer, and R.W. Vishny, 1988. Management ownership and market valuation: An empirical analysis, *Journal of Financial Economics* 20, 293–315.
- National Association of Corporate Directors, 1994. *Report of the NACD Blue Ribbon Commission on Value Evaluation of Chief Executive Officers, Board, and Directors* (Washington, D.C.).
- Perry, T., 1999. Incentive compensation for outside directors and CEO turnover, *Working paper*, Arizona State University.
- Richard, O.C., 2000. Racial diversity, business strategy, and firm value: A resource-based view, *Academy of Management Journal* 43, 164–177.
- Robinson, G. and K. Dechant, 1997. Building a business case for diversity, *Academy of Management Executive* 11, 21–30.
- Rosenstein, S. and J.G. Wyatt, 1990. Outside directors, board independence, and shareholder wealth, *Journal of Financial Economics* 26, 175–191.
- Shrader, C.B., V.B. Blackburn, and P. Hies, 1997. Women in management and firm financial value: An exploratory study, *Journal of Managerial Issues* 9, 355–372.
- Shultz, S.H., 2000. *The Board Book* (AMACOM, New York).

- TIAA-CREF, 1997. *TIAA-CREF Policy Statement on Corporate Governance* (New York).
- Vafcas, N., 1999. Board meeting frequency and firm value, *Journal of Financial Economics* 53, 113–142.
- Wright, P., S.P. Ferris, J.S. Hiller, and M. Kroll, 1995. Competitiveness through management of diversity: Effects on stock price valuation, *Academy of Management Journal* 38, 272–287.
- Yermack, D., 1996. Higher market valuation of companies with a small board of directors, *Journal of Financial Economics* 40, 185–211.
- Zahra, S.A. and W.W. Stanton, 1988. The implications of board of directors' composition for corporate strategy and value, *International Journal of Management* 5, 229–236.

februar 2005

Til gavn for bundlinjen

Forbedrer kvinder i topledelse og bestyrelse
danske virksomheders bundlinie?

Anna Maria Kossowska[#]

Nina Smith[#]

Valdemar Smith^{}*

Mette Verner[#]

Nationaløkonomisk Institut, Handelshøjskolen i Århus

***Centre for Industrial Economics, University of Copenhagen**

[#]Centre for Research in Integration and Marginalization, CIM

Denne undersøgelse er udarbejdet for Ligestillingsministeren, som har finansieret projektet i samarbejde med Handelshøjskolen i Århus.

Resume af undersøgelsen

Hovedformålet med denne undersøgelse er at kortlægge kvindeandelen i topledelse og bestyrelser for danske virksomheder, samt at belyse om kvinder i private virksomheders ledelse gør en forskel med hensyn til virksomhedens økonomiske performance og bundlinie: Forbedrer kvinder i ledelsen danske virksomheders økonomiske resultater?

Undersøgelsen bygger på et nyt, unikt datamateriale, som består af de ca. 2300 største danske virksomheder, målt ved årlig omsætning. Datamaterialet dækker perioden fra 1992 til 2001 og består af oplysninger fra Danmarks statistik, der i anonymiseret form er koblet med oplysninger fra Købmandsstandens Oplysningsbureau. Der indgår oplysninger om virksomhedernes ledelse, både direktion og den øvrige øverste ledelse, oplysninger om forskellige nøgletal for virksomhedernes overskud og performance, samt en lang række relevante baggrundsfaktorer.

I 2001 var 4,3% af de administrerende direktører i den private sektor kvinder, mens andelen var 10,9%, når topledere og tværgående direktører medtages. For begge ledelsesniveauer har andelen af kvindelige ledere været voksende i løbet af perioden i de fleste brancher. Kun i landbrugs-, bygge- og anlægssektoren samt i energisektoren er der ikke kommet flere kvinder ind i ledelsen i perioden.

Andelen af kvinder i bestyrelserne, inklusiv medarbejdervalgte kvinder, var 9,7% i 2001. Fokuseres der alene på ikke-medarbejdervalgte bestyrelsesrepræsentanter var andelen af kvinder lidt lavere, nemlig 7,9%. Denne andel har ikke været voksende i perioden 1996 – 2001, men har derimod udvist en faldende tendens sidst i perioden.

I første trin af undersøgelsen er der foretaget simple sammenligninger af indtjeningen i alle virksomheder med og uden kvindelige ledere, hvor der ikke kontrolleres for branche, virksomhedens alder og størrelse m.v. Der er variationer i undersøgelsens resultater alt efter hvilke mål, der benyttes for virksomhedernes økonomiske resultater. Men det generelle billede er, at virksomheder med kvinder i topledelsen enten klarer sig bedre eller lige så godt som virksomheder uden kvinder i topledelsen. Når der opdeles på brancher, bliver resultaterne mere blandede og meget afhængige af hvilke mål for økonomisk performance, der benyttes. I de branchepdelte 'rå' sammenligninger mellem virksomheder med og uden kvindelige ledere findes der både positive og negative resultater af kvinder i topledelsen.

Når der i stedet ved brug af multivariate metoder (regressionsanalyser) kontrolleres for faktorer af betydning for virksomhedernes indtjening, som f.eks. brancheforhold, virksomhedens alder og størrelse, således at den mere isolerede effekt af kvinder i ledelsen måles, er billedet relativt klart. Resultaterne fra en række regressionsanalyser peger samlet set på, at virksomheder med kvinder i direktionen eller de øverste lag af ledelsen enten har klarer sig signifikant bedre end virksomheder uden kvinder, eller at der ikke er nogen forskel. I ingen af delresultaterne baseret på regressionsanalyser er der fundet signifikant negative sammenhænge mellem kvinder i ledelsen og virksomhedernes indtjening.

Andelen af kvinder i bestyrelsen, inklusiv medarbejdervalgte bestyrelsesmedlemmer, ser i de fleste af undersøgelsens resultater ikke ud til at have nogen signifikant effekt på, hvordan virksomhederne klarer sig. Der findes ingen signifikant negative effekter af kvinder i bestyrelsen, men der er en tendens til, at virksomhedens primære resultat i forhold til nettoomsætningen er signifikant større jo flere kvinder der er i bestyrelsen. For de øvrige performancemål (ordinære resultat eller resultat efter skat i forhold til egenkapital, og bruttoavancen i forhold til nettoomsætning) er der ingen statistisk signifikante effekter af kvindeandelen i bestyrelsen.

Et væsentligt spørgsmål vedrørende tidligere undersøgelser af kvindelige leders betydning for bundlinien har været spørgsmålet om kausalitet. Hvis der findes en positiv korrelation mellem virksomheder med kvindelige ledere og virksomhedernes indtjening, kan den positive sammenhæng i princippet gå begge veje. En del eller måske hele den positive korrelation kan tænkes at skyldes, at virksomheder, der klarer sig godt, tenderer at ansætte flere kvinder, også på ledelsesniveau. I undersøgelsen er der derfor foretaget forskellige tests på kausaliteten. I følge disse tests er der ingen tendens til, at virksomheder, der klarer sig godt indtjeningsmæssigt, ansætter flere kvinder. Det er derimod den modsatte sammenhæng, dvs at kvindelige ledere har en positiv effekt på bundlinien, der i følge analyserne er den dominerende sammenhæng.

1. Indledning

Til trods for at Danmark, sammen med de øvrige nordiske lande, i årtier har ligget i front på ligestillingsområdet, står kvinderne stadig meget svagt med hensyn til at nå de øverste positioner i dansk erhvervsliv. I de sidste ca. ti år har der i udlandet været meget fokus på at få flere kvinder ind i virksomhedernes ledelse, og i de senere år er der også i Danmark kommet mere fokus på danske kvindelige ledere. Det er der flere grunde til. Ud fra ligestillingsmæssige hensyn er det selvsagt en vigtig ambition, at flere kvinder når toppen og som mændene får magt og indflydelse på samfundets udvikling generelt og i denne sammenhæng specielt i erhvervslivets udvikling.

Men også ud fra produktivitetmæssige hensyn kan der være mange gode argumenter for flere kvinder i ledelsen. 'Diversity Management' eller på dansk 'mangfoldighedsledelse' er blevet et væsentligt begreb i såvel den danske som den internationale litteratur om ledelse, jfr. bl.a. Nørby-udvalgets anbefalinger om god corporate governance, som også har diversitetsaspektet med.

Mangfoldighed f.eks. med hensyn til alder, etnisk herkomst, uddannelse eller køn kan have både positive og negative effekter, men i en foranderlig verden kan man forvente, at især de positive effekter er stærke. Omvendt kan en heterogen ledelse dog også tænkes have negative effekter og i visse situationer betyde en mindre effektiv beslutningstagning.

Endelig er de potentielle udsigter til mangel på højt kvalificerede (mandlige) ledere også et godt argument for at få flere kvindelige ledere på banen: Hvis man i stedet for hovedsagligt at rekruttere fra den ene halvdel af talentmassen, dvs. mændenes intelligensfordeling, rekrutterede lederne fra både den kvindelige og den mandlige intelligensfordeling, ville man selvsagt have et langt bredere og bedre udvalg af potentielle ledere.

Formålet med denne undersøgelse er at kortlægge kvindeandelen i topledelse og bestyrelser for danske virksomheder samt at belyse, om kvinder i private virksomheders ledelse gør en forskel med hensyn til virksomhedens performance eller bundlinie: Forbedrer kvinder i ledelsen danske virksomheders bundlinie?

Undersøgelsen bygger på et nyt, enestående datamateriale, som består af de ca. 2300 største danske virksomheder, målt ved årlig omsætning. Datamaterialet dækker perioden fra 1992 til 2001. Eftersom der konstant opstår og nedlægges mange virksomheder, og selve virksomhedsbegrebet er en temmelig foranderlig størrelse, er de fleste af analyserne dog begrænset til en kortere periode og en mindre stikprøve, for hvilken det har været muligt at få pålidelige oplysninger, der er konsistente over tid for samtlige relevante faktorer.

Datamaterialet består af oplysninger fra Danmarks Statistik, der i anonymiseret form er koblet med regnskabsoplysninger fra Købmandsstandens Oplysningsbureau. Der indgår oplysninger om virksomhedernes ledelse, både direktion og den øvrige øverste ledelse,

oplysninger om forskellige nøgletal for virksomhedernes overskud og performance, samt en lang række relevante baggrundsfaktorer.

I denne analyse for danske virksomheder foretages undersøgelserne i flere trin. Først beskrives det danske billede med hensyn til kvinderepræsentation i toppen af erhvervslivet. Dernæst foretages i andet trin en beregning parallelt til Catalyst (2004) og Adler (2001) analyserne for USA for at vurdere, om det optimistiske amerikanske billede for store private virksomheder kan genfindes for et bredt udsnit af danske private virksomheder. Resultaterne fra denne del af undersøgelsen er blandede. I de 'rå' analyser af korrelationer i stil med Catalyst- og Adler-analyserne findes både positive, negative og statistisk insignifikante effekter af kvinder i ledelsen. I det tredje trin af undersøgelsen foretages en mere dybtgående analyse af kvindeandelens betydning for virksomhedernes performance. Her estimeres en model for indtjeningen i danske virksomheder, hvor der samtidig kontrolleres for mange andre forhold end kvindeandel. Resultatet fra disse estimationer er, at kvindelige ledere enten har en signifikant positiv effekt eller ingen effekt på indtjeningen i danske virksomheder. Dette gælder også kvindelige bestyrelsesmedlemmer, hvor den estimerede effekt dog oftest er insignifikant. I fjerde trin analyseres, om retningen af kausaliteten er entydig: Giver flere kvinder i topledelsen (bortset fra bestyrelsesniveauet) bedre bundlinie, eller ansætter virksomhederne flere kvindelige topchefer, når virksomheden klarer sig godt? Svaret på dette er, at den førstnævnte effekt dominerer.

2. International forskning om kvinder i ledelse

Den internationale forskning om kvindelige leders betydning for (private) virksomheders performance har for alvor taget fart i løbet af de sidste 5-10 år. Før midten af 1990'erne var der stort set ingen undersøgelser, der havde fokus på køn i forbindelse med betydningen af sammensætningen af direktion eller bestyrelser, selvom der allerede i 1980'erne voksede en betydelig forskning frem om 'mangfoldighedsledelse' (diversity management), jfr., f.eks. Bantel og Jackson (1989), Murray (1989) og Goll m.fl. (2001).

Men i løbet af 1990'erne dukkede flere undersøgelser op, som analyserede sammenhængen mellem kvinder i ledelsen og forskellige mål for virksomhedens udvikling, vækst og/eller performance. Det generelle billede var, at virksomheder med kvinder i ledelsen ikke klarede sig særlig godt, jfr. f.eks. Du Rietz og Henrekson (2000) og Henrekson (2004). Man talte ligefrem om den 'kvindelige under-performance hypotese'. En del af forklaringen på dette resultat var, at mange af analyserne ikke kontrollerede for, at kvinder typisk er ansat i mindre virksomheder og ofte i servicesektoren. Således kunne den observerede 'under-performance' i høj grad henføres til bl.a. brancheforskelle, jfr. Du Rietz og Henrekson (2000), som på en stor analyse af svenske virksomheder stort set afviste 'underperformance hypotesen'.

De fleste studier er imidlertid lavet for amerikanske virksomheder. Her er billedet langt fra entydigt. I en undersøgelse, foretaget af Shrader m.fl. (1997) for de 200 største amerikanske virksomheder i 1992-1993, kan det generelt ikke bekræftes, at flere kvinder i topledelsen, flere kvinder i ledergruppen defineret mere bredt, eller flere kvinder i

bestyrelsen har nogen effekt på virksomhedens indtjening. Kochan m.fl. (2003) kan ligeledes ikke finde nogen effekt af kvinder i ledelsen på et udsnit af amerikanske virksomheders indtjening.

I de senere år synes billedet imidlertid at vende, og flere studier af sammenhængen mellem kvindelige ledere og virksomhedens indtjening peger på en positiv sammenhæng. En af de senest meget omtalte analyser er udarbejdet af Adler (2001). Datagrundlaget er 215 Fortune 500 virksomheder, hvis performance blev registreret i årene 1980-1998. For disse virksomheder var desuden indsamlet data om antallet af kvinder i de ti øverste ledende stillinger, i de ti næste ledende stillinger samt i bestyrelsen, opgjort for en årrække tilbage i tiden. Herudfra blev konstrueret et pointsystem for ansættelse af kvindelige ledere, der muliggjorde en rangordning af virksomhederne ud fra dette mål for 'kvinde-venlighed', dvs. et summarisk indeks for andelen af kvinder i ledelsen på forskellige niveauer over en længere årrække. De 25 højst rangerende virksomheder mht. 'kvindevenlighed' blev udvalgt til analysen. I selve analysen (der vedrører tallene for performance i 1999) blev målene for gennemsnitlig performance for de 25 virksomheder sammenholdt med den tilsvarende median for den relevante branche. Resultaterne viste en klar tendens: Virksomhederne, der i 1980'erne og 1990'erne havde relativt mange kvindelige ledere, havde en bedre performance end medianvirksomhederne. Gennemsnittet for performance i de 25 virksomheder oversteg branche-medianen, uanset målet for performance, med mellem 18% og 69%.

Samme resultat findes i en ny analyse fra Catalyst, Catalyst (2004), som metodemæssigt ligger tæt op af Adler-analysen. I analysen indgår 353 virksomheder fra Fortune 500 listen, som har oplysninger for hvert af årene 1996 - 2000 om virksomhedernes indtjening og ledelsens køn, samt kønsfordelingen for de 5% højstlønnede i virksomhederne. Performancemålene der benyttes er ROE (Return on Equity, dvs forrentning af egenkapitalen) og TRS (Total Return to Shareholders)¹. For at fjerne betydningen af konjunktursvingninger, beregnes en gennemsnitlig performance over den 5-årige periode fra 1996-2000, og tilsvarende beregnes andelen af kvinder i toppen (af ledelsen samt toppen af lønfordelingen) som et 5-årigt gennemsnit.

Catalystanalyserne viser, at den fjerdedel af de udvalgte virksomheder, der har flest kvinder i toppen, klarer sig signifikant bedre, end den fjerdedel af virksomhederne med færrest eller ingen kvinder i toppen, og typisk ligger den bedste fjerdedel af virksomhederne også over gennemsnitsvirksomheden med hensyn til de to performance mål. Billedet genfindes, når virksomhederne opdeles på brancher, med enkelte undtagelser (IT & Telekommunikation, hvor kvindevirksomheder performer dårligere).

Både analysen i Adler fra 2001 og Catalyst-analysen fra 2004 er baseret på store amerikanske virksomheder. Datamaterialet er meget selektivt og antallet af virksomheder

¹ ROE defineres i Catalyst (2004, p. 18) som overskud før ekstraordinære poster i fht. den gennemsnitlige aktiekapital i året. TRS defineres som det samlede afkast i virksomheden målt som 'sum of stock price appreciation plus reinvestments of dividends declared over the same period' (som i undersøgelsen er perioden 1996-2000). I Catalyst-analysen ekskluderes virksomheder med ekstreme værdier på et eller begge performance mål.

begrænset, idet der er meget stort bortfald af virksomheder pga. manglende oplysninger om alle relevante variable. Det kan således være svært at vurdere, om de amerikanske undersøgelser gælder generelt, og specielt om resultaterne kan overføres til andre lande. Desuden er analyserne 'kun' foretaget som simple korrelationer, dvs. der er ingen egentlig analyse af kausalitet (om kvinder i ledelsen giver bedre performance, eller om bedre performance giver flere kvinder i ledelsen)², og der kontrolleres ikke systematisk for en række baggrundsfaktorer, som også kan påvirke de enkelte virksomheders indtjening, og som i nogen tilfælde kan tænkes at samvariere med kønsfordelingen i ledelsen. For at tage hensyn til disse forhold er det nødvendigt at foretage egentlige statistiske analyser med multivariate metoder, jfr. analyserne nedenfor.

Catalyst- og Adler-resultaterne bekræftes i to nye undersøgelser for henholdsvis USA og Singapore. Carter m.fl. (2003) finder, på basis af en stikprøve af amerikanske Fortune 1000 virksomheder, en positiv sammenhæng mellem kvinder i topledelsen og virksomhedens indtjening. Det interessante i denne analyse er, at der både korrigeres for andre forhold, der kan påvirke virksomhedernes indtjening end ledelsens køn, og der kontrolleres også for retningen af kausaliteten, dvs. de positive resultater 'overlever' i en statistisk model, hvor det sikres at man kun måler effekten fra kvinder i ledelsen til virksomhedens indtjening, og ikke den modsatte effekt.³ I Ding og Charoenwong (2004) findes ligeledes i en multivariat analyse af virksomheder i Singapore, at der er en positiv effekt af udnævnelsen af kvinder til ledelsen og virksomhedens kursudvikling, dvs. investorerne anser det som overvejende positivt, at der kommer kvinder i ledelsen.

For Danmark er der indtil nu stort set ingen undersøgelser af spørgsmålet. I en analyse af de danske børsnoterede selskabers performance (målt ved Tobin's Q)⁴ i perioden 1998 - 2001 finder Rose (2004), at når der i øvrigt kontrolleres for en række andre baggrundsforhold, har kvindeandelen i bestyrelsen ingen signifikant betydning for virksomhedens performance.

På basis af de internationale undersøgelser er det svært at drage endegyldige konklusioner, eller at vurdere om de udenlandske studier også gælder for Danmark. Resultaterne er modstridende, idet der synes at have været en tendens i de tidlige studier til mest at finde negative eller insignifikante effekter, mens tendensen i de senere år synes at være mere positive sammenhænge mellem kvinder i ledelsen og virksomhedernes indtjening. Det kan skyldes, at kvindelige ledere rent faktisk er blevet dygtigere, men det

² Adler (2001) benytter dog et historisk mål for 'kvindevenlighed' (for perioden 1980-1998) som korreleres med virksomhedens indtjening i 1999, dvs. af tidsmæssige årsager kan den målte korrelation ikke umiddelbart reflektere en kausalitet fra indtjening til kvindevenlighed. Der kan dog godt alligevel være problemer med kausalitetsmålingen, hvis indtjeningen i de enkelte virksomheder korrelerer over tid.

³ Rent teknisk estimerer Carter m.fl. en 2SLS model, hvor der i første trin estimeres sandsynligheden for at have kvinder i ledelsen, mens disse estimerede sandsynligheder i andet trin benyttes som mål for kvindeandelen. I analysen af Carter m.fl. er det noget uklart, hvor godt identifikationsproblemet reelt løses, hvilket er helt afgørende i 2SLS analyser.

⁴ Tobin's Q udtrykker forholdet mellem virksomhedens markedsværdi og genanskaffelsesprisen for virksomhedens aktiver. Bedre performance medfører således stigende Q-værdier som resultat af stigende aktiekurser. Det bør anføres at Tobin's Q - afhængig af den konkrete beregning - er noget følsomt overfor generelle svingninger i aktiekurserne.

kan også være udtryk for, at undersøgelserne metodisk er blevet bedre, jfr. Du Rietz og Henrekson (2000). Der er dog stadig mange svagheder i undersøgelserne. Det statistiske grundlag er ofte tyndt, med relativt få virksomheder og ikke-repræsentative stikprøver. Metodisk er næsten alle undersøgelser også forholdsvis enkle, specielt er det problematisk i flere af undersøgelserne, at der ikke kontrolleres tilstrækkeligt for baggrundsfaktorer, samt for om det er den rigtige kausalitet der måles.

3. Hvor stor er kvindeandelen i danske virksomheder?

3.1 Datamateriale

I det følgende beskrives udviklingen i danske virksomheders kvindeandel på basis af det datamateriale, der er oparbejdet på baggrund af Danmarks Statistiks registre og Købmandsstandens Oplysningsbureaus virksomhedsdatabase. Databasen omfatter oprindeligt de godt 3500 største danske firmaer (målt på omsætningen), i hvert af årene i perioden 1992-2001. For at få et pålideligt datasæt til denne type analyser, er det imidlertid nødvendigt at pålægge datasættet forskellige krav. Der ses således bort fra firmaer med negativ egenkapital, firmaer som i henhold til branchens tradition har ekstreme forhold mellem omsætning og antal ansatte, firmaer med ekstreme indtjeningsprocenter (såvel negative som positive) etc. På den måde sikres, at det datasæt der benyttes i analyserne, ikke rummer nogle få virksomheder, der af tekniske årsager er helt atypiske. Hermed reduceres den brugbare stikprøve til ca. 2300 firmaer i hvert af årene i perioden 1992 - 2001.

I analyserne er der sondret mellem forskellige niveauer for ledelse:⁵

- Niveau I: Topledere (CEOs) svarende til administrerende direktører⁶
- Niveau II: Ledere med ansvar for hovedaktiviteter, tværgående direktører
- Bestyrelsesmedlemskab. (Opgøres henholdsvis inklusiv og eksklusiv medarbejdervalgte bestyrelsesmedlemmer fra øvrige bestyrelsesmedlemmer. Kvindeandelen i førstnævnte gruppe er højere end i sidstnævnte)

Derudover er der, i lighed med amerikanske analyser af Catalyst og Adler for året 2001, beregnet et kvinde-indeks for historisk kvindeandel i ledelse og bestyrelse, hvor virksomhedens historiske kvinderepresentation sammenfattes i et enkelt summarisk indeksemål. Indekset måler hvor mange kvinder, der har siddet i ledelsen (direktion eller bestyrelse) i perioden 1992 - 2000 (metoden for konstruktionen beskrives nærmere nedenfor).

På baggrund af de regnskabsoplysninger databasen rummer for de enkelte firmaer kan der opstilles forskellige indikatorer for disses performance, jfr. nedenfor. Derudover er der i

⁵ Et firma kan bestå af mange arbejdssteder. Stikprøven er oprindeligt udvalgt ud fra firma-statistikken, der i forbindelse med sammenkoblingen med Danmarks Statistiks registre inddrager statistik for arbejdssteder. Når der i teksten tales om virksomheder med under 10 ansatte, menes der arbejdssteder, dvs der kan være tale om små virksomheder eller små afdelinger af store virksomheder).

⁶ Niveau I svarer til Disco 1, 12, 121 i Danmarks Statistiks stillingskoder, mens niveau II omfatter Disco 122 og 123.

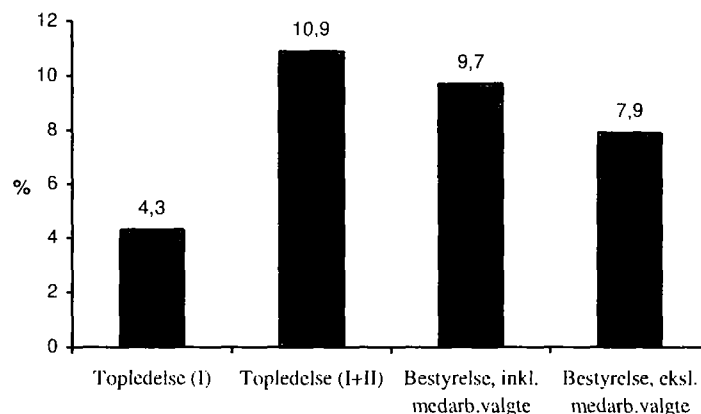
øvrigt en række oplysninger om virksomheden, som kan have betydning for indtjeningsevnen, og som det derfor også er vigtigt at kontrollere for, bl.a. branchetilhørsforhold, virksomhedens alder, antal ansatte, eksportintensitet m.v.

Set i forhold til tidligere undersøgelser af betydningen af kvinder i ledelsen, må denne undersøgelse anses for at være mere generel. Dels rummer den et bredere udsnit af virksomheder (f.eks. også virksomheder, der ikke er børsnoteret), og dels rummer databasen flere oplysninger om den enkelte virksomhed, fordi det har været muligt at sammenkoble informationer om virksomhedens indtjening med informationer om ledelsens sammensætning og andre baggrundsplysninger om virksomhederne.

3.2 Kvinder i ledelsen i 2001

I 2001 var 4,3% af topledere (niveau I) i den private sektor kvinder, mens andelen var 10,9%, når topledere og tværgående direktører medregnes (niveau II), jfr. figur 1.⁷ Andelen af kvinder i bestyrelser, inklusiv medarbejdervalgte kvinder, 9,7% i 2001. Fokuseres der alene på ikke-medarbejdervalgte bestyrelsesrepræsentanter, var andelen af kvinder lidt lavere, nemlig 7,9%.

Figur 1. Kvindeandel (%) i ledelsen af private virksomheder i 2001



Kilde: Appendiks, Tabel A1

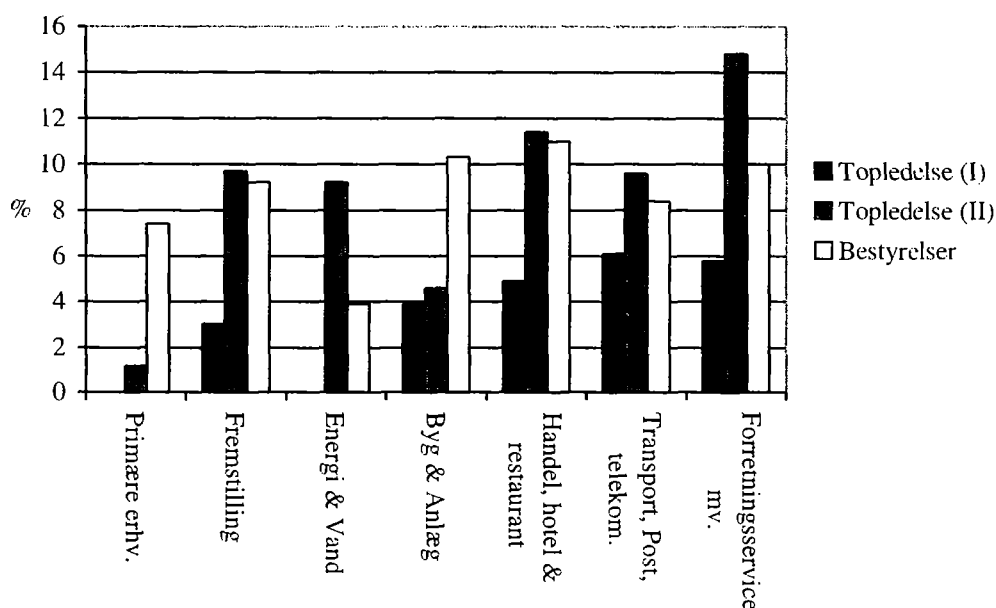
Gennemsnitstallene ovenfor dækker over betragtelige forskelle mellem brancher. Indenfor forretningsservice og den finansielle sektor samt i transport-, post og telekommunikationssektoren er andelen af kvindelige topledere størst, mens

⁷ Betegnelsen firma dækker over den juridiske enhed overfor myndighederne. Firmaet karakteriseres således ved at have et selvstændigt CVR-nummer. I det følgende anvendes betegnelsen firma og virksomhed ofte synonymt. Men firmaer kan også udgøres af et antal arbejdssteder på forskellige geografiske lokaliteter uden at disse har et selvstændigt CVR-nummer. Arbejdsstederne er således registreret under det fælles CVR-nummer for firmaet..

kvindeandelen blandt topledere er mindst (nul!) indenfor primære erhverv, dvs landbrug, fiskeri og råstofudvinding samt indenfor energi- og vandforsyning, jfr. figur 2, som viser branchefordelte kvindeandele for 2001. Hvis ledelsesbegrebet udvides til også at indbefatte ledere på niveau II, dvs. inklusiv tværgående direktører med ansvar for hovedaktiviteter, er andelen af kvinder betragteligt større i alle brancher bortset fra landbruget og i bygge- og anlægssektoren.

Også på bestyrelsesniveauet er der betydelig branchevariation. Her er det især energi- og vandforsyningssektoren, som halter bagefter. Samme billede med hensyn til branchevariation i kvindeandelen blandt ledere findes i øvrigt i de øvrige skandinaviske lande, jfr. Henrekson (2004) og Hoel (2004).

Figur 2. Kvindeandel (%) i ledelsen af private virksomheder i 2001 opgjort på brancher.



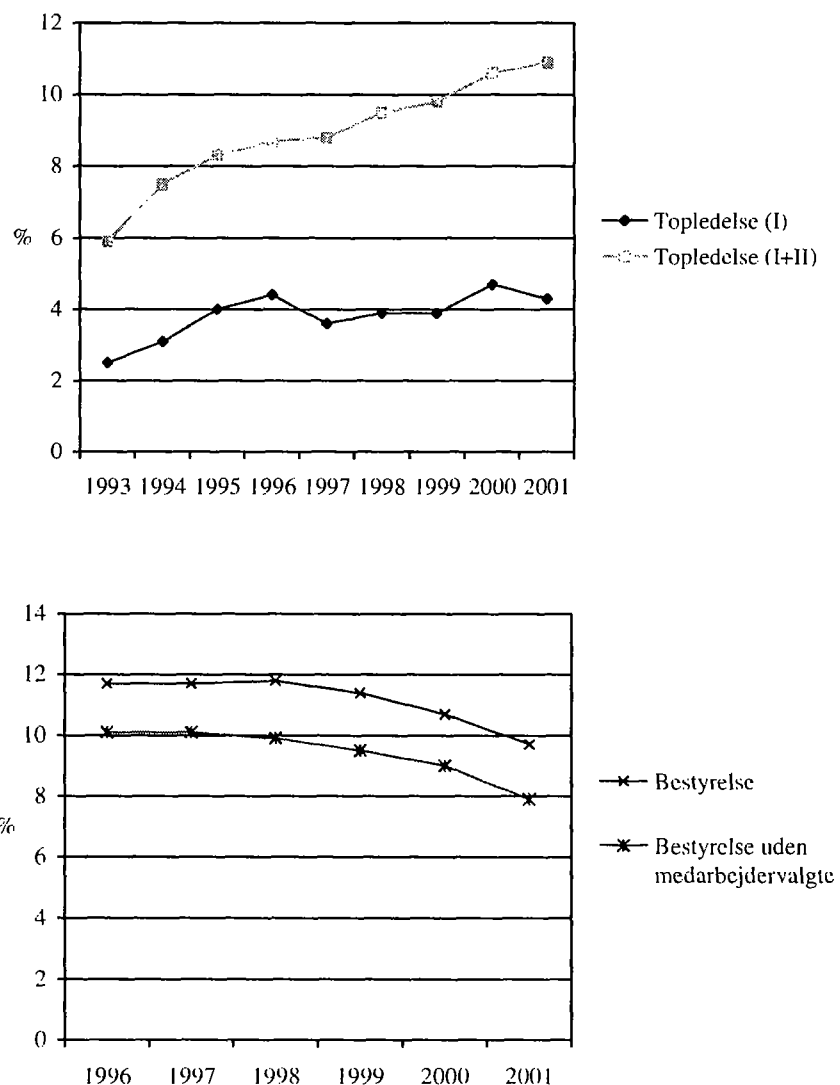
Kilde: Appendiks, Tabel A1.

I den ældre internationale forskningslitteratur har en væsentlig observation været, at kvindelige ledere især var placeret i små virksomheder, jfr. Henrekson (2004), mens billedet i nyere undersøgelser snarere er modsat, jfr. bl.a. Carter m.fl. (2003). I den danske erhvervsstruktur, med mange små og mellemstore virksomheder, er der ikke noget klart billede. Kvindeandelen varierer relativt lidt og ret usystematisk mellem små og store virksomheder, hvad enten andelen af kvinder opgøres for topledelsen på niveau I, eller ledelsesgruppen bredes ud til at inkludere tværgående direktører og bestyrelse.

3.3 Kvinder i topledelsen: 1993-2001.

Selvom kvindeandelen i topledelse og bestyrelser er relativt lav i 2001, er den dog vokset siden starten af 1990'erne, hvor billedet var endnu mere skævt, jfr. figur 3. I 1993 var der 2,5% kvinder blandt toplederne (niveau I) og 5,9% blandt topledere og tværgående direktører (niveau I+II). I 2001 var disse tal omtrent fordoblet til henholdsvis 4,3% og 10,9%.

Figur 3. Kvindeandel (%) i topledelse og bestyrelse i de største danske virksomheder 1993 - 2001.

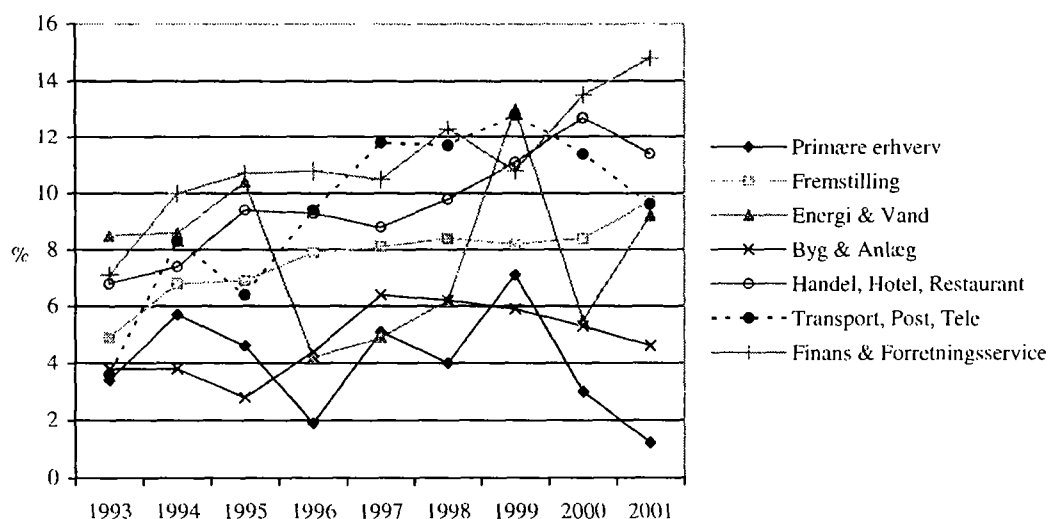


Kilde: Appendiks, Tabel A3.

Derimod er andelen af kvinder i bestyrelser ikke øget i perioden. I 1996, der er første år i datasættet med oplysninger om kvindeandelen blandt bestyrelsesmedlemmer, var der 11,7% kvinder i bestyrelserne for de 2300 virksomheder i stikprøven, og i 2001 var tallet faldet til 9,7%. Disse tal omfatter både medarbejdervalgte bestyrelsesmedlemmer og øvrige bestyrelsesmedlemmer. Da kvindeandelen er relativt høj for medarbejdervalgte bestyrelsesmedlemmer, er andelen af kvinder blandt øvrige bestyrelsesmedlemmer tilsvarende lavere, hvilket fremgår af figur 3, der viser udviklingen i kvindeandelen i alt, og kvindeandelen opgjort eksklusiv medarbejdervalgte bestyrelsesmedlemmer. Det er tydeligt, at udviklingen forløber parallelt, dvs. de medarbejdervalgte kvindelige bestyrelsesmedlemmer udgør en ret konstant andel af bestyrelsen.

Udviklingen i gennemsnitstallene i figur 3 dækker over betydelige forskelle mellem brancher, jfr. figur 4 og 5. Den positive udvikling mod flere kvindelige topledere genfindes i alle de tre store brancher (målt på antallet af virksomheder i datasættet), fremstilling, handel-, hotel- og restaurationsbranchen samt finans- og forretningsservice mv. De øvrige langt mindre brancher har oplevet en meget svingende kvindeandel i ledelsen, hvilket bl.a. kan tilskrives, at andelen er beregnet på basis af relativt få virksomheder.

Figur 4. Kvindeandel (%) i topledelsen (niveau I+II) i de største danske virksomheder 1993 – 2001. Fordelt på brancher.



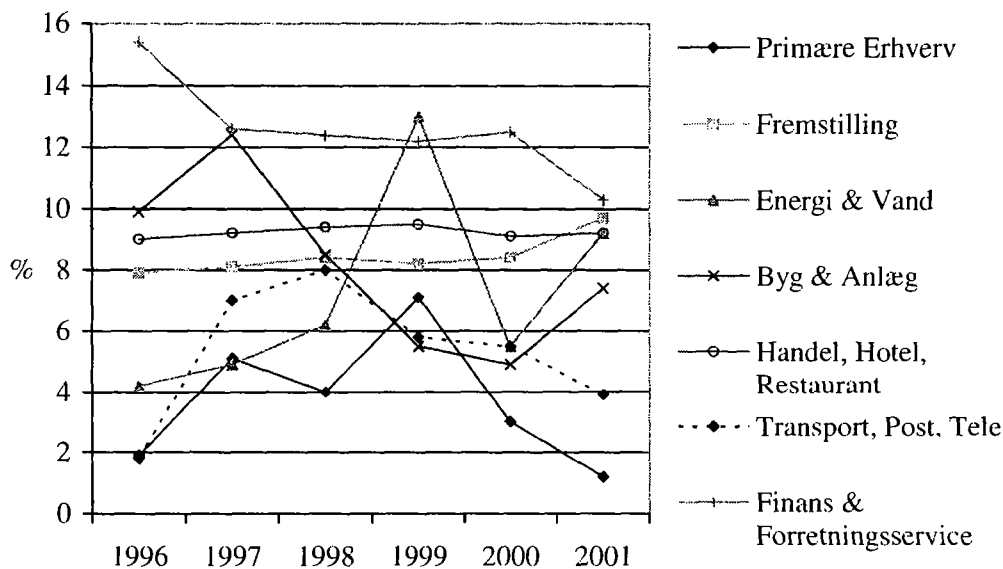
Kilde: Appendiks, Tabel A4.

Samlet set kan der dog spores en positiv udvikling med hensyn til kvindernes repræsentation i toppen af dansk erhvervsliv. Men udviklingen går tilsyneladende meget langsomt, og Danmark ligger bagefter andre europæiske lande og USA, jfr. afsnit 3.4. En positiv tolkning af beskrivelserne ovenfor kan være, at kvinderne er ved at bestige de

lavere trin i stillingshierakiet, eftersom at kvindeandelen stiger jo længere ned man kommer i ledelsesniveau. På den anden side kan det også tænkes, at kvinderne blot forbliver på de lavere niveauer, og at sivingen op til topledelsen som administrerende direktør for en større virksomhed ikke øges synderligt, selvom basis er øget i form af flere kvinder på ledelsesniveauet lige under. Det kræver tal for en længere tidsperiode at vurdere, om overgangsfrekvensen fra ledelsesniveau II til I er øget i løbet af 1990erne.

For bestyrelsesniveauet har kvindeandelen været faldende, hvilket kan forekomme overraskende i betragtning af, at potentialet for rekruttering af kvinder til bestyrelserne i form af kvinder i topstillinger trods alt er vokset i løbet af 1990erne!

Figur 5. Kvindeandel (%) i bestyrelser i de største danske virksomheder 1996 – 2001. Fordelt på brancher.



Kilde: Appendiks, Tabel A5.

3.4 Sammarisk indeks for kvindeandel

For at få et mere overordnet billede af kvindeandelen i de enkelte virksomheders ledelse over en længere periode, er der i lighed med Catalyst (2004) og Adler (2001) beregnet et samlet indeks. Dette beskriver kvindeandelen i ledelsen i perioden 1992 - 2000. Indekset er beregnet således, at kvinder i ledelsen tidligt i perioden (1992 - 1995) vægter mere end senere i perioden (1996 - 2000), hvor kvindeandelen samlet set er vokset. Fra 1996, hvor der foreligger oplysninger om bestyrelsen, medtages også kvinder i bestyrelsen i indekset. Indekset angives som et antal point, der bestemmes efter følgende princip:

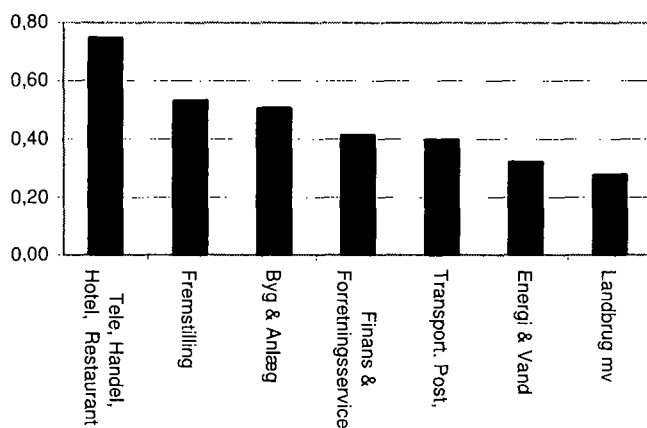
- 2 point for hver kvinde i topledelse (niveau I) i perioden 1992 - 1995

- 1 point for hver kvinde i topledelse (niveau I) i perioden 1996 – 2001
- 1 point for hver kvinde i ledelsen (niveau II) i perioden 1992 – 1995
- 0,5 point for hver kvinde i ledelsen (niveau II) i perioden 1996 – 2001
- 1 point for hver kvinde i bestyrelsen i perioden 1996 – 2000

Indeksmålet for kvindeandelen normeres i forhold til antallet af år, som virksomheden optræder i stikprøven. Kvindeindekset er konstrueret for alle virksomheder, dvs inklusiv virksomheder, der ikke eksisterer over hele perioden. Der er således i beregningerne taget højde for bl.a antallet af år, den enkelte virksomhed indgår med.

Figur 6 viser gennemsnitsværdien af det summariske indeks opdelt på brancher. Igen gælder, at handel-, hotel- og restaurationsbranchen ligger i toppen, mens de øvrige brancher skifter lidt plads i forhold til de mere enkle kvindeandelsmål, som er vist ovenfor. Dette skyldes dels, at der i det summariske kvindeindeks indgår flere parametre, dels det tidsmæssige aspekt i opstillingen af målet.

Figur 6. Gennemsnitlig værdi for indeks for kvindeandel i ledelsen af danske virksomheder i 1992– 2000.



Kilde: Egne beregninger.

3.5 Internationale sammenligninger

Det er svært at foretage cross-country sammenligninger af kvindeandelen i ledelse og bestyrelser i private virksomheder. Dels er der ikke særlig mange lande, der har opgjort mål for kvindeandelen, og dels er opgørelserne i nogen grad baseret på forskellige definitioner af ledelsesbegrebet, og de virksomheder, som indgår i opgørelserne, er udvalgt forskelligt fra land til land. Med disse forbehold er det dog alligevel muligt at få et indtryk af, hvor Danmark befinder sig i det internationale billede med hensyn til kvinder og ledelse, jfr. tabel 1.

Billedet er ikke imponerende. Mens Danmark på mange andre punkter, i lighed med Sverige og Norge, ligger i front ligestillingsmæssigt, kan denne tendens ikke spores med

hensyn til indflydelsen i det private erhvervslivs top. Samtidig synes udviklingen mod flere kvinder i topledelsen og bestyrelserne at gå betydeligt hurtigere i andre lande, f.eks. USA og Sverige, end det er tilfældet i Danmark, jfr. bl.a. Catalyst (2004) og Henrekson (2004), som foretager en mindre international sammenligning af andelen af kvinder i ledelsen og udviklingen i denne andel.

Tabel 1. Kvindeandele i topledelse og bestyrelser i private virksomheder, udvalgte lande.

Land	Andel blandt topledere	Andel i bestyrelser
USA, Fortune 500 virksomheder, 2000/2003	10,2% ¹⁾	13,6%
UK, FTSE 100 virksomheder, 2002	1,0%	8,6%
Frankrig, 2000	2,9%	7,4%
Sverige, aktieselskaber med omsætning over 50 mio. kr i 2002	5,2%	12,0%
Norge, virksomheder med over 250 ansatte (topledere) eller børsnoterede selskaber (bestyrelse), 2001	4,5%	6%
Norge, 489 ASA virksomheder	-	10,6% ²⁾
Danmark, 2001, ca. 2300 største virksomheder	4,3%	9,7% (7,9)%*

1) Ledelsesbegrebet er bredere end i tallet for danske ledere. Andel blandt topledere gælder for 2000 mens bestyrelsesandel er for 2002.

2) Vægtet gennemsnit af oplysninger for virksomheder, der havde besvaret henholdsvis ikke besvaret et spørgeskema, ialt 380 og 109 virksomheder, jfr. Hoel (2004, p. 13).

Kilde: USA, Catalyst (2003, 2004), UK, Vinnicombe og Singh (2003), Frankrig, Cotta (2000), Sverige, Henrekson (2004), Norge, Ligestillingscenteret (2001) og Hoel (2004)

*Uden medarbejdervalgte bestyrelsesmedlemmer.

4. Er performance bedre i danske virksomheder med kvinder i ledelsen?

Spørgsmålet er imidlertid, om kvinder i ledelsen gør nogen forskel? Kan kvinder i topledelsen, via forskellige mekanismer som f.eks. ledelsesstil, diversitet i ledelsen m.v. øge virksomhedernes produktivitet og konkurrenceevne, så det direkte kan måles på bundlinjen eller på forskellige mål for virksomhedens performance? Dette belyses i det følgende.

4.1 Mål for indtjeningen.

Virksomhedernes performance måles ved en række alternative mål for fortjeneste og vækst i omsætning m.v.. Der er imidlertid en betydelig variation over de enkelte år, også for gennemsnit af virksomheder inden for en hel branche, og derfor kan det i lighed med f.eks. Catalyst (2004) være nødvendigt at benytte gennemsnitstal for indtjeningen over en

5-årig periode fra 1997 – 2001. I Appendiks, figur A1 ses indtjeningen i de enkelte brancher for perioden for 4 forskellige nøgletal:

- Bruttoavance/Nettoomsætning
- Primært resultat/Nettoomsætning
- Ordinært resultat/Egenkapital
- Resultat efter skat/Egenkapital

Gennemsnitsindtjeningen i de forskellige brancher varierer efter hvilket indtjeningsmål, der fokuseres på. Resultat efter skat/ordinært resultat i forhold til egenkapitalen udtrykker begge afkastningsgraden af egenkapitalen. Forskellen på 'resultat efter skat' og 'det ordinære resultat' udgøres af skat samt ekstraordinære poster. Den relative betydning af disse poster er imidlertid forholdsvis konstant, og det ses af figuren, at branchernes relative indtjening er ret upåvirket af, hvilket mål der anvendes. Begge mål er således udtryk for resultatet på bundlinien, dvs. der er taget højde for afskrivninger, kapitalomkostninger etc.

I den økonomiske teori interesserer man sig ofte også for den mere driftsrelaterede performance ('mark-up'en'), dvs. hvorledes virksomhedens indtjening på dens primære aktiviteter udvikler sig. Til belysning heraf kan der anvendes forskellige nøgletal: virksomhedens bruttoavance eller resultat af den primære drift er hyppigt anvendte begreber. Bruttoavancen⁸ udtrykker nettoomsætningen korrigeret for variable omkostninger til råvarer, handelsvarer og underleverandører, medens overskuddet på den primære drift fremkommer som bruttoavancen minus kapacitetsomkostninger (løn, drift af kapitalapparat m.v.), dvs. overskuddet fra den del af firmaets aktivitet, der har med dens hovedaktivitet at gøre. I modsætning til afkastningsgraden er dette indtjeningsmål uafhængigt af virksomhedens finansielle forhold, afskrivninger, ekstraordinære poster og skat. Der opnås således et mere direkte billede af virksomhedens egentlige markedsmæssige performance. Til gengæld er overskuddet af den primære drift ikke registreret for alle virksomheder i stikprøven, idet der ikke for alle virksomheder er pligt til at indberette overskuddet af primær drift. Derfor er resultaterne statistisk set mere usikre (typisk mindre signifikante), når der som indtjeningsmål benyttes overskud på primær drift sammenlignet med resultaterne vedrørende bruttoavancer.

4.2 Opdeling af virksomheder efter kvindeandele i ledelse

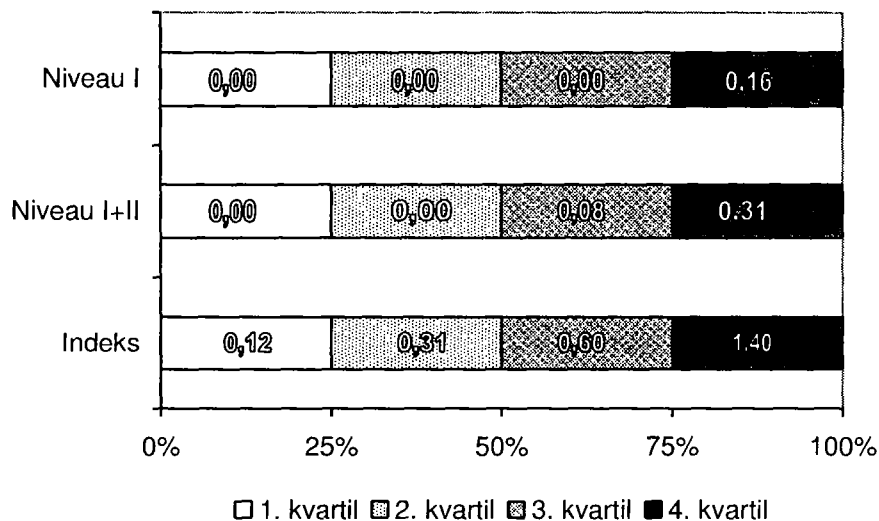
For at analysere sammenhængen mellem virksomhedernes indtjening og kvindeandelen er det i første omgang valgt i lighed med Catalyst (2004) at opdele virksomhederne i hver branche i fire lige store grupper (kvartiler), rangordnet efter forskellige mål for kvindeandelen i topledelsen. Dvs. i 1. kvartil er de 25% virksomheder med den laveste kvindeandel, og i 4. kvartil er de 25% af virksomhederne, der ligger i top med hensyn til

⁸ Bruttoavancebegrebet ækvivalerer i store træk det værditilvækstbegreb, der findes i Danmarks Statistiks Firmastatistik indtil 1998. Bortset fra afskrivninger og andre faste driftsmæssige kapacitetsomkostninger udgør bruttoavancen aflønningen til de interne produktionsfaktorer, samt løbende betalinger til fremmedkapitalen i virksomheden.

kvindeandel. Catalyst (2004) sammenligner herefter de økonomiske resultater i virksomhederne i 1. kvartil med resultaterne i virksomhederne i 4. kvartil.

En tilsvarende opdeling er foretaget på de danske virksomheder i undersøgelsen, jfr. figur 7. Eksempelvis er i række 1 alle virksomhederne opdelt efter andelen af kvinder blandt topledere (niveau I). I følge figur 7 er der slet ikke kvinder i topledelsen i virksomhederne i de tre nederste kvartiler, dvs i over 75% af de danske virksomheder, mens den gennemsnitlige kvindeandel blandt lederne i 4. kvartil er 16%.⁹ Udvides topledelsen til at inkludere tværgående direktører, øges andelen af virksomheder med en kvindelig topleder. I anden række af figur 7 ses, at den gennemsnitlige kvindeandel blandt toplederne på niveau I+II er 31% i den fjerdedel af de danske virksomheder, de har flest kvinder i topledelsen.

Figur 7. Kvindeandele i virksomheder opdelt i kvartiler med hensyn til andel af kvinder i ledelsen.



Eftersom et meget stort antal danske virksomheder er helt uden kvinder i topledelsen, er det ikke meningsfuldt i lighed med Catalyst-undersøgelserne at sammenligne 1. kvartil med 4. kvartil af virksomheder, fordi der i flere af kvartilerne er virksomheder helt uden kvinder i topledelsen, ligesom der er virksomheder i 4. kvartil der ikke har kvinder i ledelsen på niveau I. Eksempelvis var der i 2001, kun kvinder i topledelsen på niveau I i 9% af virksomhederne, mens der var kvinder i ledelsen på niveau I og II i 27% af virksomhederne.¹⁰ Derfor er der i en del af analyserne i stedet foretaget sammenligninger

⁹ Præcis det samme mønster ses i mange andre lande, f.eks. Norge, jfr. Hoel (2004), Sverige, jfr. Henrekson (2004) og USA, jfr. Catalyst (2004).

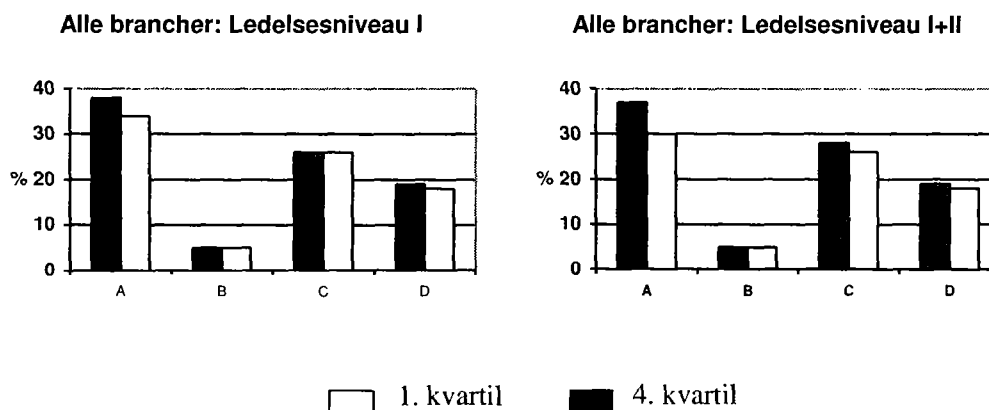
¹⁰ De tilsvarende tal for 2001 af virksomheder med kvinder i bestyrelsen var 38%, når medarbejdervalgte bestyrelsesmedlemmer medtages og 27%, hvis medarbejdervalgte bestyrelsesmedlemmer ikke medtages.

af virksomheder helt uden kvinder i topledelsen og virksomheder med mindst én kvinde i topledelsen.

4.3 Sammenligning af indtjeningen i virksomheder med og uden kvinder i ledelsen

Figur 8 viser gennemsnittet for de 4 indtjeningsmål for perioden 1997-2001 for virksomhederne i 1. og 4. kvartil, opgjort med hensyn til størrelsen af kvindeandelen i topledelsen. Dvs. 25% virksomheder med færrest kvinder i topledelsen sammenlignes med de 25% virksomheder med flest kvinder i topledelsen. Såfremt der ikke findes kvinder i ledelsen i hverken 2. eller 3. kvartil, sammenlignes dog mellem virksomheder med kvinder i ledelsen og *samtlig*e virksomheder uden kvinder i ledelsen.¹¹ Opdelingen er foretaget med udgangspunkt i de 3 alternative mål for kvindeandel i ledelsen og indekset for summarisk kvindeandel i perioden 1992-2000, som er beskrevet ovenfor

Figur 8. Gennemsnitligt indtjening og performance 1997 – 2001 i virksomhederne i 1. og 4. kvartil med hensyn til kvinder i topledelsen. Alle brancher.



Note:

Performance mål A: Bruttoavance/nettoomsætning
 Performance mål B: Primært resultat/nettoomsætning
 Performance mål C: Ordinært resultat/egenkapital
 Performance mål D: Resultat efter skat/egenkapital

Kilde: Appendiks, tabel A6-A8.

Figuren tegner det overordnede billede, at de 25% virksomheder (eller færre, jvf. ovenfor) som har flest kvinder - eller blot kvinder - i topledelsen, defineret ved niveau I eller niveau I+II, klarer sig bedre eller lige så godt med hensyn til de valgte

¹¹ Hvis der er mindre end 25% af virksomhederne med en kvinde i ledelsen (dvs hvis 4. kvartil også indeholder virksomheder uden kvindelige topledere), sammenlignes alle virksomheder med kvinder i ledelsen med virksomheder uden kvinder i ledelsen.

performancemål sammenlignet med de 25% virksomheder, som har færrest, eventuelt slet ingen, kvinder i topledelsen. Af de formelle tests, jfr. Appendiks, tabel A6-A8, er det dog kun performance målet 'bruttoavance i procent af nettoomsætningen', som er statistisk signifikant bedre i virksomheder med høj kvindeandel. For de øvrige performancemål er forskellene set ud fra normale statistiske signifikansgrænser ikke forskellige fra nul.

I tabel 2 og 3 er der foretaget en dekomponering af de aggregerede tal i figur 8. Talmaterialet bliver dog for nogle brancher meget tyndt, og kun de brancher, hvor antallet af virksomheder er stort nok til at kunne finde signifikante forskelle, er medtaget i tabel 2 og 3.¹²

Tabel 2. Test af virksomhedernes performance 1997-2001 i virksomheder med høj og lav kvindeandel i topledelsen.

Virksomheder sorteret efter kvindeandel på ledelsesniveau I

<i>Branche</i>		Kvinde- andel	Bruttoav- ance / nettoom- sætning	Primær- resultat / nettoom- sætning	Ordinær- resultat/ egen- kapital	Resultat efter skat/ egen- kapital
Alle	Virks. med kvinder	0,30	0,38	0,05	0,26	0,19
	Virks. uden kvinder	0,00	0,34	0,05	0,26	0,18
	Difference		0,04***	0,00	0,00	0,00
Fremstilling	Virks. med kvinder	0,25	0,43	0,07	0,23	0,17
	Virks. uden kvinder	0,00	0,40	0,07	0,26	0,19
	Difference		0,03*	0,01	-0,03**	-0,02
Bygge og anlægsvirks	Virks. med kvinder	0,26	0,39	0,03	0,15	0,12
	Virks. uden kvinder	0,00	0,29	0,04	0,30	0,21
	Difference		0,10**	-0,01	-0,15***	-0,09***
Handel, hotel og rest.	Virks. med kvinder	0,36	0,29	0,03	0,25	0,16
	Virks. uden kvinder	0,00	0,24	0,03	0,24	0,17
	Difference		0,05***	0,00	0,00	-0,01
Transport, post og telek	Virks. med kvinder	0,38	0,27	0,08	0,40	0,23
	Virks. uden kvinder	0,00	0,36	0,04	0,28	0,19
	Difference		-0,09***	0,04***	0,12	0,04
Forretningsser- vice mv.	Virks. med kvinder	0,25	0,50	0,02	0,32	0,26
	Virks. uden kvinder	0,00	0,43	0,06	0,28	0,19
	Difference		0,07**	-0,04***	0,04	0,06*

*, **, *** angiver statistisk signifikant fra 0 ved henholdsvis 10%, 5% og 1% signifikansniveau. Differencer uden stjerner er ikke statistisk forskellige fra 0.

Note: Såfremt der ikke findes kvinder i ledelsen i 2. og 3. eller dele af 4. kvartil, sammenlignes samtlige virksomheder hhv. med kvinder og uden kvinder i ledelsen med hinanden.

Kilde: Appendiks, tabel A6.

¹² I Appendiks, tabel A6 – A8 er vist opgørelserne for de 4 performancemål og de 3 alternative kvindeandelsmål for samtlige brancher samt de aggregerede tal. Desuden kan præcise test-statistikker og gennemsnit for brancherne findes i disse tabeller.

I nogle brancher (forretningsservice mv. og handel, hotel og restaurant) er der en tendens til, at virksomheder med høj kvindeandel i den øverste topledelse, dvs. niveau I, klarer sig bedre end virksomheder uden kvinder i topledelsen, mens det omvendte billede findes i andre brancher (bygge- og anlægssektoren). Det afhænger dog igen af, hvilket indtjeningsmål der ses på, og det er vanskeligt at foretage en entydig konklusion.

Udbredtes ledelsesbegrebet til topledere inklusiv tværgående direktører, bliver den positive effekt af kvindelige ledere lidt stærkere. I følge tabel 3 er der med dette ledelsesbegreb positiv forskel på virksomhederne med høj kvindeandel i 4. kvartil og virksomhederne i 1. kvartil eller helt uden kvinder indenfor især primære erhverv, fremstillingsvirksomhed, handel, hotel- og restaurationsvirksomhed. For transport, post og telekommunikation varierer indtjeningsforskellene med det valgte indtjeningsmål, og det samme gælder for forretningsservice mv., hvor der fås modstridende (signifikante) forskelle i de to performancemål for bruttoavance og primært resultat.

Tabel 3. Test af virksomhedernes performance 1997-2001 i virksomheder med høj og lav kvindeandel i ledelsen (4. kvartil og virksomheder uden kvindelige leder)

Virksomheder sorteret efter kvindeandel på ledelsesniveau I+II.

Branche		Kvinde- andel	Brutto- avance / nettoom- sætning	Primær resultat / nettoom- sætning	Ordinær resultat/ egen- kapital	Resultat efter skat/ egen- kapital
Alle	4. Kvartil	0,31	0,37	0,05	0,28	0,19
	Virks. uden kvinder	0,00	0,30	0,05	0,26	0,18
	Difference		0,06***	0,00	0,02	0,01
Landbrug, fiskeri mv.	Virks med kvinder	0,16	0,31	0,05	0,38	0,32
	Virks. uden kvinder	0,00	0,40	0,08	0,16	0,12
	Difference		-0,09**	-0,03**	0,21***	0,21***
Fremstilling	4. Kvartil	0,26	0,45	0,07	0,28	0,21
	Virks. uden kvinder	0,00	0,39	0,07	0,26	0,19
	Difference		0,06***	0,00	0,03*	0,03**
Bygge og anlægsvirks.	4. Kvartil	0,28	0,30	0,03	0,38	0,25
	Virks. uden kvinder	0,00	0,26	0,04	0,31	0,22
	Difference		0,04*	0,00	0,07	0,03
Handel, hotel og rest.	4. Kvartil	0,33	0,28	0,04	0,24	0,16
	Virks. uden kvinder	0,00	0,22	0,03	0,25	0,17
	Difference		0,06***	0,01***	0,00	-0,01
Transport, post og telek.	4. Kvartil	0,37	0,33	0,05	0,39	0,24
	Virks. uden kvinder	0,00	0,39	0,04	0,27	0,20
	Difference		-0,07***	0,01	0,12	0,04
Forretningsser- vice mv.	4. Kvartil	0,36	0,45	0,05	0,36	0,27
	Virks. uden kvinder	0,00	0,36	0,09	0,36	0,25
	Difference		0,09***	-0,04***	0,00	0,02

*, **, *** angiver statistisk signifikant fra 0 ved henholdsvis 10%, 5% og 1% signifikansniveau. Differencer uden stjerner er ikke statistisk forskellige fra 0.

Note: Se tabel 2. Kilde: Appendiks, Tabel A7.

Sorteres virksomhederne efter deres historiske erfaringer (1992 – 2000) med kvinder i ledelsen, dvs. efter det summariske kvindeindeks jfr. Appendiks, tabel A8, er der meget få signifikante forskelle mellem virksomheder med forholdsvis mange kvinder i ledelsen (direktion samt bestyrelse). Men de få signifikante forskelle (indenfor handel mv.) peger på, at virksomheder, der historisk set har haft mange kvinder i ledelsen, klarer sig dårligere i perioden 1997-2001 end virksomheder uden kvinder i ledelsen.

Samlet set kan der således ikke ud fra de relativt simple analyser på det aggregerede niveau drages nogle helt klare konklusioner om, at kvinder i ledelsen gavner eller skader virksomhedernes bundlinie. Der er en overvejende positiv tendens i de danske tal i stil med den, der er fundet af Adler (2000) og Catalyst (2004) for USA, når kun de seneste års erfaringer er med. Men billedet findes ikke, hvis indekset for historisk at have haft ansat kvinder i direktionen inddrages.

4.4 Multivariate analyser af betydningen af kvinder i ledelsen

Der er selvfølgelig mange forhold, der påvirker en virksomheds bundlinie, udover kvindeandelen i ledelsen og bestyrelse. For at tage højde for en række af disse forhold, er der i det følgende estimeret en lang række multivariate modeller ved hjælp af regressionsanalyser, dels på enkelte år inden for perioden 1992 – 2001, og dels på det samlede datamateriale. Dermed fås et mere 'rent' skøn på, hvad effekten af kvinder i ledelsen faktisk er. De estimerede modeller kan beskrives ved følgende:

$$(1) \quad P_{it} = \beta_1 X_{it} + \beta_2 K_{it} + \varepsilon_{it}$$

hvor i er et indeks for virksomheden ($i = 1, \dots$, ca. 2300) og t er året, ($t = 1992 - 2001$) og:

P_{it} er et mål for performance (dvs. resultatet i forhold til egenkapitalen, det ordinære resultat i forhold til egenkapitalen, bruttoavancen i forhold til nettoomsætningen og det primære resultat i forhold til nettoomsætningen).

K_{it} : Kvindeandel (defineret som niveau I, niveau I+II, kvindeandel i bestyrelsen, samt det summariske indeks for kvindeandele over perioden 1992-2000).

X_{it} er andre variable end kvindeandelen, som må ventes at øve indflydelse på virksomhedens performance (der benyttes forklarende variable, som traditionelt benyttes i forskningslitteraturen vedr. virksomhedens performance, såsom virksomhedens størrelse, antal ansatte i virksomheden, virksomhedens alder, branche, eksportandele samt et mål for adgangsbarrierer til branchen).¹³

ε_{it} er et statistisk fejld.

¹³ Derudover kvadrerede størrelser for antal ansatte og virksomhedens alder. Eksportandele er repræsenteret ved to indikatorvariable for henholdsvis lav eksportandel (under 5% af omsætningen) og høj eksportandel (over 50% af omsætningen).

Modellen estimeres ved brug af OLS på enten årlige data (cross section) eller på det pooled ubalancerede panel af virksomheder. Derudover er også estimeret fixed effects modeller, der tager hensyn til uobserverede firmaspecifikke variable, der er konstante over tid. I det følgende vises dog udelukkende resultater fra cross section (analyser for de enkelte år) og pooled (analyser for alle år) OLS estimationer.¹⁴

Den afgørende størrelse i denne sammenhæng er koefficienten β_2 , som angiver effekten fra kvindeandelen på indtjeningen i virksomheden. Hvis β_2 er statistisk signifikant og positiv, er det udtryk for, at når der i øvrigt er korrigeret for andre forklarende variable, er der en positiv sammenhæng mellem en højere kvindeandel i ledelsen og virksomhedernes indtjening.

Selvom der observeres en statistisk signifikant positiv sammenhæng, kan kausaliteten imidlertid tænkes at løbe begge veje. For at forsøge at tage højde for dette er der også estimeret modeller, hvor der i stedet for den aktuelle kvindeandel benyttes kvindeandelen i året før (laggede værdier af kvindeandelen). Dette afhjælper i nogen grad problemerne med at afdække kausalitetsretningen. Tilsvarende er også estimeret modeller for virksomhedernes performance i 2001 med det summariske kvindeindeks for perioden 1992-2000 som forklarende variabel, dvs. historiske kvindeandele bruges til at forklare indtjeningen i 2001. I afsnit 4.5 foretages desuden et egentlig test på kausalitetsretningen i modellen.

I tabel 4 og 5 er vist resultater fra estimationer af koefficienten β_2 , baseret på det samlede datamateriale fra alle år (pooled regressioner). Det overordnede billede er, at kvinder i ledelsen har en signifikant positiv betydning for virksomhedernes indtjening.

Derimod er der tilsyneladende negative effekter målt på flere overskudsmål af kvinder i bestyrelsen ifølge tabel 4. Men effekterne er insignifikante, dvs. de er ikke statistisk set forskellige fra 0, og der kan således ikke påvises nogen effekt af kvinder i bestyrelsen. Kun for resultatet af den primære drift synes der at være en signifikant positiv effekt af kvinder i bestyrelsen. Dette kan formentlig forklares ved, at de (færre) virksomheder som har oplyst resultatet på den primære drift er mere åbne og 'moderne' i forhold til de øvrige virksomheder, hvor der ikke findes signifikant positive effekter af kvinder i bestyrelsen.

For at vurdere stabiliteten af resultaterne er også konstrueret en model med laggede værdier af kvindeandelen, dvs. virksomhedens indtjening forklares bl.a. med kvindeandelen *året før*. Desuden er foretaget regressioner for koefficienten til det summariske indeks for kvindeandelen i perioden 1992 - 2000 for indtjeningen i året 2001. Resultaterne er gengivet i tabel 5.

¹⁴ Grunden til, at det i praksis er svært at bruge fixed effects estimatoren (der ellers er statistisk set mere tilfredsstillende i mange situationer), er, at kvindeandelen i den enkelte virksomhed ofte udviser så lille variation over tiden, at det er vanskeligt at udskille effekten fra konstantleddet, hvorfor der bliver meget stor varians på den skønnede koefficient til kvindeandelen.

Tabel 4. Estimerede effekter på virksomhedens performance af kvinder i ledelsen: Koefficienter fra estimationer af modeller med alternative performance mål og kvindeandels variable. Estimationer på poolede data.

	Brutto- avance / nettooms.	Prim. resultat / nettooms.	Ordinær- resultat/ egenkapital	Resultat efter skat/ egenkapital
Årets værdi for:			--- % ---	
Kvindeandel, Niveau I Estimationsperiode 1992 – 2001	6,3***	0,6	5,2	3,2
Kvindeandel, Niveau I+II Estimationsperiode 1992 – 2001	11,3***	0,3	6,3**	5,1***
Andel kvinder i bestyrelse, inkl. medarbejderrepræsentanter Estimationsperiode 1996-2001	1,3	1,2***	-4,5	-2,9

*, **, *** angiver statistisk signifikant fra 0 ved henholdsvis 10%, 5% og 1% signifikansniveau. Koefficienter uden stjerner er ikke statistisk forskellige fra 0.

Resultaterne i tabel 5 er ganske robuste i forhold til resultaterne i tabel 4. Dvs der er fortsat en positiv effekt af kvinder i ledelsen, specielt hvis ledelsesniveauet udbredes til niveau II, mens kvinder i bestyrelsen inklusiv medarbejderrepræsentanter enten ikke har nogen effekt eller en positiv effekt, hvis der måles på virksomhedens primære resultat. Der kan ikke findes nogen signifikant positiv sammenhæng mellem det summariske kvindeandelsmål for perioden 1992 – 2000 og de forskellige mål for virksomhedernes indtjening i året 2001.

Tabel 5. Estimerede effekter på virksomhedens performance af kvinder i ledelsen: Koefficienter fra estimationer af modeller med alternativ performance mål og kvindeandels variable. Laggede værdier for kvindeandelen og historisk indeks for kvindeandel. Estimationer på poolede data.

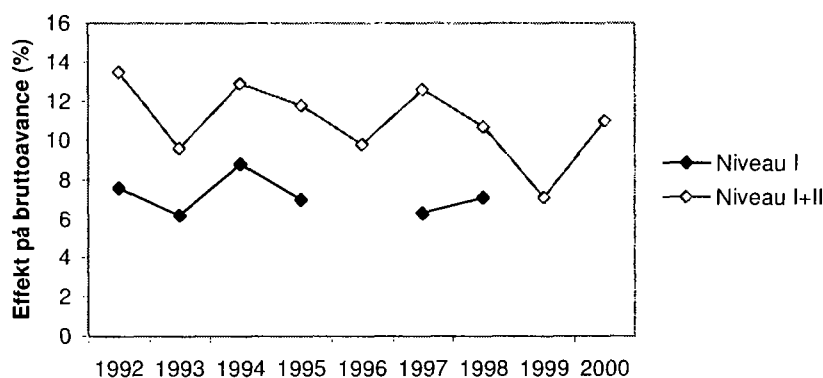
	Brutto- avance / nettooms.	Prim. resultat / nettooms.	Ordinær- resultat/ egenkapital	Resultat efter skat / egenkapital
Laggede værdi for:			-- % --	
Kvindeandel, Niveau I Estimationsperiode 1992 – 2001	6,6***	-0,1	0,8	0,8
Kvindeandel, Niveau I+II Estimationsperiode 1992 – 2001	10,4***	0,0	6,1**	5,2***
Summarisk indeks kvindeandel 1992 – 2000. Estimationsperiode 2001	0,4	0,4	-2,0	-0,6
Andel kvinder i bestyrelse, inkl. medarbejderrepræsentanter Estimationsperiode 1996-2001	0,9	1,4**	-5,2	-3,3

*, **, *** angiver statistisk signifikant fra 0 ved henholdsvis 10%, 5% og 1% signifikansniveau.

I den internationale forskningslitteratur synes der at være en tendens i løbet af perioden til at effekten fra en diversificeret ledelse bliver mere positiv i løbet af det sidste årti. For at vurdere om denne effekt kan genfindes for danske virksomheder, er der i figur 9 vist de estimerede koefficienter for β_2 baseret på årlige cross section estimationer af model (1).

Eftersom der er betydeligt færre observationer bag estimationerne af de enkelte års værdier for β_2 , er der betydeligt færre sammenhænge, der findes at være statistisk signifikant forskellige fra 0. Især indtjeningsmålet bruttoavance i forhold til nettoomsætningen har imidlertid ret stabilt signifikante koefficienter, hvorfor der i figur 9 kun er vist disse koefficienter fra disse estimationer. Som det fremgår, er der i hele perioden en positiv effekt på bruttoavancerne af kvinder i ledelsen, men der kan ikke spores nogen systematisk tendens til at effekten skulle blive større eller mere positiv i løbet af perioden.¹⁵ Effekten af kvinder i bestyrelsen er ikke medtaget i figur 9, fordi den i alle årene er insignifikant, uanset hvilket indtjeningsmål der benyttes.

Figur 9. Estimerede effekter på virksomhedens bruttoavance i forhold til nettoomsætningen: Signifikante koefficienter. Årlige cross section estimationer af β_2 .



Kilde: Baseret på egne beregninger (OLS-regressioner).

4.5 Test af kausalitetsretning

Som tidligere nævnt er det afgørende for konklusionen af analysen, hvorvidt der rent faktisk er en kausal effekt af kvinder i ledelsen på virksomhedernes performance. En del af kausalitetsproblemet (betegnes endogenitetsproblemet i statistiske analyser) er ovenfor løst ved at inddrage laggede kvindeandele i estimationerne, idet det da er sikkert, at kvindeandelene er *prædeterminerede*, dvs de er tidsmæssigt fastlagt før indtjeningen sker. Dette betragtes dog i statistiske analyser ikke som en sikker garanti for, at kausaliteten ikke alligevel kan løbe den modsatte vej, og denne løsningsmodel er således ikke tilstrækkelig til at tage højde for al variation i karakteristika mellem virksomheder med

¹⁵ For de øvrige indtjeningsmål, som ikke er vist, fås udelukkende insignifikante eller signifikant positive koefficienter til kvindeandelen, dvs. ingen signifikant negative koefficienter.

ingen, få eller mange kvinder i ledelsen. Hvis de virksomheder, der ansætter kvindelige ledere, også er systematisk anderledes (fx mere progressive og moderne tænkende) og det ikke er muligt at kontrollere for sådanne variable i analysen, vil estimatet på β_2 muligvis ikke være korrekt, men kan afspejle disse udeladte variable, der så fejlagtigt kan blive fortolket som effekter af kvindelig ledelse.

For at løse dette problem estimeres en instrument variabel model (betegnes 'two stage least squares', 2SLS), hvor K_{it} i ovenstående model (1) erstattes af en beregnet værdi (prædiktion) for K_{it} . Den prædiktede værdi for K_{it} fås ved at estimere en separat model for kvindeandelen:

$$(2) \quad K_{it} = \alpha_1 X_{it} + \alpha_2 Z_{it} + v_{it}$$

I (2) estimeres en sammenhæng mellem kvindelig ledelse, virksomhedens karakteristika X_{it} (inklusive virksomhedens indtjening) og Z_{it} , hvor Z_{it} er faktorer, der kan forklare kvindelig ledelse, men som ikke er korreleret med virksomhedens performance. Når (1) estimeres med denne prædiktion af K_{it} i stedet for den observerede faktiske værdi af K_{it} , vil β_2 være korrigeret for 'falsk kausalitet' (dvs. endogenitet) og kan nu fortolkes som en kausal sammenhæng mellem kvindelig ledelse og performance.

Ofte er det meget vanskeligt i praksis at finde egnede Z-variable (såkaldte 'instrumenter'), der kan identificere de kausale sammenhænge, men fordi der er adgang til mange registerinformationer i datasættet, er det muligt i denne analyse. Som instrument benyttes information om uddannelsen for lederens ægtefæller. Hypotesen bag valget af dette instrument er, at hvis ledere i en virksomhed har en højtuddannet ægtefælle (hvilket i langt de fleste tilfælde vil sige en højtuddannet kone), er de også mere tilbøjelige til at ansætte en kvindelig leder, og dermed vil kvindeandelen i virksomhedens ledelse være relativt høj. Det synes rimeligt at forvente, at mål for lederens ægtefælles uddannelse ikke har nogen effekt på virksomhedens performance, og dermed kan ægtefællens uddannelse benyttes som 'instrumentet', der benyttes i identifikationen af kausalitetsforhold.

Modellen er estimeret på basis af cross section data for de enkelte år. I Appendix, tabel A9, er vist en tabel over fortegn og signifikansforhold for 2SLS-estimationer af β_2 , hvor der er taget hensyn til at kausaliteten potentielt kan gå begge veje. Resultaterne fra de mere simple estimationer uden hensyntagen til kausalitetsretningen viser sig at være ganske stabile. Som det er almindeligt ved 2SLS estimationer, bliver resultaterne mindre signifikante, men generelt genfindes de samme resultater, som blev illustreret i figur 9. Derimod findes ingen signifikant tendens til, at virksomheder med en positiv indtjening ansætter flere kvindelige chefer.¹⁶

¹⁶ Udover 2SLS estimationen er kausalitetsforholdene også testet med et såkaldt Granger kausalitetstest. Testet viser entydigt, at kausaliteten går fra kvindeandel i ledelsen til virksomhedens indtjening, og ikke omvendt. Det anvendte Granger test er udarbejdet til tidsseriedata, ikke til et datasæt, som er anvendt i

5. Konklusion

Forbedrer kvinder i ledelsen danske virksomheders bundlinie? Dette er hovedspørgsmålet i denne undersøgelse. Ud fra simple sammenligninger af indtjeningen i virksomheder med og uden kvindelige ledere, uden kontrol for branche, virksomhedens alder og størrelse m.v., er det overordnede billede for alle brancher, at virksomheder med kvinder i topledelsen klarer sig signifikant bedre end virksomheder uden kvinder. Når der opdeles på brancher, bliver billedet betydeligt mere uklart, bl.a. fordi antallet af virksomheder bliver meget mindre. Når der opdeles på brancher, findes der i nogle tilfælde i de rå sammenligninger mellem virksomheder med og uden kvinder i ledelsen, at virksomhederne med kvindelige ledere klarer sig statistisk signifikant dårligere end virksomheder uden kvinder i ledelsen.

Når der ved brug af multivariate metoder (regressionsanalyser) kontrolleres for faktorer som brancheforhold, virksomhedens alder og størrelse, således at den mere isolerede effekt af kvinder i ledelsen måles, er billedet forholdsvis klart. Resultaterne fra en række regressionsanalyser peger samlet set på, at virksomheder med kvinder i direktionen eller bestyrelsen i de sidste 10 år enten har klaret sig signifikant bedre end virksomheder uden kvinder, eller at der ikke er nogen forskel.

Det er ikke muligt ud fra dette studium at sige, om der er en proces i gang, som i løbet af få år vil ændre billedet af meget få kvinder i top-lederstillinger i Danmark, dvs. om det lykkes for de nye generationer af kvinder at trænge gennem 'glasloftet', modsat tidligere generationer af kvindelige ledere på lavere niveauer. Men undersøgelsen viser, at andelen af kvindelige ledere er voksende inden for de fleste brancher. Undtagelser er dog de primære erhverv, bygge- og anlægssektoren og energisektoren.

Et vigtigt spørgsmål er, hvordan kausaliteten går: Giver øget diversitet en bedre bundlinie eller er det omvendt? Dette er analyseret dels ved at estimere sammenhængen mellem kvindeandel i ledelsen og den *efterfølgende* indtjeningsgrad, instrument variabel modeller og ved formelle tests på kausalitetsretningen. Undersøgelserne viser, at der også i disse modeller findes en positiv sammenhæng *fra flere kvinder i ledelsen til bundlinien*, ligesom de formelle tests afviser, at kausaliteten skulle gå i den modsatte retning.

Den overordnede konklusion er derfor, baseret på tal for danske virksomheder i perioden 1992 - 2001, at kvinder i topledelsen tenderer at have en positiv effekt på virksomhedens indtjening og performance. For nogle af indtjeningsmålene er effekterne dog ikke signifikant positive i de enkelte år.

denne undersøgelse, hvor der benyttes en kombination af tidsserie- og tværsnitsdata. De detaljerede testværdier og fortegn er ikke vist i dette notat, men kan fås fra forfatterne.

Litteraturliste

Adler, R. D. (2001) "Women in the Executive Suite Correlate to High Profits", Harvard Business Review.

Bantel, K. A. og S. E. Jackson (1989), Top Management and Innovations in Banking: Does the composition of the Top Team Make a Difference?, Strategic Management Journal, vol. 10, (Special Issue), 107-124.

Carter, D. A., B. J. Simkins og W. G. Simpson (2003), Corporate Governance, Board Diversity, and Firm Value, The Financial Review, vol 38, 33-53.

Catalyst (2003), Women in US Corporate Leadership: 2003', www.catalystwomen.org

Catalyst (2004), "The Bottom Line: Connecting Corporate Performance and Gender Diversity", www.catalystwomen.org

Cotta, M (2000), Rapport Présenté du nom de la section du travail, Le Conseil Économique et Social, Paris.

Ding, D. K. og C. Charoenwong (2004), Women on Board: Is it Boon or Bane?, paper presenteret på 2004 FMA European Conference, Zürich, juni 2004, <http://207.36.165.114/Zurich/Papers/140164.pdf>

Du Rietz, A og M. Henrekson (2000), Testing the Female Underperformance Hypothesis, Small Business Economics, vol 14(1), 1-10.

Goll, I., R. B. Sambharya og L. A. Tucci (2001), Top Management Team Composition, Corporate Ideology, and Firm Performance, Management International Review, vol. 21 (2), 109-129.

Henrekson, M. (2004), Vägar till ökad jämställdhet i svenskt näringsliv, SNS forlag, Stockholm.

Hoel, M. (2004), Kvinner i styrer og ledelse i norsk næringsliv. Kartlegging av ASA-selskapene 2004, CCD/Ledelse Likestilling Mangfold, Oslo.

Kochan, T., K. Bezrukova, R. Ely, S. Jackson, A. Joshi, K. Jehn, J. Leonard, D. Levine og D. Thomas (2003), The Effects of Diversity on Business Performance: Report of the Diversity Network. Human Resource Management, vol 42 (1), 3-21.

Likestillingssenteret (2001), Likestillingsbarometret 2001, Oslo.

Murray, A. I. (1989), Top Management Group Performance and Firm Performance, Strategic Management Journal, Vol 10 (Special Issue, Summer 1989), 125-141.

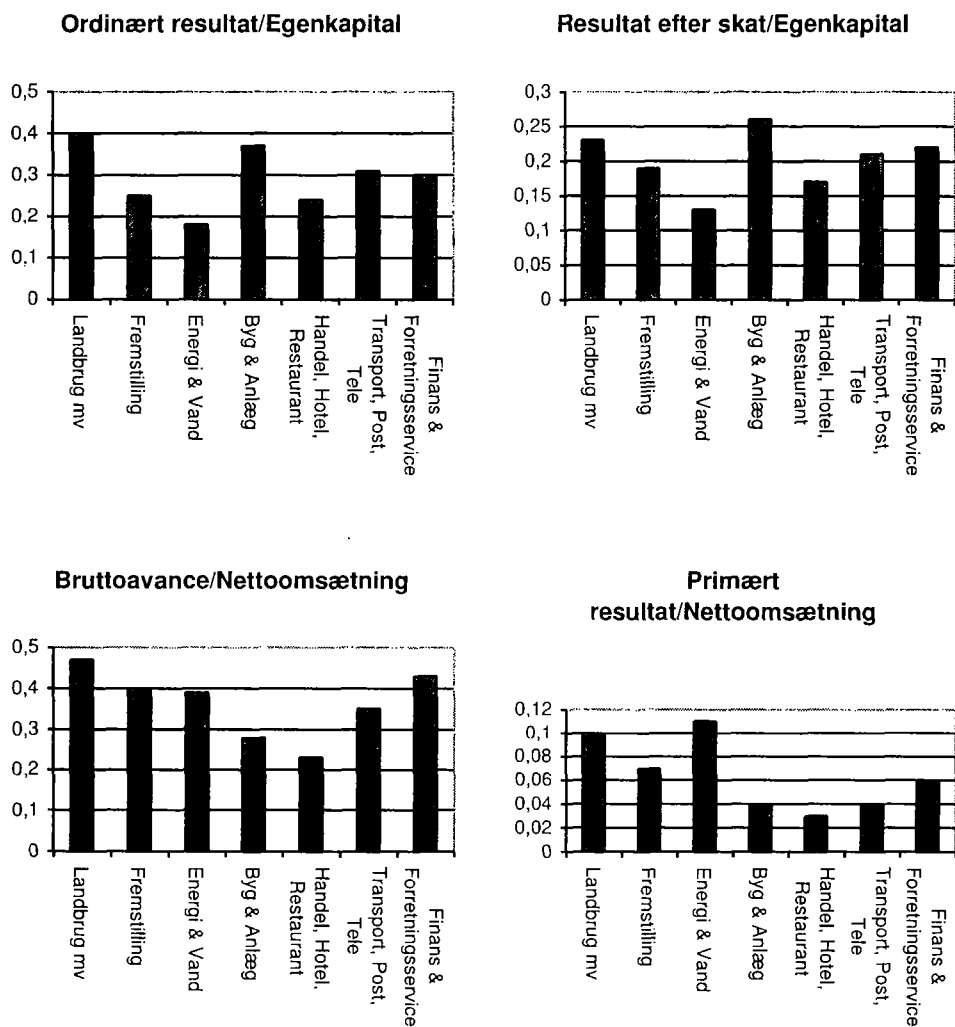
Rose, C. (2004), Bestyrelsessammensætning og finansiel performance i danske børsnoterede virksomheder – Er Nørby Rapportens anbefalinger til gavn for aktionærerne? WP 2004-2, Institut for Finansiering, Handelshøjskolen i København.

Shrader, C. B., V. B. Blackburn og P. Iles (1997), Women in Management and firm financial performance: an explorative study, *Journal of Managerial Issues*, fall 1997, vol. 9 (3), 355-372.

Vinnicombe, S. og V. Singh (2003), Locks and Keys to the Board-room: A Comparison of UK Male and Female Directors, *Women in Management Review*.

Appendix: Baggrundsfigurer og -tabeller

Figur A1. Gennemsnitlig indtjening i danske private virksomheder i 1997 – 2001 - fire forskellige performance mål.



Kilde: Egne beregninger.

Tabel A1. Kvindeandel (%) i topledelsen i de største danske private firmaer eller virksomheder 2001. Fordelt efter branche.¹⁾

	Niveau I	Niveau I+II	Bestyrelse	Antal virksomheder ²⁾
<i>Branche</i>				
Landbrug, fiskeri og råstofudvinding	0,0	1,2	7,4	19 (34)
Fremstilling	3,0	9,7	9,2	644 (723)
Energi og vandforsyning	0,0	9,2	3,9	23 (91)
Bygge og anlægsvirksomhed	3,9	4,6	10,3	81 (113)
Handel, hotel og restaurationsvirksomhed mv.	4,9	11,4	11,0	632 (809)
Transportvirksomhed, post og telekomm.	6,1	9,6	8,4	79 (115)
Forretningsservice, mv.	5,8	14,8	10,0	299 (426)
Ialt	4,3	10,9	9,7	1.777 (2.311)

Note 1: Niveau I er 'topledelse', niveau I+II er 'topledelse plus øvrige ledere af hovedaktiviteter'.

Note 2: I parentes antal virksomheder med oplysninger om bestyrelsen.

Tabel A2. Kvindeandel (%) i topledelsen i de største danske private firmaer eller virksomheder 2001. Fordelt efter størrelse.¹⁾

	Niveau I	Niveau I+II	Bestyrelse	Antal virksomheder ²⁾
<i>Antal ansatte</i>		-- % --		
Under 50	4,8	10,2	9,6	504 (900)
51-100	3,9	10,2	10,1	370 (445)
101-250	3,4	12,0	9,1	506 (551)
251-500	5,1	10,5	10,7	219 (227)
501+	5,4	11,8	10,5	164 (172)
Ialt	4,3	10,9	9,7	1.777 (2.311)

Note 1 og 2: Se tabel A1.

Tabel A3. Kvindeandel (%) i topledelsen i de største danske firmaer eller virksomheder 1993 – 2001.¹⁾

	Niveau I:	Niveau I+II:	Bestyrelse	Bestyrelse uden medarbejdervalgte	Antal virksomheder ²⁾
	-- % --				
1993	2,5	5,9	.	.	1.692 (.)
1994	3,1	7,5	.	.	1.678 (.)
1995	4,0	8,3	.	.	1.771 (.)
1996	4,4	8,7	11,7	10,1	1.790 (1.982)
1997	3,6	8,8	11,7	10,1	1.872 (2.093)
1998	3,9	9,5	11,8	9,9	1.919 (2.203)
1999	3,9	9,8	11,4	9,5	1.977 (2.340)
2000	4,7	10,6	10,7	9,0	1.725 (2.315)
2001	4,3	10,9	9,7	7,9	1.777 (2.311)
Gennemsnit 1993 – 2001	3,8	8,9	11,2	9,4	1.800 (2.207)

Note 1 og 2: Se tabel A1.

Tabel A4. Kvindeandel (%) i topledelsen samt ledelse af hovedaktiviteter (niveau I+II) i de største danske private firmaer eller virksomheder 1993 – 2001. Fordelt på branche.

	Landb. fiskeri og råstofudvinding	Fremstilling	Energi og vandforsyning	Bygge og anlægs- virksomhed	Handel, hotel- og rest- virksomhed mv.	Transport- virksomhed, post og telekomm.	Forretnings- service, mv.	Alle virksomheder ¹⁾
	-- % --							
1993	3,4	4,9	8,5	3,8	6,8	3,6	7,1	5,9 (1.561)
1994	5,7	6,8	8,6	3,8	7,4	8,3	10,0	7,4 (1.600)
1995	4,6	6,9	10,4	2,8	9,4	6,4	10,7	8,3 (1.679)
1996	1,9	7,9	4,2	4,4	9,3	9,4	10,8	8,7 (1.714)
1997	5,1	8,1	4,9	6,4	8,8	11,8	10,5	8,8 (1.811)
1998	4,0	8,4	6,2	6,2	9,8	11,7	12,3	9,5 (1.864)
1999	7,1	8,2	13,0	5,9	11,1	12,8	10,8	9,8 (1.909)
2000	3,0	8,4	5,5	5,3	12,7	11,4	13,5	10,6 (1.589)
2001	1,2	9,7	9,2	4,6	11,4	9,6	14,8	10,9 (1.646)
Gennemsnit 1993–2001	4,0	7,7	7,8	4,8	9,6	9,5	11,2	8,9
Antal virks. i 2001	19	644	23	81	632	79	299	1.777

Note 1: Kvindeandel i topledelsen i alt (niveau I+II). I parentes antal virksomheder med oplysninger for topledere på niveau I+II.

Table A5. Kvindeandel (%) i bestyrelser i de største danske private firmaer eller virksomheder 1993 – 2001. Fordelt på branche.

	Landbrug, fiskeri og råstofudvinding	Fremstilling	Energi og vandforsyning	Bygge og anlægsvirksomhed	Handel, hotel og restvirksomhed mv.	Transportvirksomhed, post og telekomm.	Forretningsservice, mv.	Alle Virksomheder ¹⁾
				-- % --				
1996	9,9	9,0	1,8	15,4	14,7	8,4	9,1	11,7 (1.980)
1997	12,4	9,2	7,0	12,6	15,0	8,5	8,8	11,7 (2.092)
1998	8,5	9,4	8,0	12,4	15,1	8,7	8,9	11,8 (2.203)
1999	5,5	9,5	5,8	12,2	14,7	7,0	8,3	11,4 (2.340)
2000	4,9	9,1	5,5	12,5	13,7	8,3	7,9	10,7 (2.315)
2001	7,4	9,2	3,9	10,3	11,0	8,4	10,0	9,7 (2.311)
Gns. 1993 - 2001	8,1	9,2	5,3	12,6	14,0	8,2	8,8	11,2 (2.207)

Note 1: Kvindeandel i topledelsen i alt (niveau I+II). I parentes antal virksomheder med oplysninger for topledere på niveau I+II.

Tabel A6. Test af virksomhedernes performance i virksomheder med høj og lav kvindeandel i topledelsen: Virksomheder med kvindelige leder sammenlignet med virksomheder uden kvindelige leder. Ledelsesniveau I¹⁾

Branche		Kvindeandel	Gns bruttoavance / nettoomsætning	Gns primæresultat / nettoomsætning	Gns ordinærresultat / egenkap	Gns Resultat efter skat / egenkapital
Alle	Virksomheder med kvindelige CEO	0,30	0,38	0,05	0,26	0,19
	Virksomheder uden kvindelige CEO	0,00	0,34	0,05	0,26	0,18
	Difference		0,04***	0,00	0,00	0,00
Landbrug, fiskeri mv.	Virksomheder med kvindelige CEO	0,00	0,00	0,00	0,00	0,00
	Virksomheder uden kvindelige CEO	0,00	0,00	0,00	0,00	0,00
	Difference		0,00	0,00	0,00	0,00
Fremstilling	Virksomheder med kvindelige CEO	0,25	0,43	0,07	0,23	0,17
	Virksomheder uden kvindelige CEO	0,00	0,40	0,07	0,26	0,19
	Difference		0,03*	0,01	-0,03**	-0,02
Energil og vandforsyning	Virksomheder med kvindelige CEO	0,00	0,00	0,00	0,00	0,00
	Virksomheder uden kvindelige CEO	0,00	0,00	0,00	0,00	0,00
	Difference		0,00	0,00	0,00	0,00
Bygge og anlægsvirksomheder	Virksomheder med kvindelige CEO	0,26	0,39	0,03	0,15	0,12
	Virksomheder uden kvindelige CEO	0,00	0,29	0,04	0,30	0,21
	Difference		0,10**	-0,01	-0,15***	-0,09***
Handel, hotel, rest. mv.	Virksomheder med kvindelige CEO	0,36	0,29	0,03	0,25	0,16
	Virksomheder uden kvindelige CEO	0,00	0,24	0,03	0,24	0,17
	Difference		0,05***	0,00	0,00	-0,01
Transport, post og telek.	Virksomheder med kvindelige CEO	0,38	0,27	0,08	0,40	0,23
	Virksomheder uden kvindelige CEO	0,00	0,36	0,04	0,28	0,19
	Difference		-0,09***	0,04***	0,12	0,04
Finans. & forretn. Service	Virksomheder med kvindelige CEO	0,25	0,50	0,02	0,32	0,26
	Virksomheder uden kvindelige CEO	0,00	0,43	0,06	0,28	0,19
	Difference		0,07**	-0,04***	0,04	0,06*

¹⁾ ***, **, * angiver signifikans ved henholdsvis 1%, 5% og 10% signifikansniveau. Z og T-værdier er teststatistikker fra signifikanstestet, beregnet ud fra følgende formler:

$$Z = \frac{(x_1 - x_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}, \text{ hvis } n_1 \text{ eller } n_2 \text{ er større end } 30$$

$$t = \frac{(x_1 - x_2)}{\sqrt{s_p^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}, \text{ hvor; } s_p^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}, \text{ og frihedsgrader} = n_1 + n_2 - 2$$

Tabel A7. Test af virksomhedernes performance i virksomheder med høj og lav kvindeandel i ledelsen: 4. kvartil / virksomheder med kvindelige leder sammenlignet med virksomheder uden kvindelige leder. Ledelsesniveau I+II¹⁾

Branche		Kvindeandel	Gns bruttoavance / nettoomsætning	Gns primært resultat / nettoomsætning	Gns ordinært resultat / egenkap	Gns Resultat efter skat / egenkapital
Alle	4. Kvartil	0,31	0,37	0,05	0,28	0,19
	Virksomheder uden kvindelige CEO	0,00	0,30	0,05	0,26	0,18
	Difference		0,06***	0,00	0,02	0,01
Landsbrug, fiskeri mv.	Virksomheder med kvindelige CEO	0,16	0,31	0,05	0,38	0,32
	Virksomheder uden kvindelige CEO	0,00	0,40	0,08	0,16	0,12
	Difference		-0,09**	-0,03**	0,21***	0,21***
Fremstilling	4. Kvartil	0,26	0,45	0,07	0,28	0,21
	Virksomheder uden kvindelige CEO	0,00	0,39	0,07	0,26	0,19
	Difference		0,06***	0,00	0,03*	0,03**
Energier og vandforsyning	Virksomheder med kvindelige CEO	0,14	0,38	0,03	0,17	0,08
	Virksomheder uden kvindelige CEO	0,00	0,43	0,06	0,20	0,16
	Difference		-0,05	-0,03	-0,03	-0,07***
Bygge og anlægsvirksomhed	4. Kvartil	0,28	0,30	0,03	0,38	0,25
	Virksomheder uden kvindelige CEO	0,00	0,26	0,04	0,31	0,22
	Difference		0,04*	0,00	0,07	0,03
Handel, hotel, rest mv.	4. Kvartil	0,33	0,28	0,04	0,24	0,16
	Virksomheder uden kvindelige CEO	0,00	0,22	0,03	0,25	0,17
	Difference		0,06***	0,01***	0,00	-0,01
Transport, post og telekommunikation	4. Kvartil	0,37	0,33	0,05	0,39	0,24
	Virksomheder uden kvindelige CEO	0,00	0,39	0,04	0,27	0,20
	Difference		-0,07***	0,01	0,12	0,04
Finans. & foretn. Service	4. Kvartil	0,36	0,45	0,05	0,36	0,27
	virksomheder uden kvindelige CEO	0,00	0,36	0,09	0,36	0,25
	Difference		0,09***	-0,04***	0,00	0,02

1) Se noter til tabel A6.

Tabel A8. Test af virksomhedernes performance i virksomheder med høj og lav kvindeandel i ledelsen: 4. kvartil sammenlignet med 1. kvartil/ virksomheder uden kvindelige leder. Indeks for kvindeandel i ledelsen i perioden 1992 – 2000.¹⁾

Branche		Kvindeandel	Gns bruttoavance / nettoomsætning	Gns primærresultat / nettoomsætning	Gns ordinærresultat / egenkap	Gns Resultat efter skat / egenkapital
Alle	4. Kvartil	1,40	0,30	0,04	0,21	0,16
	1. Kvartil	0,12	0,34	0,05	0,30	0,21
	Difference		-0,04**	-0,01*	-0,09***	-0,05***
Landbrug, fiskeri mv.	4. Kvartil	0,61	0,47	0,06	0,13	0,10
	Virksomheder uden kvindelige CEO	0,00	0,62	0,19	0,87	0,39
	Difference		-0,14	-0,13	-0,73	-0,29
Fremstilling	4. Kvartil	1,13	0,42	0,07	0,23	0,17
	1. Kvartil	0,15	0,40	0,06	0,25	0,18
	Difference		0,02	0,00	-0,02	-0,01
Energi og vandforsyning	4. Kvartil	0,94	0,44	0,18	0,20	0,20
	1. Kvartil	0,00	0,23	0,11	0,12	0,06
	Difference		0,21	0,07	0,08	0,14
Bygge og anlægsvirks.	4. Kvartil	1,08	0,29	0,05	0,46	0,31
	1. Kvartil	0,10	0,25	0,04	0,45	0,32
	Difference		0,04	0,01	0,01	-0,01
Handel, hotel, rest. mv.	4. Kvartil	1,75	0,24	0,03	0,18	0,13
	1. Kvartil	0,14	0,25	0,04	0,30	0,20
	Difference		-0,02	-0,01	-0,12***	-0,07***
Transport, post og telekommunik.	4. Kvartil	0,71	0,35	0,04	0,31	0,22
	1. Kvartil	0,05	0,41	0,05	0,27	0,17
	Difference		-0,06	-0,01	0,03	0,05
Finans. og forretn. Service	4. Kvartil	1,00	0,44	0,03	0,19	0,14
	1. Kvartil	0,04	0,48	0,08	0,36	0,25
	Difference		-0,04	-0,04	-0,17	-0,11

1) Se noter til tabel A6.

Tabel A9. Resultater fra 2SLS estimationer af virksomhedens indtjening og kvindeandel baseret på årlige cross section data for perioden 1996 – 2001. Fortegn på estimerede koefficienter. Signifikante koefficienter er angivet med en parentes.

	Mål for kvindeandel i ledelse			
	Topledere Niveau: I	Topledere Niveau: I + II	Bestyrelse (inklusive medarbejder valgte)	Summa- risk index
	<i>Estimeret effekt fra kvindeandel til indtjening (β_2), fortegn på koefficienter for hvert af årene 1996 -2001</i>			
Bruttoavance /omsætning	(+) + + + (+) (+)	(+) (+) (+) (+) (+) (+)	÷ ÷ ÷ ÷ ÷ ÷	÷
Primært res. /omsætning	+ + + + +	+ + + + +	÷ ÷ ÷ ÷ ÷	÷
Ordinært res. /egenkapital	+ + + + +	÷ + (+) + (+) (+)	+ ÷ ÷ ÷ ÷ +	+
Resultat efter skat /egenkapital	+ + + + +	÷ + (+) (+) + +	+ ÷ ÷ ÷ ÷ ÷	+
	<i>Estimeret effect fra indtjening til kvindeandel (α_1), fortegn på koefficienter for hvert af årene 1996 -2001</i>			
Bruttoavance /omsætning	÷ + ÷ ÷ + ÷	÷ + ÷ + + +	÷ ÷ ÷ ÷ ÷ ÷	÷
Primært res. /omsætning	÷ + ÷ ÷ ÷ ÷	÷ + ÷ + + +	÷ + ÷ ÷ ÷ ÷	÷
Ordinært res. /egenkapital	÷ + + ÷ + ÷	+ ÷ + + + ÷	+ + + ÷ + +	+
Resultat efter skat /egenkapital	÷ ÷ + ÷ ÷ ÷	+ + + + + ÷	+ ÷ + ÷ ÷ +	+

Kilde: Baseret på 2SLS estimationer af simultan model for virksomhedsindtjening (relation (1)) og andel af kvinder i ledelse (relation (2)). jfr. afsnit 4.4 og 4.5.

Kvindelige ledere kan se på bundlinjen

23/05-2007 16:44

En amerikanske undersøgelse fra 2004 dokumenterer, at en virksomhed med mange kvindelige topledere både har en bedre forrentning af egenkapitalen og opnår et større afkast til aktionærerne, end virksomheder med få kvindelige topledere.

Tabellen viser en sammenligning af virksomhedernes finansielle formåen i forhold til andelen af kvindelige topledere, 1996 - 2000

Virksomhedens andel af kvindelige topledere:

	Forrentning af egenkapital %	Afkast til aktionærerne %
Mange	17,7	127,7
Få	13,1	95,3
Forskel	4,6	32,4

Bemærkning: I alt 353 amerikanske virksomheder indgik i undersøgelsen. Kun de 88 virksomheder, med flest kvindelige topledere, og de 89 virksomhederne med færrest kvindelige topledere optræder i ovenstående sammenligning.

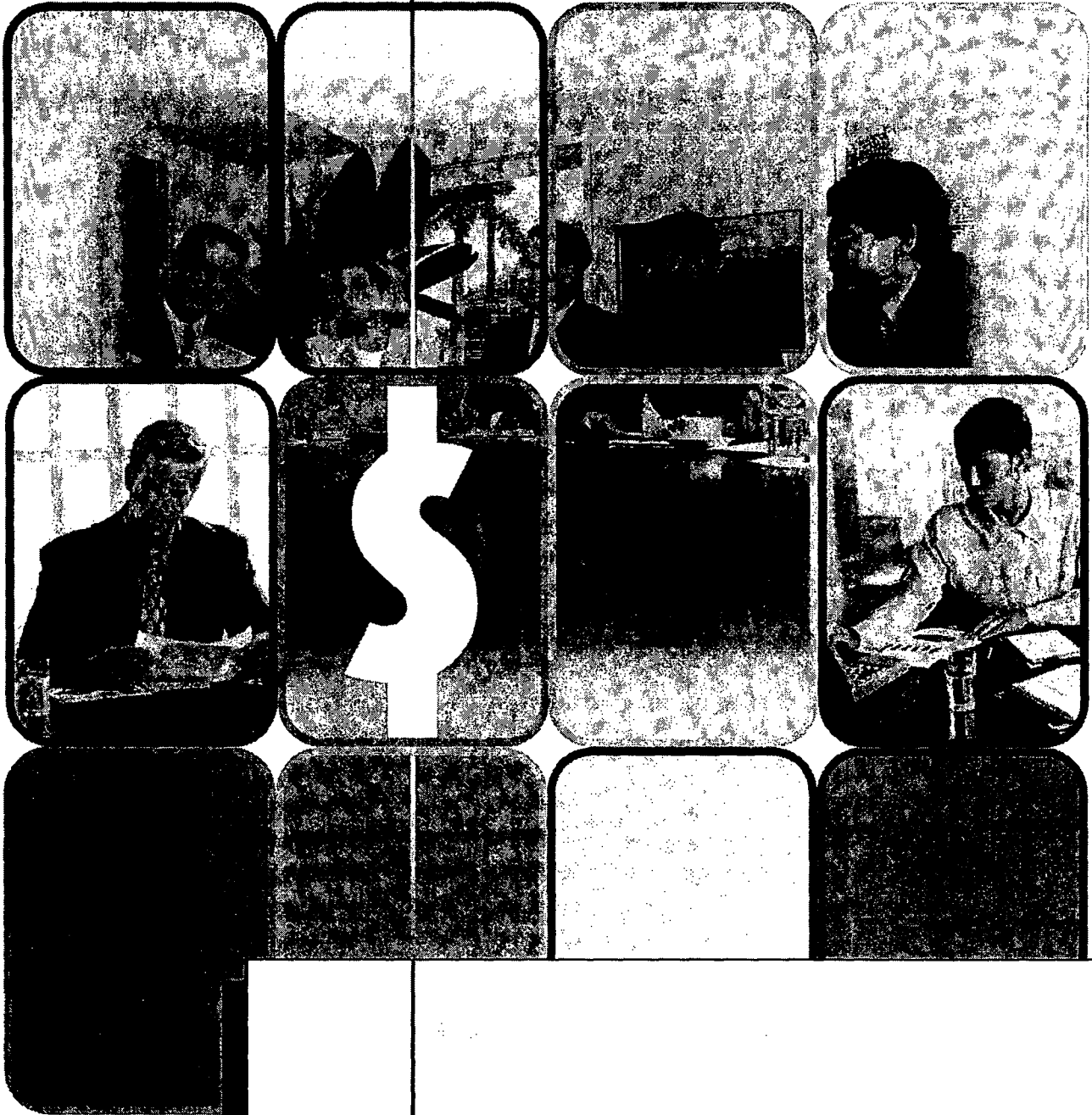
Kilde: The Bottom Line, Catalyst.

Man skal dog være opmærksom på, at det kun er muligt udfra undersøgelsen at se, at der er en sammenhæng mellem mange kvinder i ledelsen og en god bundlinje. Reelt kan man ikke påvise, at det netop er derfor, at virksomhederne klarer sig godt. Du kan læse mere om undersøgelsen "The Bottom Line" på adressen www.catalystwomen.org

Også en anden amerikansk undersøgelse foretaget over 19 år af prof. Roy D. Adler - blandt Fortunes 500 udvalgte virksomheder - viser samme billede, nemlig at der er en stærk sammenhæng mellem at forfremme kvinder til direktørstole og højt afkast.

Ved at se på afkastet som procent af omsætningen overgik virksomhederne med mange kvinder i ledelsen klart deres branches gennemsnit med hele 34 pct. Du kan bl.a. læse mere om undersøgelsen på hjemmesiden for Rådet for fremtidens ledelse

This is Copyrighted Material



Connecting Corporate Performance
and Gender Diversity

This is Copyrighted Material

ABOUT CATALYST

Catalyst is the leading research and advisory organization working to advance women in business, with offices in New York, San Jose, and Toronto. As an independent, nonprofit membership organization, Catalyst uses a solutions-oriented approach that has earned the confidence of business leaders around the world. Catalyst conducts research on all aspects of women's career advancement and provides strategic and web-based consulting services on a global basis to help companies and firms advance women and build inclusive work environments. In addition, we honor exemplary business initiatives that promote women's leadership with our annual Catalyst Award. Catalyst is consistently ranked No. 1 among U.S. nonprofits focused on women's issues by The American Institute of Philanthropy.

This is Copyrighted Material

The Bottom Line: Connecting Corporate Performance and Gender Diversity

Sponsored by:
BMO Financial Group

© 2004 by CATALYST

NEW YORK 120 Wall Street, 5th Floor, New York, NY 10005-3904; (212) 514-7600; (212) 514-8470 fax

SAN JOSE 2825 North First Street, Suite 200, San Jose, CA 95134-2047; (408) 435-1300; (408) 577-0425 fax

TORONTO 8 King Street East, Suite 505, Toronto, Ontario M5C 1B5; (416) 815-7600; (416) 815-7601 fax

email: info@catalystwomen.org; www.catalystwomen.org

Unauthorized reproduction of this publication or any part thereof is prohibited by federal law.

Catalyst Publication Code D58; ISBN#0-89584-244-0

TABLE OF CONTENTS



Chapter 1: Introduction & Key Findings	1
The Connection Between Gender Diversity and Financial Performance	1
The Business Case for Gender Diversity	2
How Is This Study Distinctive?	3
Chapter 2: The Study Sample	4
Financial Performance of the Companies Studied	4
Gender Diversity in the Companies Studied	5
Chapter 3: The Link Between Gender Diversity and Financial Performance	7
Overall Industry Sample	8
Catalyst Award Winners	9
The Connection Goes Both Ways: Financial Performance and the Link to Gender Diversity	10
Chapter 4: Gender Diversity Matters to the Bottom Line	12
Appendix 1: List of Companies Included in Study	13
Appendix 2: Methodology	17
Appendix 3: Industries Included in Study	19
Appendix 4: Industry Comparisons	20
Consumer Discretionary Industry	20
Consumer Staples Industry	21
Financials Industry	22
Industrials Industry	23
Information Technology and Telecommunication Services Industry	24
Appendix 5: Standardization Procedure for Financial Performance Measures	25
Bibliography	26
Acknowledgments	27
Also by Catalyst	28
Catalyst Board of Directors	29

CHAPTER 1: INTRODUCTION & KEY FINDINGS



The Connection Between Gender Diversity and Financial Performance

Previous studies suggest that diversity has a positive impact on the bottom line, so it is not surprising that increasing numbers of companies devote considerable financial and human resources to developing and leveraging diversity. At the same time, however, the link between gender diversity and corporate financial performance has not been firmly established. Despite an intensifying interest in establishing this link, limited availability of quality data, measurement issues (including what, when, and how to measure), and other study limitations have produced varied findings on the topic.¹ Because business leaders increasingly request such information from Catalyst, we have undertaken this critical and timely examination, which explores whether there is a demonstrable connection between gender diversity and organizational financial performance.

Using publicly available data, this groundbreaking study explores the link between gender diversity in top management teams² and U.S. corporate financial performance in the second half of the 1990s. This period was chosen because it represents a time of considerable economic growth and for which there exists consistent and reliable gender diversity information.³

Catalyst used two measures to examine financial performance: Return on Equity (ROE) and Total Return to Shareholders (TRS).⁴ Upon examining 353 Fortune 500 companies,⁵ Catalyst found that there is a connection between gender diversity and financial performance. In addition, we confirmed that this connection between gender diversity and financial performance is evident for the overall sample of 353 companies and for the majority of industries for which we have enough data to study. Our key findings are summarized in the box on the following page.

¹ See Bantel and Jackson; Alan I. Murray; Ronald J. Burke and Carol A. McKeen; Robert L. Lattimer; Thomas Kochan, Katerina Bezrukova, Robin Ely, Susan Jackson, Aparna Joshi, Karen Jehu, Jonathan Leonard, David Levine, and David Thomas for research on the impact of diversity on organizational performance measures, including individual performance, team performance and corporate financial performance. See David A. Carter, Betty J. Simkins and W. Gary Simpson, which found a connection between gender diversity on boards of directors and firm value. See Roy D. Adler, which explored the connection between representation of women executives and organizational earnings. See American Management Association, which found a connection between high representation of women on senior management teams and sales, market share, and net operation profits growth. See Charles B. Shrader, Virginia B. Blackburn, and Paul Iles, which explored the connection between representation of women in management and financial performance, as well as representation of women board directors and financial performance.

² For the purposes of this report, top management teams and corporate officers are synonymous. Corporate officers—as Catalyst defines them in our *Census of Corporate Officers and Top Earners*—have day-to-day responsibility for corporate operations, have the power to legally bind their companies, and represent their companies on major decisions.

³ For more information on companies studied, see Appendix 2.

⁴ For more information on financial performance and diversity measures used, see Appendix 2.

⁵ See Appendix 1 for the complete list of companies in the study and Appendix 2 for an explanation of how Catalyst chose the 353 companies studied.

This is Copyrighted Material

KEY FINDINGS

- ◆ The group of companies with the highest representation of women on their top management teams experienced better financial performance than the group of companies with the lowest women's representation. This finding holds for both financial measures analyzed: Return on Equity (ROE), which is 35.1 percent higher, and Total Return to Shareholders (TRS), which is 34.0 percent higher.
- ◆ Financial performance was also analyzed by industry, and in each of the five industries analyzed, the group of companies with the highest women's representation on their top management teams experienced a higher ROE than the group of companies with the lowest women's representation.
- ◆ In four out of the five industries analyzed, the group of companies with the highest women's representation on their top management teams experienced a higher TRS than the group of companies with the lowest women's representation.
- ◆ Catalyst Award-winning companies financially outperformed others in the sample.

It is important to note that we are exploring a link between gender diversity on top management teams and companies' financial performance, but we are not demonstrating *causation*. We make the argument that diversity and financial performance are related. We cannot say that diversity *causes* a certain type of financial performance or vice versa. This latter assertion would require ruling out all other possible causes of good and poor financial performance, which is beyond the scope of this study.

These findings re-affirm Catalyst's long-standing belief in the business impact of gender diversity. In companies that focus on diversity—developing and leveraging women's talent—the relationship to the bottom line is remarkable.

The Business Case for Gender Diversity

The business case for gender diversity asserts that companies that recruit, retain, and advance women will benefit for a number of reasons. First, employers that focus on diversity will be positioned better to tap into an increasingly educated and skilled segment of the talent pool. Women currently earn more than one-half of all bachelor's and master's degrees in the United States (57.3 percent and 58.5 percent, respectively) and nearly one-half of all doctorates and law degrees (44.9 percent and 47.3 percent, respectively).⁶ In addition, women now comprise about one-half of the U.S. paid labor force (46.5 percent), and have steadily increased their presence in the management ranks, now at 45.9 percent.⁷ According to Catalyst's censuses of women corporate officers and top earners, women's representation within the Fortune 500 senior ranks increased from 10.0 percent in 1996 to 15.7 percent in 2002.⁸

⁶ National Center for Education Statistics, *Digest of Education Statistics* (2002).

⁷ Bureau of Labor Statistics, *Current Population Survey, Annual Averages* (2003).

⁸ *Catalyst Census of Women Corporate Officers and Top Earners*, Catalyst (1996-2000).

This is Copyrighted Material

At the same time that their managerial representation is growing, women also make and influence purchasing decisions. In 2001, women earned almost \$2 trillion of income in the United States, an indication of their growing economic power.⁹ As a result, the company that leverages its female talent internally will be better able to develop products and services that could appeal to its external customers. Finally, research on group behavior demonstrates that diverse groups, when properly managed, make more innovative business decisions than non-diverse groups.¹⁰

Ultimately, the business case for recruiting, developing, and advancing women maintains that companies that have diversity and manage it properly make better decisions, produce better products, and retain several key business advantages over more homogenous companies. In short, the business case for women in management contends that companies that achieve diversity and manage it well attain better financial results than other companies.

How Is This Study Distinctive?

Catalyst uniquely contributes to the important discussion of women's representation and business success by carefully selecting the time period and companies examined, as well as the quality of gender diversity information. Specifically, we examined a longer time period than most studies in this area, making our findings less susceptible to transient economic circumstances. Gender diversity information was collected from a Catalyst-compiled database that contains publicly available information, the accuracy of which has been ensured by a rigorous verification process. A large sample of 353 Fortune 500 companies (constituting those for which we have at least four years of data during the time period studied) was examined, enabling us to control for consistency in organizational size and financial performance. Finally, the data were analyzed such that the findings were not skewed by any uniquely performing industries or companies.

⁹ BLS, Annual Demographic Survey (Detailed Person Income), March 2002.

¹⁰ Karen A. Bantel and Susan E. Jackson, "Top Management and Innovation in Banking: Does the Composition of the Top Make a Difference?" *Strategic Management Journal* Vol. 10 (1989): p. 107-124; and Anne S. Tsui and Barbara A. Gutek, *Demographic Differences in Organizations: Current Research and Future Directions* (Lanham, MD: Lexington Books, 1999).

CHAPTER 2: THE STUDY SAMPLE

Catalyst assessed the gender diversity and financial performance of a sample of 353 Fortune 500 corporations for the period 1996 to 2000. The companies examined have average revenues of \$13.5 billion and an average market value of \$21.3 billion. These companies are representative of all Fortune 500 companies between 1996 and 2000."

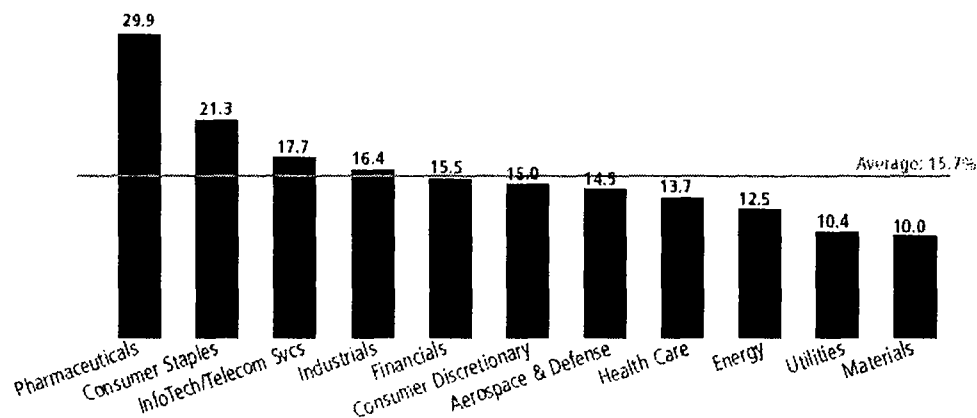
Our overall sample is divided into the following 11 industries: Aerospace & Defense, Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Information Technology/Telecommunication Services, Materials, Pharmaceuticals, and Utilities. Definitions of industry sectors were obtained from Standard & Poor's Compustat database and modified as explained in Appendix 3.

We divided these companies into quartiles, based on the gender diversity of their top management teams. The 88 companies with the highest gender diversity in their top management teams are referred to as "top-quartile" companies, and the 89 companies with the lowest representation are referred to as "bottom-quartile" companies. In addition to conducting analyses on the overall sample, further analyses also were conducted for industries that had at least 35 companies.

Financial Performance of the Companies Studied

While the average ROE for the overall sample is 15.7 percent, there are considerable differences amongst industries, as demonstrated in the following figure.

Figure 1: Industry Performance—Average ROE: 1996 to 2000

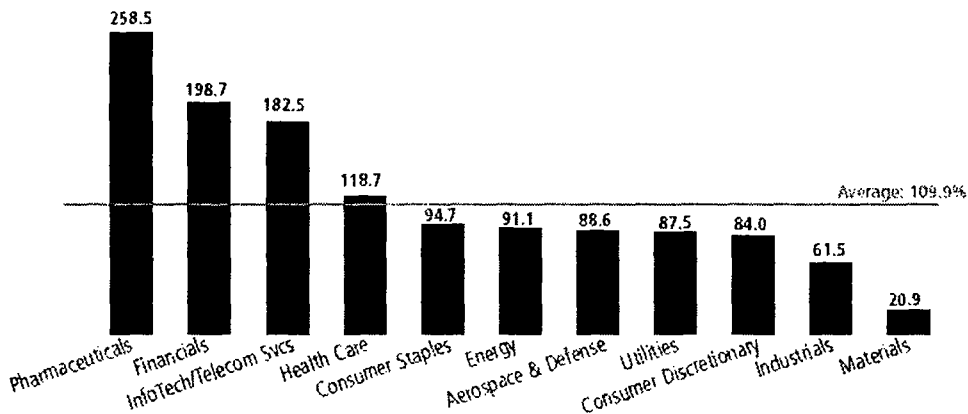


" Statistical testing revealed no significant differences between the industry composition of our sample and all of the Fortune 500 companies for the time period examined.

This is Copyrighted Material

Similarly, while the TRS for the overall sample is 109.9 percent, the following figure demonstrates considerable variation across industries.

Figure 2: Industry Performance—TRS: 1996 to 2000



Gender Diversity in the Companies Studied

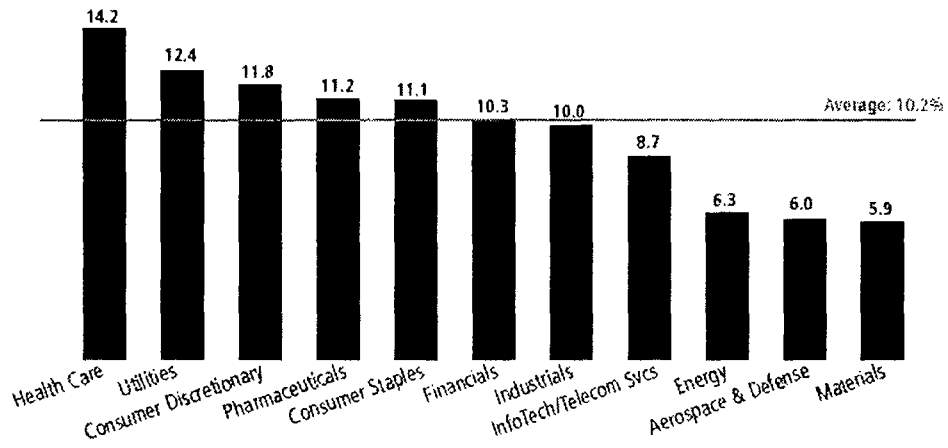
Representation of women on top management teams among all of the companies in our sample ranges from 0.0 to 38.3 percent, with an overall average of 10.2 percent. Figure 3 demonstrates gender diversity within the top-quartile and bottom-quartile companies. Representation of women on top management teams averages 20.3 percent in top-quartile companies and 1.9 percent in bottom-quartile companies.

Figure 3: Range and Average Level of Representation of Women by Gender Diversity Quartile



We also examined the representation of women on top management teams by industry sector. Six industries have higher than average women's representation on their top management teams: Health Care, Utilities, Consumer Discretionary, Pharmaceuticals, Consumer Staples, and Financials. Industries with lower than average representation of women on their top management teams include: Industrials, InfoTech/Telecom Services, Energy, Aerospace and Defense, and Materials.

Figure 4: Average Level of Women's Representation on Top Management Teams by Industry



CHAPTER 3: THE LINK BETWEEN GENDER DIVERSITY AND FINANCIAL PERFORMANCE



The group of companies with the highest representation of women on their top management teams experienced better financial performance than the group of companies with the lowest representation of women. We also examined the relationship between gender diversity and financial performance by industry.¹² Table 1 details the ROE and TRS for top- and bottom-quartile companies both in aggregate and within those five industries that had enough companies to allow us to conduct analyses.¹³

In all five industries analyzed, as well as for the overall sample, top-quartile companies, on average, experienced a higher ROE than bottom-quartile companies. In four out of five of those industries—as well as for the overall sample—top-quartile companies, on average, experienced a higher TRS than bottom-quartile companies.

Table 1: Comparison of Financial Performance Measures: 1996 to 2000

Industry Sector	Gender Diversity	ROE	TRS
Overall Sample	Top Quartile	17.7%	127.7%
	Bottom Quartile	13.1%	95.3%
	Percentage Point Difference	4.6% ***	32.4% *
Consumer Discretionary	Top Quartile	19.3%	103.8%
	Bottom Quartile	11.5%	33.6%
	Percentage Point Difference	7.8% ***	70.2% *
Consumer Staples	Top Quartile	29.4%	125.9%
	Bottom Quartile	11.9%	38.2%
	Percentage Point Difference	17.5% ***	87.7% ***
Financials	Top Quartile	17.9%	236.1%
	Bottom Quartile	13.8%	152.1%
	Percentage Point Difference	4.1% **	84.0% *
Industrials	Top Quartile	15.5%	81.7%
	Bottom Quartile	15.1%	73.8%
	Percentage Point Difference	0.4%	7.9%
Information Technology/ Telecommunication Services	Top Quartile	16.4%	98.0%
	Bottom Quartile	14.4%	164.9%
	Percentage Point Difference	2.0%	(66.9%)

***, **, * denote significance at 99%, 95%, and 90% levels. For example, in the overall sample, there is less than one chance in 100 that a difference of 4.6 percentage points or greater would occur if no link really existed between gender diversity and financial performance in terms of ROE.

¹² See Appendix 4 for more details on the relationship between gender diversity and financial performance by industry.

¹³ Five industries in our sample have at least 35 companies, permitting separate analyses. The five industries are Consumer Discretionary, Consumer Staples, Financials, Industrials, and Information Technology/Telecommunication Services.

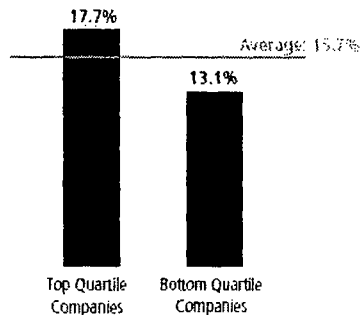
Overall Industry Sample

In terms of both ROE and TRS, on average, top-quartile companies financially outperformed bottom-quartile companies.

Specifically, the average ROE for top-quartile companies was 35.1 percent (or 4.6 percentage points) higher, and the TRS was 34.0 percent (or 32.4 percentage points) higher, compared to bottom-quartile companies. This finding takes into consideration industry differences,¹⁴ meaning that the difference is not reflective of or skewed by either superior or poor financial performance of companies in any one industry. These findings are statistically significant. Individual industry comparisons, where possible, can be found in Appendix 4.

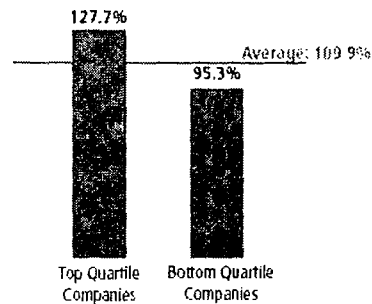
Figures 5A and 5B compare financial performance between top- and bottom-quartile companies drawn from the entire sample of 353 companies. There are 88 companies in the top quartile and 89 companies in the bottom quartile. Representation of women on the top management teams of the 353 companies ranges from 0.0 to 38.3 percent.

Figure 5A: Average ROE by Gender Diversity Top and Bottom Quartiles—All Industries



Note: Difference is significant at the 99% level

Figure 5B: TRS by Gender Diversity Top and Bottom Quartiles—All Industries



Note: Difference is significant at the 90% level

¹⁴ Comparisons for the overall sample are conducted based on financial measures after applying a standardization procedure, which eliminates variations in financial performance among different industries. This standardization procedure, which removes covariance, levels the playing field across different industries by removing any inter-industry differences while maintaining any intra-industry differences. A description of the process can be found in Appendix 5.

This is Copyrighted Material

Catalyst Award Winners

In terms of both ROE and TRS, on average, Catalyst Award-winning companies financially outperformed the rest of the companies in our sample.

This study also compared the financial performance of 14 companies that won the Catalyst Award between 1996 and 2003 and the other companies in our sample. Twenty-two companies won the Catalyst Award during this period, and we examined the financial performance of the 14 companies that were part of this overall study sample of 353 companies.¹⁵

The Catalyst Award honors innovative initiatives or efforts with proven results taken to address the recruitment, development, and advancement of managerial women; the effectiveness of these approaches is assessed by examining the representation of women at senior management levels, as well as critical accountability, leadership, and communication mechanisms. As a result, we believe that winning companies may experience a competitive advantage.

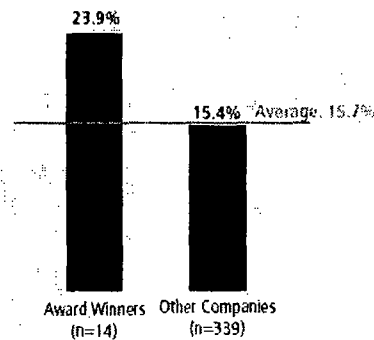
Table 2: Catalyst Award Winners Included in Sample: 1996-2003

Knight-Ridder, Inc.	1996	IBM Corporation	2000
Texas Instruments	1996	American Express Company	2001
The Allstate Corporation	1997	General Mills, Inc.	2001
The Procter & Gamble Company	1998	J.P. Morgan Chase & Co.	2001
Sara Lee Corporation	1998	Fannie Mae	2002
Baxter Healthcare International	1999	Marriott International, Inc.	2002
Corning Incorporated	1999	WellPoint Health Networks Inc.	2003

In the time span 1996 to 2000, the representation of women on the top management teams of Catalyst Award-winning companies ranged from 2.5 percent to 38.1 percent, with an average of 14.1 percent. The average level of women's representation on the top management teams of the other companies was 10.0 percent.

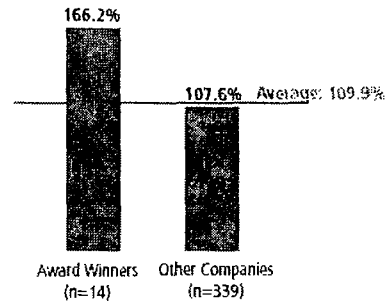
¹⁵ The remaining eight companies were not included either because they were not part of the Fortune 500 or we did not have enough data.

Figure 6A: Average ROE—Catalyst Award Winners and Other Companies



Note: Difference is significant at the 99% level

Figure 6B: TRS—Catalyst Award Winners and Other Companies



Note: Difference is significant at the 95% level

Catalyst Award-winning companies financially outperformed the 339 other companies in the sample. This finding holds for both financial measures: ROE and TRS. On average, Catalyst Award-winning companies enjoyed an ROE 55.2 percent (or 8.5 percentage points) higher, and a TRS 54.5 percent (or 58.9 percentage points) higher than the rest of the companies in the sample.

The Connection Goes Both Ways: Financial Performance and the Link to Gender Diversity

Having established that the group of companies with more gender-diverse top management teams financially outperformed the group with less diverse teams, we also confirmed that the connection holds in the other direction. We conducted this analysis because although we can say that gender diversity and financial performance are linked, we cannot say that gender diversity causes good financial performance. There are many well-performing companies with a high representation of women on their top management teams, and there also are many high-performing companies with only a modest representation of women on their top management teams. However, we hypothesized that the connection is a strong one, so we also examined whether top financial performers have more gender-diverse top management teams. Again dividing our sample into quartiles—this time by financial performance measures (both ROE and TRS)—we analyzed the top-quartile (88 companies) and bottom-quartile (89 companies) financial performers.

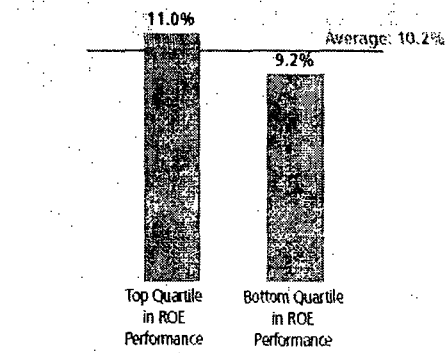
We found that, on average, the Fortune 500 companies with the best financial performance had more women on their top management teams than lower-performing companies.¹⁶ This finding holds for both financial performance measures: ROE and TRS.

¹⁶ These findings were determined after correcting for industry differences, as detailed in Appendix 5.

This is Copyrighted Material

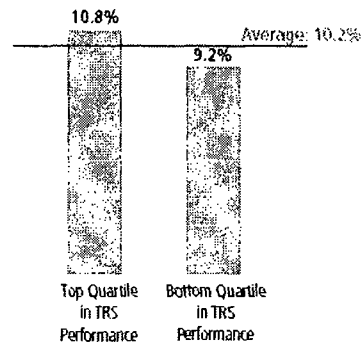
This finding demonstrates that the connection between gender diversity on top management teams and financial performance is robust. Corporate performance and gender diversity are integral to each other such that good corporate performance is linked to greater gender diversity on top management teams and vice versa.

Figure 7A: Average Women's Representation on Top Management Teams—Overall Sample



Note: Difference is significant at the 90% level

Figure 7B: Average Women's Representation on Top Management Teams—Overall Sample



Note: Difference is significant at the 90% level

CHAPTER 4: GENDER DIVERSITY MATTERS TO THE BOTTOM LINE

With this study, Catalyst has explored the link between the representation of women in top management and a corporation's financial performance. We found that not only does such a link exist, but on average, companies that have higher women's representation on their top management teams financially outperformed those companies that have lower women's representation. We controlled for industry and company differences to ensure that our findings were not influenced by a few uniquely performing industries or companies. These conclusions are strengthened further by confirming that the connection goes both ways. On average, top-performing companies have a higher representation of women on their leadership teams.

It is important to realize that our research findings demonstrate a link—a connection—not causation. Clearly, a variety of factors contribute to outstanding financial performance. In addition to gender diversity, other possible determinants include innovation, efficiency, employee satisfaction, customer loyalty, an inclusive and supportive work environment, and financial factors such as underlying business risk and financial leverage. The leadership team that is knowledgeable enough to leverage diversity is likely to be creating effective policies, programs, and systems, as well as a work culture, that maximize a variety of its assets and create new ones.¹⁷

Whatever compels excellent corporate financial performance, we now know that it is linked to gender diversity. In an increasingly competitive and globalized marketplace, even the most resourceful and innovative companies are advised to capitalize on the advantages of gender-diverse management teams. In short, this study further confirms the business case that Catalyst has put forth for the past 40 years: Gender diversity is indeed a characteristic of companies with excellent financial performance, and developing women managers and leveraging that talent by giving them a seat at the decision-making table is smart business.

¹⁷ Ed Michaels, Helene Handfield-Jones, and Beth Axelrod; Irene Goll, Rakesh B. Sambharya, and Louis A. Tucci; Deloitte and Touche.

APPENDIX 1: LIST OF COMPANIES INCLUDED IN STUDY



Name of Company	Industry Sector	Gender Diversity Quartile	Name of Company	Industry Sector	Gender Diversity Quartile
3M CO	Industrials	2	BERKSHIRE HATHAWAY	Financials	4
ABBOTT LABORATORIES	Pharmaceuticals	2	BEST BUY CO INC*	Consumer Discretionary	3
AETNA INC	Health Care	1	BETHLEHEM STEEL CORP	Materials	3
AFLAC INC	Financials	2	BIG LOTS INC	Consumer Discretionary	3
AIR PRODUCTS & CHEMICALS INC	Materials	3	BINDLEY WESTERN INDS*	Health Care	2
ALBERTSONS INC	Consumer Staples	3	BLACK & DECKER CORP	Consumer Discretionary	2
ALCOA INC*	Materials	2	BOEING CO	Aerospace & Defense	3
ALLEGHENY TECHNOLOGIES INC	Materials	4	BOISE CASCADE CORP	Materials	3
ALLMERICA FINANCIAL CORP	Financials	4	BRISTOL MYERS SQUIBB	Pharmaceuticals	2
ALLSTATE CORP***	Financials	1	BRUNSWICK CORP	Consumer Discretionary	1
ALLTEL CORP	Telecommunication Services	4	BURLINGTON NORTHERN SANTA FE	Industrials	3
AMERADA HESS CORP	Energy	4	CAMPBELL SOUP CO**	Consumer Staples	3
AMERICAN ELECTRIC POWER	Utilities	2	CARDINAL HEALTH INC	Health Care	1
AMERICAN EXPRESS***	Financials	1	CATERPILLAR INC	Industrials	2
AMERICAN FINL GROUP INC	Financials	3	CENTERPOINT ENERGY INC	Utilities	1
AMERICAN GENERAL CORP	Financials	1	CENTEX CORP	Consumer Discretionary	1
AMERICAN INTERNATIONAL GROUP	Financials	3	CENTRAL & SOUTH WEST CORP	Utilities	1
AMERICAN STANDARD COS INC**	Industrials	4	CHAMPION INTERNATIONAL CORP	Materials	4
AMERISOURCEBERGEN CORP**	Health Care	1	CHEVRONTXACO CORP	Energy	3
AMR CORP/DE	Industrials	1	CHUBB CORP	Financials	2
ANHEUSER-BUSCH COS INC	Consumer Staples	2	CIGNA CORP	Health Care	1
AON CORP	Financials	2	CINERGY CORP	Utilities	2
APPLE COMPUTER INC**	Information Technology	2	CIRCUIT CITY STORES INC	Consumer Discretionary	2
APPLIED MATERIALS INC	Information Technology	3	CISCO SYSTEMS INC*	Information Technology	2
AQUILA INC	Utilities	3	CITIGROUP INC	Financials	1
ARCHER-DANIELS-MIDLAND CO	Consumer Staples	4	CMS ENERGY CORP	Utilities	2
ARROW ELECTRONICS INC	Information Technology	1	CNF INC	Industrials	4
ASHLAND INC	Energy	4	COASTAL CORP*	Energy	4
AT&T CORP	Telecommunication Services	1	COCA-COLA CO	Consumer Staples	1
ATLANTIC RICHFIELD CO	Energy	2	COCA-COLA ENTERPRISES	Consumer Staples	1
AUTOMATIC DATA PROCESSING	Industrials	4	COLGATE-PALMOLIVE CO	Consumer Staples	3
AVERY DENNISON CORP	Industrials	1	COLUMBIA ENERGY GROUP	Utilities	1
AVNET INC	Information Technology	4	COMCAST CORP	Consumer Discretionary	2
AVON PRODUCTS	Consumer Staples	1	COMERICA INC	Financials	4
BAKER-HUGHES INC	Energy	4	COMPAQ COMPUTER CORP	Information Technology	4
BANK OF AMERICA CORP	Financials	4	COMPUSA INC	Consumer Discretionary	3
BANK OF NEW YORK CO INC	Financials	2	COMPUTER ASSOCIATES INTL INC	Information Technology	3
BANK ONE CORP	Financials	3	COMPUTER SCIENCES CORP	Information Technology	4
BAXTER INTERNATIONAL INC***	Health Care	3	CONAGRA FOODS INC	Consumer Staples	1
BEAR STEARNS COMPANIES INC	Financials	4	CONOCOPHILLIPS	Energy	3
BECTON DICKINSON & CO	Health Care	3	CONSECO INC	Financials	4
BELLSOUTH CORP	Telecommunication Services	4	CONSOLIDATED EDISON INC	Utilities	2

Note: Quartiles are determined based on the overall sample. Quartile 1 denotes the top 25% and Quartile 4 denotes the bottom 25%.

* Denotes companies with modified Total Return to Shareholders

** Denotes companies with modified Return on Equity

*** Denotes Catalyst Award Winners, 1996-2003

This is Copyrighted Material

Name of Company	Industry Sector	Gender Diversity Quartile	Name of Company	Industry Sector	Gender Diversity Quartile
CONSOLIDATED NATURAL GAS CO	Utilities	3	FLORIDA PROGRESS CORP	Utilities	2
CONSTELLATION ENERGY GRP INC	Utilities	3	FLUOR CORP	Industrials	2
CONTINENTAL AIRLINES INC**	Industrials	2	FMC CORP	Materials	3
COOPER INDUSTRIES LTD	Industrials	2	FORD MOTOR CO**	Consumer Discretionary	3
CORNING INC***	Information Technology	2	FOSTER WHEELER LTD**	Industrials	2
COSTCO WHOLESALE CORP*	Consumer Discretionary	4	FPL GROUP INC	Utilities	2
CROWN CORK & SEAL CO INC	Materials	3	GANNETT CO	Consumer Discretionary	1
CSX CORP	Industrials	4	GAP INC**	Consumer Discretionary	1
CUMMINS INC	Industrials	3	GATEWAY INC	Information Technology	4
CVS CORP*	Consumer Staples	2	GENERAL DYNAMICS CORP	Aerospace & Defense	4
DANA CORP	Consumer Discretionary	4	GENERAL ELECTRIC CO*	Industrials	3
DARDEN RESTAURANTS INC	Consumer Discretionary	3	GENERAL MILLS INC*, ***	Consumer Staples	1
DEAN FOODS CO	Consumer Staples	3	GENERAL MOTORS CORP	Consumer Discretionary	3
DEERE & CO	Industrials	4	GENUINE PARTS CO	Consumer Discretionary	4
DELL COMPUTER CORP*, **	Information Technology	4	GEORGIA-PACIFIC CORP	Materials	3
DELTA AIR LINES INC	Industrials	2	GILLETTE CO	Consumer Staples	3
DILLARDS INC	Consumer Discretionary	2	GOLDEN WEST FINANCIAL CORP	Financials	2
DISNEY (WALT) CO	Consumer Discretionary	4	GOODYEAR TIRE & RUBBER CO	Consumer Discretionary	4
DOLE FOOD CO INC	Consumer Staples	2	GPU INC	Utilities	1
DOMINION RESOURCES INC	Utilities	2	GRAINGER (W W) INC	Industrials	3
DONNELLEY (R R) & SONS CO	Industrials	1	GTE CORP	Telecommunication Services	2
DOVER CORP	Industrials	4	HALLIBURTON CO	Energy	1
DOW CHEMICAL	Materials	3	HANNAFORD BROTHERS CO	Consumer Staples	1
DTE ENERGY CO	Utilities	2	HARCOURT GENERAL INC	Consumer Discretionary	4
DU PONT (E I) DE NEMOURS	Materials	3	HARRIS CORP	Information Technology	3
DUKE ENERGY CORP	Utilities	1	HASBRO INC	Consumer Discretionary	2
EASTMAN CHEMICAL CO	Materials	3	HCA INC	Health Care	2
EASTMAN KODAK CO	Consumer Discretionary	2	HEALTH NET INC	Health Care	2
EATON CORP	Industrials	2	HEINZ (H J) CO	Consumer Staples	3
EDISON INTERNATIONAL **	Utilities	1	HERSHEY FOODS CORP	Consumer Staples	3
EL PASO CORP*	Utilities	4	HEWLETT-PACKARD CO	Information Technology	1
EMERSON ELECTRIC CO	Industrials	4	HOME DEPOT INC	Consumer Discretionary	2
ENGELHARD CORP	Materials	4	HONEYWELL INTERNATIONAL INC	Aerospace & Defense	3
ENRON CORP*	Utilities	1	HORMEL FOODS CORP	Consumer Staples	4
ENERGY CORP	Utilities	4	HOUSEHOLD INTERNATIONAL INC	Financials	4
EXELON CORP	Utilities	1	HUMANA INC**	Health Care	1
EXXON MOBIL CORP	Energy	4	IBP INC	Consumer Staples	4
FANNIE MAE***	Financials	1	IKON OFFICE SOLUTIONS	Information Technology	1
FEDERAL HOME LOAN MORTG CORP	Financials	1	ILLINOIS TOOL WORKS	Industrials	4
FEDERATED DEPT STORES	Consumer Discretionary	2	INGERSOLL-RAND CO LTD	Industrials	3
FEDEX CORP	Industrials	2	INGRAM MICRO INC	Information Technology	4
FIRST DATA CORP	Industrials	3	INTEL CORP	Information Technology	3
FLEETBOSTON FINANCIAL CORP	Financials	2	INTERSTATE BAKERIES CP	Consumer Staples	3
FLEETWOOD ENTERPRISES	Consumer Discretionary	4	INTL BUSINESS MACHINES CORP***	Information Technology	3
FLEMING COMPANIES INC**	Consumer Staples	3	INTL PAPER CO	Materials	3

Note: Quartiles are determined based on the overall sample. Quartile 1 denotes the top 25% and Quartile 4 denotes the bottom 25%.

* Denotes companies with modified Total Return to Shareholders

** Denotes companies with modified Return on Equity

*** Denotes Catalyst Award Winners, 1996-2003

This is Copyrighted Material

Name of Company	Industry Sector	Gender Diversity Quartile	Name of Company	Industry Sector	Gender Diversity Quartile
ITT INDUSTRIES INC	Industrials	2	MICROSOFT CORP	Information Technology	3
J P MORGAN CHASE & CO***	Financials	1	MORGAN STANLEY	Financials	2
JOHNSON & JOHNSON	Pharmaceuticals	3	MOTOROLA INC	Information Technology	4
JOHNSON CONTROLS INC	Consumer Discretionary	2	NABISCO GROUP HLDGS CORP	Consumer Staples	4
K MART CORP	Consumer Discretionary	4	NASH FINCH CO	Consumer Staples	3
KELLOGG CO	Consumer Staples	2	NATIONAL CITY CORP	Financials	3
KELLY SERVICES INC	Industrials	1	NAVISTAR INTERNATIONAL	Industrials	4
KEYCORP	Financials	4	NEW YORK TIMES CO	Consumer Discretionary	1
KIMBERLY-CLARK CORP	Consumer Staples	1	NEWELL RUBBERMAID INC	Consumer Discretionary	3
KNIGHT-RIDDER INC***	Consumer Discretionary	1	NIAGARA MOHAWK HOLDINGS INC**	Utilities	2
KROGER CO**	Consumer Staples	3	NIKE INC	Consumer Discretionary	2
LAUDER ESTEE COS INC	Consumer Staples	1	NORDSTROM INC	Consumer Discretionary	1
LEAR CORP	Consumer Discretionary	4	NORFOLK SOUTHERN CORP	Industrials	2
LEHMAN BROTHERS HOLDINGS INC	Financials	4	NORTHEAST UTILITIES**	Utilities	2
LG&E ENERGY CORP	Utilities	3	NORTHROP GRUMMAN CORP	Aerospace & Defense	4
LILLY (ELI) & CO	Pharmaceuticals	2	NORTHWEST AIRLINES CORP**	Industrials	4
LIMITED BRANDS INC	Consumer Discretionary	2	NUCOR CORP	Materials	4
LINCOLN NATIONAL CORP	Financials	1	OCCIDENTAL PETROLEUM CORP	Energy	4
LITTON INDUSTRIES INC	Industrials	1	OFFICE DEPOT INC	Consumer Discretionary	4
LOCKHEED MARTIN CORP	Aerospace & Defense	3	OFFICEMAX INC	Consumer Discretionary	3
LOEWS CORP	Financials	4	OMNICOM GROUP	Consumer Discretionary	3
LONGS DRUG STORES INC	Consumer Staples	4	ORACLE CORP*, **	Information Technology	3
LOWES COS	Consumer Discretionary	4	OWENS & MINOR INC	Health Care	2
LTV CORP*, **	Materials	4	OWENS CORNING	Industrials	2
LYONDELL CHEMICAL CO	Materials	3	OWENS-ILLINOIS INC	Materials	4
MANPOWER INC	Industrials	4	OXFORD HEALTH PLANS INC**	Health Care	2
MARRIOTT INTL INC***	Consumer Discretionary	2	PACCAR INC	Industrials	1
MARSH & MCLENNAN COS	Financials	4	PACIFICARE HEALTH SYS	Health Care	1
MASCO CORP	Industrials	3	PAINE WEBBER GROUP	Financials	1
MATTEL INC	Consumer Discretionary	1	PARKER-HANNIFIN CORP	Industrials	4
MAY DEPARTMENT STORES CO	Consumer Discretionary	2	PENNEY (J C) CO	Consumer Discretionary	2
MAYTAG CORP**	Consumer Discretionary	4	PEPSICO INC	Consumer Staples	2
MBNA CORP	Financials	1	PFIZER INC	Pharmaceuticals	3
MCDONALDS CORP	Consumer Discretionary	1	PG&E CORP**	Utilities	1
MCGRAW-HILL COMPANIES	Consumer Discretionary	1	PHARMACIA CORP	Pharmaceuticals	1
MCI COMMUNICATIONS	Telecommunication Services	4	PHELPS DODGE CORP	Materials	2
MCKESSON CORP	Health Care	2	PHILIP MORRIS COS INC	Consumer Staples	1
MEAD CORP	Materials	1	PITNEY BOWES INC	Industrials	1
MEADWESTVACO CORP	Materials	3	PITSTON CO	Industrials	3
MELLON FINANCIAL CORP	Financials	4	PNC FINANCIAL SVCS GROUP INC	Financials	1
MERCK & CO	Pharmaceuticals	1	PPG INDUSTRIES INC	Materials	4
MERISEL INC**	Consumer Discretionary	1	PPL CORP**	Utilities	4
MERRILL LYNCH & CO	Financials	3	PRAXAIR INC	Materials	3
MICROAGE INC**	Consumer Discretionary	4	PROCTER & GAMBLE CO***	Consumer Staples	4
MICRON TECHNOLOGY INC	Information Technology	2	PROGRESS ENERGY INC	Utilities	1

Note: Quartiles are determined based on the overall sample. Quartile 1 denotes the top 25% and Quartile 4 denotes the bottom 25%.

* Denotes companies with modified Total Return to Shareholders

** Denotes companies with modified Return on Equity

*** Denotes Catalyst Award Winners, 1996-2003

This is Copyrighted Material

Name of Company	Industry Sector	Gender Diversity Quartile	Name of Company	Industry Sector	Gender Diversity Quartile
PROGRESSIVE CORP	Financials	3	THERMO ELECTRON CORP	Information Technology	2
PUBLIC SERVICE ENTRP	Utilities	1	TIME WARNER INC	Consumer Discretionary	3
QUAKER OATS CO	Consumer Staples	1	TIMES MIRROR COMPANY	Consumer Discretionary	1
QUANTUM CORP DSSG	Information Technology	2	TJX COMPANIES INC*	Consumer Discretionary	3
RADIOSHACK CORP	Consumer Discretionary	1	TOSCO CORP	Energy	2
RALSTON PURINA CO	Consumer Staples	1	TOYS R US INC	Consumer Discretionary	1
RAYTHEON CO	Aerospace & Defense	3	TRANS WORLD AIRLINES**	Industrials	1
REEBOK INTERNATIONAL LTD	Consumer Discretionary	1	TRW INC	Consumer Discretionary	3
RELIANCE GROUP HOLDINGS	Financials	4	TXU CORP	Utilities	3
REYNOLDS METALS CO	Materials	2	TYSON FOODS INC	Consumer Staples	3
RITE AID CORP**	Consumer Staples	3	U S BANCORP	Financials	2
ROCKWELL AUTOMATION	Industrials	4	UAL CORP	Industrials	2
ROHM & HAAS CO	Materials	2	ULTRAMAR DIAMOND SHAMROCK	Energy	3
RYDER SYSTEM INC	Industrials	1	UNICOM CORP	Utilities	2
SAFECO CORP	Financials	2	UNION CARBIDE CORP	Materials	4
SAFEWAY INC*	Consumer Staples	1	UNION PACIFIC CORP	Industrials	1
SARA LEE CORP***	Consumer Staples	1	UNISYS CORP**	Information Technology	2
SBC COMMUNICATIONS INC	Telecommunication Services	1	UNITED TECHNOLOGIES CORP	Aerospace & Defense	4
SCHERING-PLOUGH	Pharmaceuticals	3	UNITEDHEALTH GROUP INC	Health Care	1
SCI SYSTEMS INC	Information Technology	4	UNIVERSAL CORP/VA	Consumer Staples	3
SEAGATE TECHNOLOGY	Information Technology	4	UNOCAL CORP	Energy	3
SEARS ROEBUCK & CO	Consumer Discretionary	2	UNUMPROVIDENT CORP	Financials	2
SERVICEMASTER CO	Industrials	3	US AIRWAYS GROUP INC	Industrials	1
SHAW INDUSTRIES INC	Consumer Discretionary	4	USG CORP	Industrials	4
SHERWIN-WILLIAMS CO	Consumer Discretionary	2	VALERO ENERGY CORP	Energy	3
SMURFIT-STONE CONTAINER CORP	Materials	4	VERIZON COMMUNICATIONS	Telecommunication Services	1
SOLETRON CORP	Information Technology	1	VF CORP	Consumer Discretionary	1
SOUTHERN CO	Utilities	3	VIACOM INC	Consumer Discretionary	2
SOUTHWEST AIRLINES*	Industrials	1	WACHOVIA CORP	Financials	4
SPRINT FON GROUP	Telecommunication Services	3	WALGREEN CO*	Consumer Staples	3
ST PAUL COS	Financials	3	WAL-MART STORES	Consumer Discretionary	3
STAPLES INC	Consumer Discretionary	1	WARNER-LAMBERT CO	Pharmaceuticals	3
STATE STREET CORP	Financials	2	WASHINGTON MUTUAL INC	Financials	1
SUN MICROSYSTEMS INC*	Information Technology	3	WELLPOINT HLTH NETWORKS***	Health Care	2
SUNTRUST BANKS INC	Financials	4	WELLS FARGO & CO	Financials	1
SUPERVALU INC	Consumer Staples	1	WEYERHAEUSER CO	Materials	2
SYSCO CORP	Consumer Staples	2	WHIRLPOOL CORP	Consumer Discretionary	4
TARGET CORP*	Consumer Discretionary	1	WILLAMETTE INDUSTRIES	Materials	4
TECH DATA CORP	Information Technology	4	WILLIAMS COS INC	Utilities	1
TEMPLE-INLAND INC	Materials	4	WINN-DIXIE STORES INC	Consumer Staples	4
TENET HEALTHCARE CORP	Health Care	2	WYETH**	Pharmaceuticals	3
TENNECO AUTOMOTIVE INC	Consumer Discretionary	2	XEROX CORP	Information Technology	2
TEXACO INC	Energy	2	YELLOW CORP	Industrials	4
TEXAS INSTRUMENTS INC***	Information Technology	4	YORK INTL	Industrials	2
TEXTRON INC	Aerospace & Defense	1			

Note: Quartiles are determined based on the overall sample. Quartile 1 denotes the top 25% and Quartile 4 denotes the bottom 25%.

* Denotes companies with modified Total Return to Shareholders

** Denotes companies with modified Return on Equity

*** Denotes Catalyst Award Winners, 1996-2003

APPENDIX 2: METHODOLOGY



Companies Studied

We began by compiling a list of all companies that appeared in the Fortune 500 rankings at least once during the five-year period between 1996 and 2000, and identified 687 companies. This period was chosen because it represents a time of considerable economic growth (particularly in comparison to the recession economy of the early 1990s and the early 2000s).¹⁸ It also is a period for which there exists consistent and reliable gender diversity information.

Financial data for the companies examined were obtained from Standard & Poor's Compustat database. This is a longitudinal and comprehensive database of financial information for publicly held U.S. companies. The Compustat database, which is updated annually, is recognized as a leading resource for this type of information.

Diversity data for top management teams were obtained from Catalyst's annual censuses of women corporate officers and top earners. For every year from 1996 to 2000, Catalyst published the total number of corporate officers and the number of women corporate officers for each of the Fortune 500 companies.¹⁹ The Catalyst censuses provide the most accurate accounting of women in these positions, as Catalyst requests that companies verify publicly available data on gender representation. Our methodology further allows for comparability over time and across industries and geographies.

After accounting for company name changes and merger and acquisition activities²⁰ during the five-year period being examined, 666 companies remained. Of these companies, we included only those for which we have at least four years of gender diversity and financial performance data between 1996 and 2000. We eliminated 261 companies from our analysis due to insufficient gender diversity data; we eliminated another 52 companies from our analysis due to insufficient financial performance data. Our final study sample included 353 companies, the names of which are listed in Appendix 1.

Financial Performance and Diversity Measures Used

In order to examine the association between gender diversity on top management teams and financial performance, we used two customary measures: Return on Equity (ROE) and Total Return to Shareholders (TRS). These financial measures reflect two critical elements of returns to shareholders: the first is an accounting-based measure that reflects corporate financial performance; the second a value-based measure that reflects changes in stock price.

¹⁸ Average annual GDP growth was 5% in the early 1990s and 6% in the second half of the 1990s. The NYSE composite index increased 66% in the first half of the 1990s while it increased by 142% in the second half.

¹⁹ Since 2000, the *Catalyst Census of Women Corporate Officers and Top Earners* is published every other year.

²⁰ To account for mergers and acquisitions in the time period under study, financial data were combined with the appropriate diversity data by matching Fortune 500 rankings of relevant companies for each year.

This is Copyrighted Material

The gender diversity measure and financial performance measures are defined as follows:

Gender Diversity on Top Management Teams—Gender diversity of top management teams was determined by averaging the annual percentages of women corporate officers over the period between 1996 and 2000. Corporate officers—as Catalyst defines them in our census of corporate officers and top earners—have day-to-day responsibility for corporate operations, have the power to legally bind their companies, and represent their companies on major decisions. For the purposes of this study, corporate officers were analogous to top management teams.

Return on Equity (ROE)—ROE is calculated as a ratio of income (before extraordinary items) to average shareholder equity for the year. It is a composite measure that reflects the executive management team's ability to balance the three pillars of corporate management: profitability, asset management, and financial leverage. In this study, the ROE measures for each company represent the average of annual ROEs from 1996 to 2000. A simple average of the annual ROEs for the period shows the returns for the long-term, reducing the impact of any unusual year-to-year fluctuations. ROE explicitly measures company performance from the viewpoint of the shareholders. For example, a 20.0 percent ROE means \$20 of net income was created for each \$100 that was invested, measured at book value.

Total Return to Shareholders (TRS)—TRS is the total return for the company for each calendar year. It reflects the sum of stock price appreciation plus reinvestment of dividends declared over the same period. The TRS measure used in this study is the cumulative total return over the period 1996 to 2000 for which data are available. For example, a cumulative total shareholder return of 120.0 percent over the period means that \$1,000 invested in 1996 would have become \$1,000 + \$1,200, or \$2,200, at the end of 2000. This measure adjusts for both stock splits and stock dividends.

"Extraordinary" Performers

If left untreated, extreme values in financial performance measures for a few companies can have a significant impact on our analyses. To avoid the impact of a small number of extremely successful or less successful companies distorting the overall financial performance of their industries, extra steps were taken to ensure that these extreme values did not skew our general findings.²¹

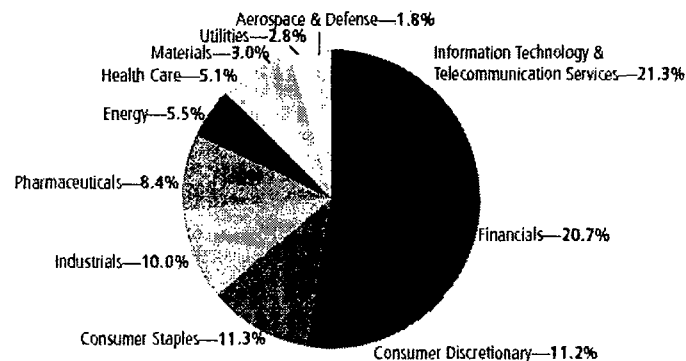
²¹ Using a general statistical rule, for each of the financial performance measures considered in this study, companies with financial measures that are 1.5 times the interquartile range below the 25th percentile or 1.5 times the interquartile range above the 75th percentile have been bottom- and top-coded respectively. In other words, we put a floor and a ceiling on the financial measures, so results are not skewed by a few uniquely performing companies. Those companies whose financial measures have been top- or bottom-coded are identified by *** (for TRS) and ** (for ROE) in Appendix 1.

APPENDIX 3: INDUSTRIES INCLUDED IN STUDY



The following figure illustrates the 11 industry sectors examined, as well as their proportional representation in the S&P 500 Index as of December 2003.

Figure 8: Industry Sectors Included in Study



* Percentages do not add up to 100% due to rounding.

For the purpose of our analyses, we modified Compustat's 10 industry sector definitions to reflect 11 industry sectors, as follows:

- ◆ The Health Care industry was separated into Health Care and Pharmaceuticals;
- ◆ The Industrials industry was separated into Industrials and Aerospace and Defense; and
- ◆ The Information Technology and Telecommunication Services industries were combined.

Modifications in the Health Care and Industrials sectors were made due to the distinct natures of their business cycles. Specifically, research and product development, as well as patent requirements, considerably lengthen the business cycle of pharmaceutical companies. Similarly, longer-termed contracts in the Aerospace and Defense sector led us to separate it from the general Industrials sector. In such environments, the impact of gender diversity may take longer to manifest. Information Technology and Telecommunication Services were combined as they share similar talent pools (e.g., both require engineering expertise), and some technology companies offer products in the telecommunication area.

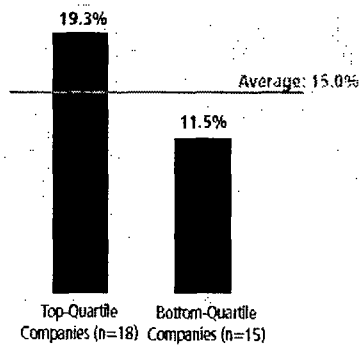
APPENDIX 4: INDUSTRY COMPARISONS

Consumer Discretionary Industry

In terms of both ROE and TRS, on average, top-quartile companies financially outperformed bottom-quartile companies in the Consumer Discretionary industry.

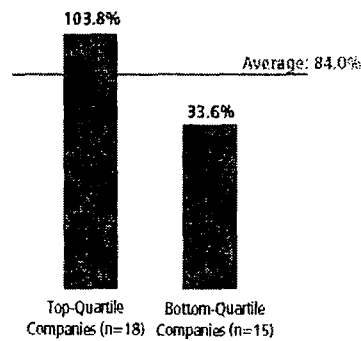
Specifically, the average ROE was 67.8 percent (or 7.8 percentage points) higher, and the TRS was 208.9 percent (or 70.2 percentage points) higher for the group of top-quartile companies than for the group of bottom-quartile companies. These findings are statistically significant.

Figure 9A: Average ROE by Gender Diversity Top and Bottom Quartiles—Consumer Discretionary



Note: Difference is significant at the 99% level

Figure 9B: TRS by Gender Diversity Top and Bottom Quartiles—Consumer Discretionary



Note: Difference is significant at the 90% level

The Companies Studied. The Consumer Discretionary industry includes advertising, apparel retail, apparel, auto parts and equipment, automobile manufacturers, broadcast and cable television, computer and electronics retail, department stores, footwear, general merchandise stores, home furnishings, home improvement retail, homebuilding, hotels, resorts and cruise lines, household appliances, Internet retail, leisure products, media companies, restaurants, specialty stores, and tires and rubber. For reference, this industry accounted for 11.2 percent of the S&P 500 in December 2003.

There were 64 Consumer Discretionary companies in our overall sample, and the representation of women on their top management teams ranged from 0.0 to 36.9 percent. We examined 18 top-quartile and 15 bottom-quartile companies.

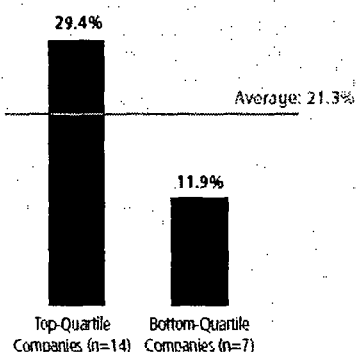
This is Copyrighted Material

Consumer Staples Industry

In terms of both ROE and TRS, on average, top-quartile companies financially outperformed bottom-quartile companies in the Consumer Staples industry.

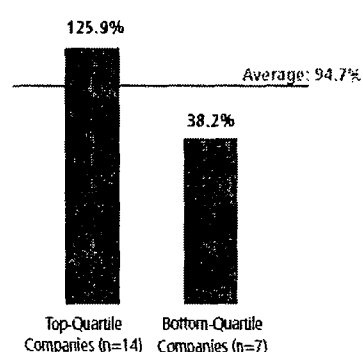
Specifically, the average ROE was 147.1 percent (or 17.5 percentage points) higher, and the TRS was 229.6 percent (or 87.7 percentage points) higher for the group of top-quartile companies than for the group of bottom-quartile companies. These findings are statistically significant.

Figure 10A: Average ROE by Gender Diversity Top and Bottom Quartiles—Consumer Staples



Note: Difference is significant at the 99% level

Figure 10B: TRS by Gender Diversity Top and Bottom Quartiles—Consumer Staples



Note: Difference is significant at the 99% level

The Companies Studied. The Consumer Staples industry includes agricultural products, brewers, distillers and vintners, drug retail, food distributors, food retail, household products, hypermarkets and supercenters, packaged foods and meats, personal products, soft drinks, and tobacco. For reference, this industry accounted for 11.3 percent of the S&P 500 in December 2003.

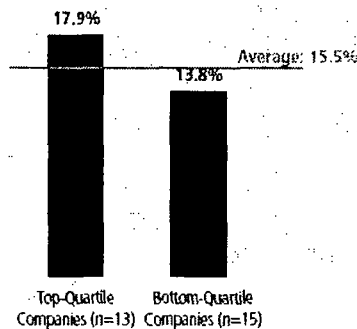
There were 42 Consumer Staples companies in our overall sample, and the representation of women on their top management teams ranged from 0.0 to 33.3 percent. We examined 14 top-quartile and 7 bottom-quartile companies.

Financials Industry

In terms of both ROE and TRS, on average, top-quartile companies financially outperformed bottom-quartile companies in the Financials industry.

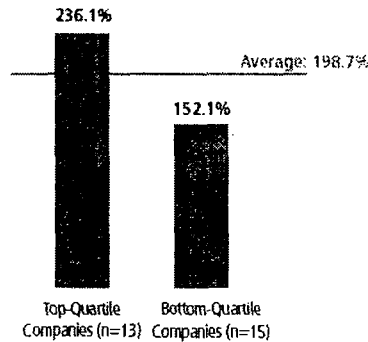
Specifically, the average ROE was 29.7 percent (or 4.1 percentage points) higher, and the TRS was 55.2 percent (or 84.0 percentage points) higher for the group of top-quartile companies than for the group of bottom-quartile companies. These findings are statistically significant.

Figure 11A: Average ROE by Gender Diversity Top and Bottom Quartiles—Financials



Note: Difference is significant at the 95% level

Figure 11B: TRS by Gender Diversity Top and Bottom Quartiles—Financials



Note: Difference is significant at the 90% level

The Companies Studied. The Financials industry includes banks, insurance brokers, investment banking and brokerage, life and health insurance companies, property and casualty insurance, real estate companies, and other financial services companies. For reference, this industry accounted for 20.7 percent of the S&P 500 in December 2003.

There were 46 Financials companies in our overall sample, and the representation of women on their top management teams ranged from 0.0 to 38.1 percent. We examined 13 top-quartile and 15 bottom-quartile companies.

Industrials Industry

In terms of both ROE and TRS, on average, top-quartile companies financially outperformed bottom-quartile companies in the Industrials industry.

Specifically, the average ROE was 2.6 percent (or 0.4 percentage points) higher, and the TRS was 10.7 percent (or 7.9 percentage points) higher for the group of top-quartile companies than for the group of bottom-quartile companies. These findings are not statistically significant.

Figure 12A: Average ROE by Gender Diversity Top and Bottom Quartiles—Industrials

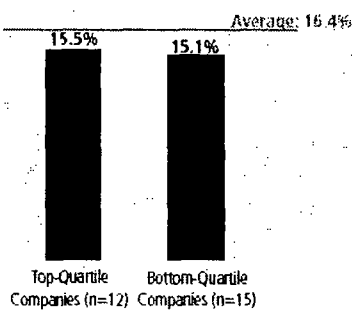
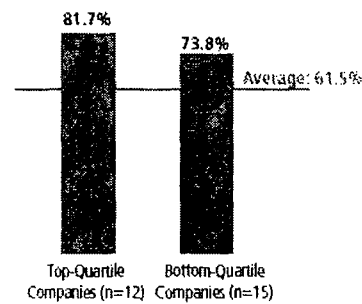


Figure 12B: TRS by Gender Diversity Top and Bottom Quartiles—Industrials



The Companies Studied. The Industrials industry includes air freight and logistics, airlines, building products, commercial printing, construction and engineering, construction and farm machinery, diversified commercial services, electrical components and equipment, employment services, environmental services, industrial conglomerates, industrial machinery, office services and supplies, railroads, trading companies, and distributors. For reference, the Industrials industry accounted for 10.8 percent of the S&P 500 in December 2003.

There were 50 Industrials companies in our overall sample, and the representation of women on their top management teams ranged from 0.0 to 36.5 percent. We examined 12 top-quartile and 15 bottom-quartile companies.

This is Copyrighted Material

Information Technology and Telecommunication Services Industry

In terms of ROE, on average, top-quartile companies financially outperformed bottom-quartile companies in the Information Technology and Telecommunication Services industry. In terms of TRS, top-quartile companies did not financially outperform those in the bottom quartile on average.

Specifically, the average ROE was 13.8 percent (or 2.0 percentage points) higher, while the TRS was 40.6 percent (or 66.9 percentage points) lower for the group of top-quartile companies than for the group of bottom-quartile companies. These findings are not statistically significant.

Figure 13A: Average ROE by Gender Diversity Top and Bottom Quartiles—Information Technology and Telecommunication Services

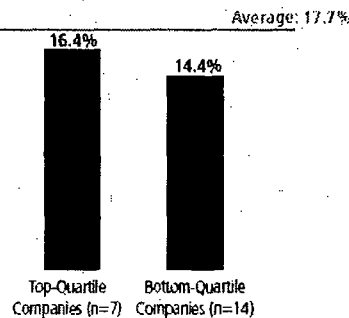
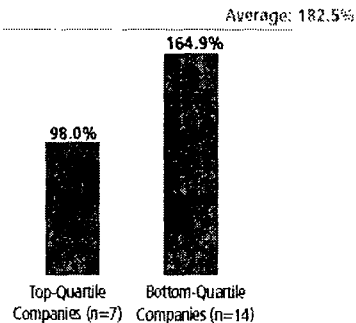


Figure 13B: TRS by Gender Diversity Top and Bottom Quartiles—Information Technology and Telecommunication Services



The Companies Studied. The Information Technology and Telecommunication Services industry includes Information Technology's application software, communications equipment, computer hardware, computer storage and peripherals, data processing and outsourced services, electronic equipment manufacturers, electronic manufacturing services, home entertainment software, Internet software and services, IT consulting and other services, office electronics, semiconductor equipment, semiconductors, systems software, and integrated and wireless telecommunications services. This sector accounted for 17.9 percent of the S&P 500 in December 2003.

There were 39 Information Technology and Telecommunication Services companies in our overall sample, and the representation of women on their top management teams ranged from 0.0 to 24.8 percent. We examined 7 top-quartile and 14 bottom-quartile companies.

APPENDIX 5: STANDARDIZATION PROCEDURE FOR FINANCIAL PERFORMANCE MEASURES



Why was the standardization procedure used?

When comparing groups of companies across industries, differences in financial performance could be attributed to industry differences rather than differences in gender diversity. For example, Pharmaceuticals experienced much better financial performance than the rest of the industries, *and* companies in that industry also tended to have a higher representation of women on their top management teams. To avoid this covariance effect, standardized financial performance measures were used to make comparisons within the overall sample, as well as among Catalyst Award winners and others.

In order to level the playing field across industries, we removed any inter-industry differences while maintaining any intra-industry differences. This allowed for a more accurate comparison of financial performance between groups of companies from a variety of industries.

How was the standardization procedure done?

- Step 1 The means and standard deviations for each financial performance measure for each of the industries were calculated, using all financial performance measures of all of the companies in each industry sector.
- Step 2 Financial performance measures for each of the companies were standardized within their own industries—by subtracting the industry mean from the observed value and dividing it by the standard deviation of the industry—such that they had a mean of 0 and a standard deviation of 1.
- Step 3 The standardized values from Step 2 were then reverse-standardized to the mean and standard deviation of the overall sample. This was done by multiplying the standardized values from Step 2 by the standard deviation of the overall sample. We then added back the mean of the overall sample.

BIBLIOGRAPHY

- Adler, Roy D. "Women in the Executive Suite Correlate to High Profits," Glass Ceiling Research Center (2001), <http://glass-ceiling.com/InTheNewsFolder/HBRArticlePrintablePage.html>
- American Management Association. *Senior Management Teams: Profiles and Performance* (1998).
- Bantel, Karen A. and Susan E. Jackson. "Top Management and Innovation in Banking: Does the Composition of the Top Make a Difference." *Strategic Management Journal* Vol. 10 (1989): p. 107-124.
- Bureau of Labor Statistics, Current Population Survey, Annual Averages (2003).
- BLS. Annual Demographic Survey (Detailed Person Income), March 2002.
- Burke, Ronald J. and Carol A. McKeen. "Do Women at the Top Make a Difference? Gender Proportions and the Experiences of Managerial and Professional Women." *Human Relations* Vol. 49, No. 8 (1996): p. 1093-1104.
- Carter, David A., Betty J. Simkins and W. Gary Simpson. "Corporate Governance, Board Diversity, and Firm Value." *The Financial Review* Vol. 38 (2003): p. 33-53.
- Catalyst. *Catalyst Census of Women Corporate Officers and Top Earners* (1996-2000).
- Deloitte and Touche. *Human Capital ROI Study: Creating Shareholder Value Through People* (2002).
- Goll, Irene, Rakesh B. Sambharya, and Louis A. Tucci. "Top Management Team Composition, Corporate Ideology, and Firm Performance." *Management International Review* Vol. 41 (2001/2): p. 109-129.
- Kochan, Thomas, Katerina Bezrukova, Robin Ely, Susan Jackson, Aparna Joshi, Karen Jehn, Jonathan Leonard, David Levine, and David Thomas. "The Effects of Diversity on Business Performance: Report of the Diversity Research Network." *Human Resource Management* Vol. 42, No. 1 (Spring 2003): p. 3-21.
- Lattimer, Robert L. "The Case for Diversity in Global Business, and the Impact of Diversity on Team Performance." *Competitiveness Review* Vol. 8, No. 2 (1998): p. 3-17.
- Michaels, Ed, Helene Handfield-Jones, and Beth Axelrod. *The War for Talent*. Boston: Harvard Business School Press, 2001.
- Murray, Alan I. "Top Management Group Heterogeneity and Firm Performance." *Strategic Management Journal* Vol. 10 (1989): p. 125-141.
- National Center for Education Statistics. *Digest of Education Statistics* (2002).
- Shrader, Charles B., Virginia B. Blackburn, and Paul Iles. "Women in Management and Firm Financial Performance: An Exploratory Study." *Journal of Managerial Issues* Vol. 9, No. 3 (Fall 1997): p. 355-372.
- Tsui, Anne S. and Barbara A. Gutek. *Demographic Differences in Organizations: Current Research and Future Directions*. Lanham, MD: Lexington Books, 1999.

ACKNOWLEDGMENTS



This report is the result of the hard work and commitment of many dedicated Catalyst staff and advisors. Former Catalyst President Sheila Wellington offered her leadership to the project. Current Catalyst President Ilene H. Lang provided her leadership in developing the report and its findings. Susan Black, Ph.D., Vice President, Canada and Research and Information Services, conceived of and oversaw this research, providing her insight and guidance.

Margaret Yap, Director, Canada, directed the research, devised the methodology, performed data analysis, and wrote the report. Adrienne Palmer, Associate, Canada, researched and identified the company sample, conducted data analysis, and participated in writing the report. Paulette R. Gerkovich, Ph.D., Director, Research, provided insight on communication of research findings and refined the report draft. We are also grateful to Jan Combopiano, Director, Information Center, for providing an extensive literature review and secondary research on the study's industry sample.

Kara Patterson and Andrea Juncos edited the report under the guidance of Nancy Guida, Vice President of Marketing and Public Affairs. Regina Chung completed the design and layout of the report. We also thank the Marketing and Public Affairs team for their work to publicize the report as well as Burson-Marsteller New York for its strategic advice on media dissemination.

We are indebted to the commitment and guidance of our advisory panel. We thank Professor Harvey Wagner, Kenan-Flagler Business School of the University of North Carolina at Chapel Hill, for his extensive work advising us on conceptual design, methodology, and interpretation of the data. We also are grateful for the comments and direction provided by: Dr. Barbara A. Gutek, Eller Professor of Women in Leadership, Eller College of Business and Public Administration, University of Arizona, particularly for her perspectives on organizational demography; and Dr. Paul J. Halpern, Toronto Stock Exchange Chair in Capital Markets and Professor of Finance, Rotman School of Management, University of Toronto, particularly for his advice on financial performance measures. We sincerely thank those at McKinsey & Company—Stephanie Coyles, Principal, Aneer Chande, Associate, and Sophie Weirich, Business Analyst—who laid the groundwork for this study and assisted us in the early stages of research design. We further are indebted to J. Randall White, Vice President, Corporate Affairs, Sara Lee Corporation, and Lesya A.E. Balych-Cooper, Vice President, Equity and Employee Engagement, BMO Financial Group, for reviewing the report draft and providing critical insights.

Thank you to Catalyst's Board of Directors, Board of Advisors, Western Region Advisory Board, and Canadian Advisory Board for their support and guidance.

Finally, we owe tremendous thanks to our sponsor, BMO Financial Group, for making this study possible.

ALSO BY CATALYST

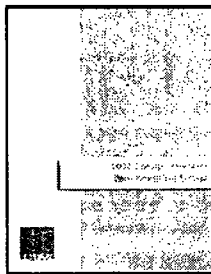
Catalyst has designed a number of practical tools to help HR professionals and managers make positive change in their organizations. To find out more about these and other Catalyst publications, visit our web site at www.catalystwomen.org.



Catalyst *Making Change* Series (2002)

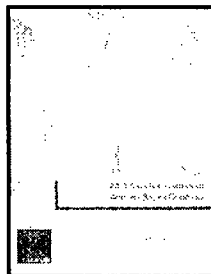
Catalyst's newest publications—the *Making Change* series—are must-read, practical booklets designed to help managers and HR professionals across your organization master workplace diversity issues. Current titles include:

- ◆ *Advancing Women in Law Firms*
- ◆ *Assessing Your Work Environment*
- ◆ *Becoming a Diversity Champion*
- ◆ *Building a Flexible Workplace*
- ◆ *Creating a Business Case for Diversity*
- ◆ *Developing a Diversity Recruitment Strategy*
- ◆ *Moving Women of Color Up the Ladder*
- ◆ *Tackling Resistance to Diversity Efforts*
- ◆ *Tapping Women for Global Assignments*
- ◆ *Using Metrics to Drive Change*



Catalyst *Member Benchmarking Survey* (Annual)

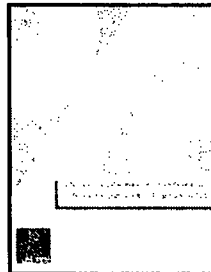
Companies and firms that want to capitalize on the talents of all their employees need data to compare their diversity initiatives and progress with that of their competitors and “best in class” employers. With this report, Catalyst helps companies meet these needs by profiling the full scope of diversity activities and outcomes in business today, with a particular focus on how the status of women is affected by these efforts over time.



Catalyst *Censuses*

Catalyst Census of Women Board Directors (Biennial)

Catalyst publishes a census of women board directors for both Canada and the United States every other year. These reports list names of women board directors in Fortune 500 companies and in Canada's Financial Post 500 companies, with regional, industry, and other analyses.



Catalyst Census of Women Corporate Officers and Top Earners (Biennial)

These biennial counts on a company-by-company basis of women officers and top earners in Fortune 500 and Financial Post 500 companies provide an in-depth look at women's representation in corporate leadership in the United States and in Canada.

CATALYST BOARD OF DIRECTORS



Chair
Thomas J. Engibous
Chairman, President & CEO
Texas Instruments

Treasurer
Barbara Paul Robinson, Esq.
Partner
Debevoise & Plimpton

Secretary
Douglas N. Daft
Chairman & CEO
The Coca-Cola Company

The Lord Browne of Madingley
Group Chief Executive
BP p.l.c.

Tony Comper
Chairman & CEO
BMO Financial Group

Michael J. Critelli
Chairman & CEO
Pitney Bowes Inc.

Ann M. Fudge
Chairman & CEO
Young & Rubicam Inc.

Christopher B. Galvin
Chairman & CEO
Motorola, Inc.

Cinda A. Hallman
President & CEO
Spherion Corporation

William B. Harrison, Jr.
Chairman & CEO
J.P. Morgan Chase & Co.

Charles O. Holliday, Jr.
Chairman & CEO
DuPont

Jeffrey R. Immelt
Chairman & CEO
General Electric Company

Ann Dibble Jordan
Consultant

Andrea Jung
Chairman & CEO
Avon Products, Inc.

Karen Katen
President, Global Pharmaceuticals
Pfizer Inc

Marie-Josée Kravis
Senior Fellow
Hudson Institute

Ilene H. Lang
President
Catalyst

Dawn G. Lepore
Vice Chairman
Charles Schwab & Co., Inc.

Edward M. Liddy
Chairman, President & CEO
The Allstate Corporation

John J. Mack
CEO
Credit Suisse First Boston LLC

Reuben Mark
Chairman & CEO
Colgate-Palmolive Company

C. Steven McMillan
Chairman, President & CEO
Sara Lee Corporation

Anne M. Mulcahy
Chairman & CEO
Xerox Corporation

Joseph Neubauer
Executive Chairman
ARAMARK

Katherine Ortega
Former Treasurer of the U.S.

Henry M. Paulson, Jr.
Chairman & CEO
The Goldman Sachs Group, Inc.

Joseph A. Pichler
Chairman
The Kroger Company

Judith Rodin
President
University of Pennsylvania

Stephen W. Sanger
Chairman & CEO
General Mills, Inc.

Martha R. Seger
Former Member—Board of
Governors of the Federal
Reserve System

Cam Starrett
Executive Vice President
Nestlé USA, Inc.

James S. Turley
Chairman & CEO
Ernst & Young LLP

G. Richard Wagoner, Jr.
Chairman, President & CEO
General Motors Corporation

Lawrence A. Weinbach
Chairman, President & CEO
UNISYS Corporation

John D. Zeglis
Chairman & CEO
AT&T Wireless Services

Chairs Emeriti, Catalyst Board of Directors

John H. Bryan
Retired Chairman & CEO
Sara Lee Corporation

J. Michael Cook
Retired Chairman & CEO
Deloitte & Touche LLP

Reuben Mark
Chairman & CEO
Colgate-Palmolive Company

John F. Smith, Jr.
Retired Chairman & CEO
General Motors Corporation

This is Copyrighted Material

Advancing women in business

NEW YORK

120 Wall Street, 5th Floor
New York, NY 10005
tel/ 212-514-7600
fax/ 212-514-8470

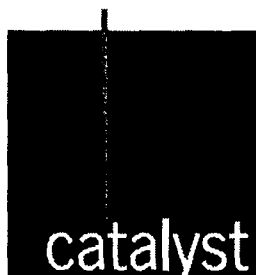
SAN JOSE

2825 North First Street, Suite 200
San Jose, CA 95134
tel/ 408-435-1300
fax/ 408-577-0425

TORONTO

8 King Street East, Suite 505
Toronto, Ontario M5C 1B5
tel/ 416-815-7600
fax/ 416-815-7601

www.catalystwomen.org





Women in the Executive Suite Correlate to High Profits

Roy D. Adler, Ph.D.
Pepperdine University



An extensive 19-year study of 215 Fortune 500 firms shows a strong correlation between a strong record of promoting women into the executive suite and high profitability. Three measures of profitability were used to demonstrate that the 25 Fortune 500 firms with the best record of promoting women to high positions are between 18 and 69 percent more profitable than the median Fortune 500 firms in their industries.

Women in the Executive Suite Correlate to High Profits

The glass ceiling issue is one of the most emotional managerial issues of the past decade. Although a great deal of anecdotal evidence exists, there has been very little empirical work to support even the most basic contentions concerning the issue. One of the areas most in need of evidence involves profitability. It is alleged that firms that have had a good track record of promoting women to the executive suite have found that practice to have been profitable, but there is little empirical evidence that the assertion is, in fact, true.

In order to test that assertion, we evaluated the record of 215 Fortune 500 firms concerning the inclusion of women in the executive suite for the 19-year period from 1980 to 1998. A point system was devised, and the top 25 firms for women were then evaluated on three different measures of profitability relative to the median Fortune 500 firms in their industries for 1998. All three measures demonstrated that higher scores were correlated to higher profitability.

Previous Studies

Since the mid-1980s, advocates for women have worked hard to convince the business world that women are as capable as men in high executive positions, and that their inclusion in the executive suite would contribute greatly to the success of a company. The pioneering book in this area was Morrison et al.'s *Breaking the Glass Ceiling*, which brought the term "glass ceiling" into the lexicon in 1987. This work was based on interviews with 76 executive women, and was qualitative in nature.



Other books followed. John Naisbitt argued that the presence of women in upper levels of the organization would be beneficial, and Driscoll and Goldberg used in-depth interviews to examine the lives of senior women executives. Helgesen argued that women have a largely untapped advantage in leadership style and that women's leadership styles transform organizations, but none of these excellent books reported quantitative evidence of profitability.

The *Fact-Finding Report of the Glass Ceiling Commission* was a report of the perceptions of women in the workplace, and did not attempt to connect the presence of high-ranking women executives to profitability for their corporations. Furchtgott-Roth and Stolba provided a guide to the economic progress of women and, since 1985, the advocacy group Catalyst has issued over 30 excellent research reports on various aspects of progress for women, but none of them have addressed the issue of profitability with empirical evidence.

There are at least three reasons why the study was not attempted earlier. First, there have been only a handful of firms with women in upper level positions, so that it was difficult to make a valid statistical comparison between the very small number of firms with influential women and the huge number of firms without them. Expanding the base number of women-friendly firms was not easy because it was very difficult to learn which firms had women in the executive suite at levels just below the very visible positions of President or CEO. Finally, although longitudinal data is widely regarded as the most solid, it is not often done because the data is very difficult and time consuming to collect.

Fortune 500 Data

Our study took advantage of a very large base of Fortune 500 data we collected for the period 1980 to 1998. The study began in 1992, when each Fortune 500 firm was invited to supply us with data about the number of women in their top 10 executive positions, the next 10 executive positions, and the Board of Directors for each year since 1980. Names and positions were provided for validation, with the assurance that they would not be published. Subsequent data sweeps were conducted in 1995 and 1998.

These efforts have resulted in data for an average of 215 Fortune 500 firms for every year from 1980 to 1998. The longitudinal nature of the database allows us to compare the data for any year with any other year since 1980, and allows the historical performance of any responding firm to be studied on a variety of measures.



The Scoring System

Once we tabulated these data, we devised a system to score each firm on their record for promoting women to the executive suite. We weighted the pioneering efforts of firms in the years 1980 to 1992 heavier than the efforts in later years. Two points were assigned for each woman in a "top 10" executive position for the years to 1992, with one point for later years. One point was assigned for each woman in the "next 10" positions to 1992, and one half point for later years. One point was given for each woman on the Board of Directors for the early years, and one half point for subsequent years. Scores were summed and firms were ranked in order. The 31 firms that scored the highest (the top one-seventh) were then evaluated for profitability. Because the survey had guaranteed anonymity to responding firms, we regret that those firms cannot be named here.

Four Evaluations of Profitability

Because different industries might prefer to use different measures of profitability, three measures of profitability were used to evaluate each of the firms. Profits as a percent of revenues, assets, and stockholders' equity were recorded for each firm, based on data from the 1999 Fortune 500 list. In like manner, the equivalent figures for the median Fortune 500 firm in each firm's industry were recorded. Six of the firms did not have data available for 1999 and were discarded, leaving 25 firms. The figures for the 25 remaining firms were then summed, and a mean number calculated. The same was done for the industry medians.

In addition, a fourth measure of profitability was taken. We determined whether the each subject firm was higher or lower than its industry median counterpart. This was done in order to expose the potential situation whereby strong figures for one dominating firm might obscure a general trend in the opposite direction for the majority of women-friendly firms within an industry.

Results

The results showed a clear pattern. Fortune 500 firms with a high number of women executives outperformed their industry median firms on all three measures. Furthermore, the firms with the very best scores for promoting women were consistently more profitable than those whose scores were merely very good.



On the measure of profits as a percent of *revenues*, the 25 subject firms outperformed the corresponding industry medians by 34 percent. The women-friendly firms averaged 6.4 percent while the average of their industry medians was 4.8 percent. When taken individually, almost two-thirds of the subject firms (66%) outperformed their median counterparts.

On the measure of profits as a percent of *assets*, the 25 subject firms outperformed the industry medians by 18 percent. The women-friendly firms averaged 6.5 percent while the average of their industry medians was 5.5 percent. When taken individually, 62 percent of the subject firms outperformed their median counterparts.

On the measure of profits as a percent of *stockholders' equity*, the 25 firms outperformed the industry medians by 69 percent. The women-friendly firms averaged 26.5 percent while the average of their industry medians was 15.7 percent. When taken individually, 68 percent of the subject firms outperformed their median counterparts.

The diligent reader will note that the results might be sensitive to the number of firms included in the analysis. If one were to limit the subject firms to only the "top 10 firms" for women (or "top 15 firms" or "top 20 firms"), the results would be somewhat different. In fact, further analysis showed a direction consistent with the basic conclusion that firms with a stronger record of promoting women are more profitable.

The firms with the very best records for promoting women showed the strongest record of profitability, as shown in the table below.

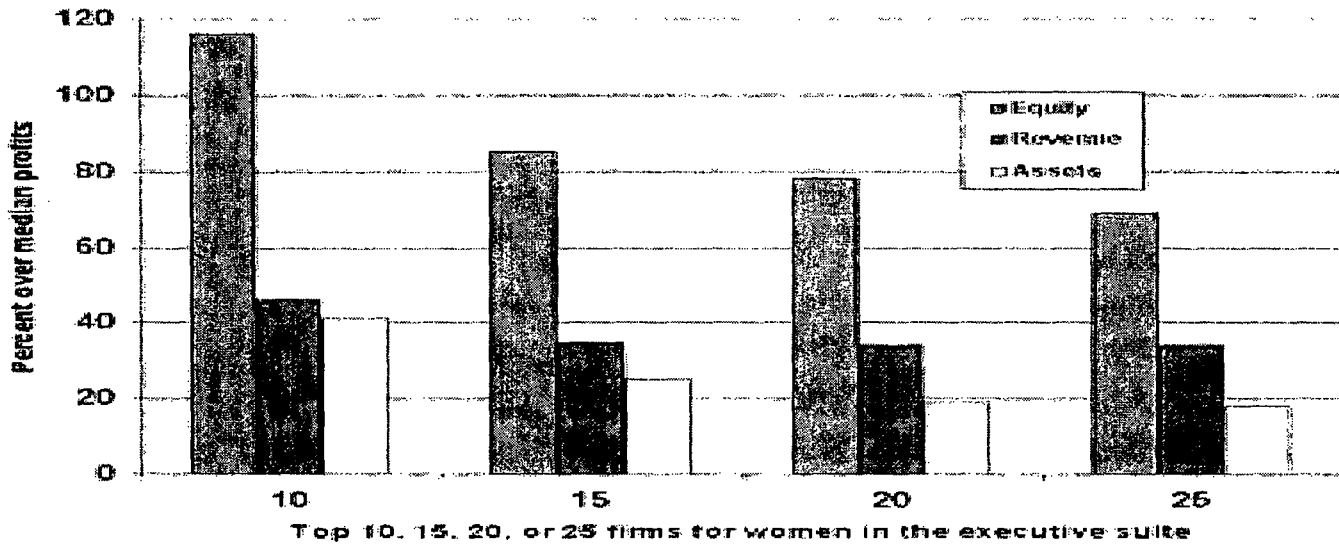
Percent by which companies exceed the industry median in terms of ...

Profit as % of >>>	Revenue	Assets	Equity
Top 10 firms	46	41	116
Top 15 firms	35	25	85
Top 20 firms	34	19	78
Top 25 firms	34	18	69

In other words, the results of the "top 25 firms" that are featured in this study are very conservative. The results would be even more dramatic if a smaller set of only the most friendly firms for women had been highlighted.



Percent by which women-friendly firms exceeded their industry median of profits as a percent of equity, of revenue, and of assets



Indicated Action

It is important to note that the correlation does not prove causality. While it could be concluded that a firm's long-term record of promoting women to high positions results in higher than normal profitability, it could also be argued that firms with higher profitability may feel freer to experiment with the promotion of women to high levels.

One intriguing additional explanation is that firms exhibit higher profitability because their top executives have probably made smarter decisions. One of the smart decisions that those executives have made is to include women in the executive suite, so that the best brains are available to continue making smart, and profitable, decisions for the firm.

However one interprets the data, it is clear from multiple measures that there is a positive correlation between the existence of larger numbers of women in the executive suite and higher than normal profitability within an industry. Wise executives might well keep this evidence in mind as they consider promoting talented individuals to the executive suite.



References

Catalyst [1990]. *Women in Corporate Management*. Catalyst, New York. Various other studies are available from www.catalystwomen.org.

Driscoll, Dawn-Marie and Carol R. Goldberg [1993]. *Members of the Club: the coming of age of executive women*. The Free Press, New York.

Fortune [1999]. "The Fortune 500" vol.139 no. 8. April 26, 1999.

Furchtgott-Roth, Diana and Christine Stolba [1999]. *Women's Figures*. The AEI Press, Washington, D.C.

Glass Ceiling Commission [1995]. *Fact-Finding Report*. US Government Printing Office, Washington, DC.

Helgesen, Sally [1990]. *The Female Advantage: Women's Ways of Leadership*. Doubleday/Currency, New York.

Helgesen, Sally [1995]. *The Web of Inclusion: a new architecture for building great organizations*. Doubleday/Currency, New York.

Morrison, Ann, Randall White, and Ellen Van Velsor [1987]. *Breaking the Glass Ceiling: Can women reach the top of America's corporations?* Addison-Wesley, New York.

Naisbitt [1990]. *Megatrends 2000*. New York, William Morrow.



Roy D. Adler, Ph.D.
Brief Biography

Roy Adler is a Fulbright scholar and Professor of Marketing at Pepperdine University in Malibu. Dr. Adler holds degrees from Bucknell University, Xavier University, and the University of Alabama and has worked in the marketing or advertising departments of Procter and Gamble, Levi Strauss, and Nationwide Insurance.

A long-time officer of the Academy of Marketing Science, Dr. Adler is known for his books Marketing and Society and Marketing Megaworks, about 30 published articles, and his work as an on-camera host in the Emmy-winning PBS-TV series "Marketing."

Since 1992, his research focus has been on the emergence of women on top executive teams of the Fortune 500. With 21 years of data from an average of over 200 Fortune 500 Corporations each year, he has been able to shed empirical light on various issues concerning the glass ceiling, and predict the impact that women will have on major corporations in the 21st century. One of the most provocative findings is that firms that have been leaders in promoting women to the executive suite are far more profitable than their competitors.

He won the University's highest award for outstanding teaching in 1995, and was granted the lifetime designation of Distinguished Fellow of the Academy of Marketing Science in 1992, an honor held by less than 30 people, worldwide.

[Additional information is available in an expended vita at royadler.com.](http://royadler.com)