

Women's Roles on U.S. Fortune 500 Boards: Director Expertise and Committee Memberships

Craig A. Peterson
James Philpot

ABSTRACT. This study examines the presence and roles of female directors of U.S. Fortune 500 firms, focusing on committee assignments and director background. Prior work from almost two decades ago concludes that there is a systematic bias against females in assignment to top board committees. Examining a recent data set with a logistic regression model that controls for director and firm characteristics, director resource-dependence roles and interaction between director gender and director characteristics, we find that female directors are less likely than male directors to sit on executive committees and more likely than male directors to sit on public affairs committees. There is little if any evidence of systematic gender bias in director assignment to other board committees. We find some evidence that boards evaluate resource dependence differently for women than men.

KEY WORDS: boards of directors, board committees, corporate governance, gender issues, resource dependence

Introduction

The disparity between women and men regarding prevalence in top management positions still prompts debate and study as to the extent of systematic bias against female managers and profes-

sionals as they seek positions of increasing authority and responsibility. Perhaps, key to female advancement and parity is their presence and involvement among boards of directors. As females gain both in numbers and in influence on corporate boards, one would expect boards to become more cognizant of the preparation and capabilities of female board members vis-à-vis males. In fact, this has been the case, as Burke (1994a, b) reports that male CEOs recognize that their female directors make unique and positive contributions. Many studies and censuses document the growing number of women holding directorships in large corporations both in the United States and internationally. (For example, see Catalyst, 2003a, b.) Yet, an unresolved question is whether these directors have real input and responsibility or are mere figureheads. Recently, in commenting on the increased number of female directors, Burgess and Tharenou (2002) question whether these women are selected as directors based on their merits.

One way to address this question is to examine the committee involvement of female directors. Much board action and policy making originates in one or more of the committees of the board (Kesner, 1988). Prior work (Bilimoria and Piderit, 1994; Kesner, 1988) raises doubts that women directors play important roles in key corporate decisions based on findings that women are less likely than men to serve on some corporate committees and not others. We extend work by Kesner (1988) and Bilimoria and Piderit (1994) by studying the presence and prevalence of women among the boards of directors of the U.S. Fortune 500. We focus on female directors' assignment to six different corporate committees, given their experience and backgrounds. Our study improves prior work by using

Craig A. Peterson is associate professor of finance at Western Michigan University, Grand Rapids Regional Center. In addition to corporate governance, his research interests include investment management and corporate finance.

James Philpot is assistant professor of finance and general business at Missouri State University. His research interests include corporate governance, financial planning and financial education.

a recent data set and by improved modeling of director background and experience.

Prior studies

The most basic gauge of female progress in board membership is the number of women on boards. Two common measures are the proportion of major firms that include at least one female on their board and the proportion of board seats held by women. Catalyst, the leading research and advisory organization working to advance women in business, periodically reports census/survey data of the number of females serving on U.S. Fortune 500 corporate boards. Catalyst data show that in 1993, females served on the boards of 69% of the U.S. Fortune 500 firms; this figure grew to 86% in 1998 and 89.2% in 2003. The proportion of total U.S. Fortune 500 board seats held by women grew from 8.3% in 1993 to 11.1% in 1998 and 13.6% in 2003 (Catalyst, 2003a, b). Similarly, Daily and Certo (1999) show overall growth in the number of women serving on corporate boards over the period 1987–1996, although this growth does not translate into growth in the number of women serving as CEO.

These findings for the United States compare favorably with international evidence although cross-country comparisons are often complicated by a staggered board structure, such as separate supervisory and executive boards that exist in parts of continental Europe (Singh and Vinnicombe, 2003). Burke (2000a, b) reports 1996 survey data from the boards of 1000 large Canadian firms, finding that 6% of the directors were female, and 31% of the firms included at least one female director. Though not directly comparable, proportions increase to 11.2% women board members and 48.6% (243) of Canada's 500 largest companies according to the *2003 Catalyst Census of Women Board Directors in Canada* (Anonymous, 2004). Female representation on FTSE 100 (UK) corporate boards shows 121 (10.5%) board seats held by 99 women sitting as directors for 78 companies (Women and Equality Unit, 2005).

Various explanations have been proposed for the low numbers. They include a lack (either real or perceived) of qualified females, unwillingness of qualified females to serve on additional boards due to liability concerns, and inability of females to serve

due to the time requirements of their principal occupations (Daum, 1998). There is also the possibility that the search process is systematically biased against female candidates (Burke, 1996; Mattis, 2000). For example, Mattis (2000) reports a 1993 Catalyst survey of U.S. female directors found that leading reasons cited for the low numbers were: (1) Companies do not know where to look for qualified female candidates; (2) CEOs fear appointing women who are not currently board members; (3) CEOs are concerned that women will have a “women's agenda;” (4) CEOs believe that women are unqualified. Burke (1996) reports similar opinions in a survey of female members of Canadian boards. In addition to suggesting bias in board appointments, some question the female director's effectiveness. Burgess and Tharenou (2002) observe the disparity between the large proportion of firms having a female director and the small proportion of total seats held by females, and they posit that some female directors may hold figurehead positions, rather than positions based on their merits or potential contribution to corporate policy-making.

Most corporate policy originates in meetings of board committees (Anderson and Anthony, 1986). Committees, in doing their work, meet separately and make recommendations for approval by the full board. Thus, meaningful policy input comes most frequently from the relevant committees' members, rather than from board members who are not on the committee (Anderson and Anthony, 1986; Braiotta and Sommer, 1987). One way to determine the involvement and influence of female board members is to examine committee membership, comparing assignments of male and female directors, as previously discussed by Kesner (1988) and Bilimoria and Piderit (1994). Kesner (1988) examines female and minority membership on board committees based on a 1983 sample of 250 of the U.S. Fortune 500 and finds that with the exception of the executive committee, women were not disproportionately represented on major committees relative to their representation on the full board. Kesner does not conclude that gender-based bias keeps women off of the executive committee. Rather, she notes that the female directors in her sample have both less experience and shorter board tenure than their male counterparts, and generally board members with less experience and shorter tenure do not serve on

executive committees. In fact, Dalton and Kesner (1993) conclude that these data “largely refute the case for tokenism” (p. 7).

Bilimoria and Piderit (1994) re-examine the gender and committee assignment question, using a sample of the first 300 of the U.S. Fortune 500 firms in 1984. Unlike Kesner (1988), they control for the influence of tenure and experience using a logistic regression model. After control, males were more likely than females to sit on executive, compensation and finance committees (considered key committees), and females were more likely than males to sit on a public affairs committee (considered of lesser importance). Bilimoria and Piderit conclude that this disparity is due to gender-based bias, and such bias would indicate that female directors serve a more figurehead than genuine role.

Motivation for the present study

We update the Bilimoria and Piderit (1994, hereafter B&P) study of board member gender and committee assignment. Such a re-examination is well-motivated, for three reasons. First, a significant amount of time has passed since their study. Second, since their study, there has been significant attention paid to the potential business-related benefits of having female directors on boards. Third, we model committee membership as a function of director characteristics using an improved definition of director background and experience compared to B&P.

B&P study a sample of firms in 1984. We use a 2002 sample of firms. The passage of almost two decades is significant because such time would allow women to gain further qualification and visibility in order to compete for committee assignments. As Schwartz, founder of Catalyst, wrote in 1980:

“[It] will likely take two decades for the number of women in upper management to assume significant proportions and another five to ten years after that for these women to acquire experience and move up to the officer level where they can obtain the broad perspective that is so desirable for the corporate board’s planning function” (p. 7).

Thus, the passage of almost two decades since the B&P study year (which itself was 4 years after Schwartz’ statement) may indicate that it is time to test Schwartz’ prediction.

Since the appearance of the B&P study, there has been increasing published evidence, both anecdotal and empirical, of the benefits of having female directors on boards. Burke (1994a, b) cites survey data indicating that male CEOs value their female board members’ perspective in understanding female customers and find female directors useful in recruiting and retaining qualified female employees. Kuczynski (1999) reports anecdotal evidence of correlation between a board’s gender and ethnic diversity and its stock performance. Bilimoria (2000) suggests that females’ presence on corporate boards may enhance board performance by promoting a (commonly female) preference for collaboration and power sharing in board deliberations. Carter et al. (2003) examine a 1997 sample of Fortune 1000 firms and find that a firm’s Tobin’s Q measure is positively related to the proportion of females serving as a director. Further, Ehrhart et al. (2003) find that, in a 1998 sample of 112 large U.S. firms, return on investment (ROI) and return on assets (ROA) are positively related to the diversity of the firm’s board. Increased knowledge of the business benefits of female director input may well have decreased gender-related bias in committee assignment.

Finally, we model committee assignment as a function of gender and other characteristics using an improved experience definition vis-à-vis B&P. B&P model business experience as a dichotomous variable – the director either has business/professional experience or has non-business experience. We model director experience using the Hillman et al. (2000, hereafter Hillman) taxonomy of directors’ resource dependence roles. Hillman et al. split directors into four categories based on their experience and contribution to board operations. The four categories are insiders, outsider business experts, support specialists, and community leaders. The Hillman taxonomy allows division of directors with business experience into three categories that have a unique resource role. This is no small matter. Women have been moving up the non-profit and professional ladders faster than the for-profit one (Steane and Christie, 2001), and Fondas (2000) suggests that board selection bias is against independent directors, rather than women *per se*. Hillman’s taxonomy allows separate modeling of these groups, which Hillman et al. (2002) find tend to include large numbers of female directors.

Board Committees

Committees provide the means, opportunity and structure that enable members to perform their fiduciary and other corporate governance duties as well as satisfy public demand for increased corporate accountability. "Through these committees board members may probe into important areas of corporate concern more deeply than would be possible in a full board meeting" (Harold M. Williams, President & CEO, J. Paul Getty Trust [former chairman, Securities and Exchange Commission; former dean, Graduate School of Management, University of California at Los Angeles], in Braiotta and Sommer, 1987, pp. xi–xii). Committees are also where much of the board's work is, or should be, done (Anderson and Anthony, 1986).

Like nomination and election to the board, a director's appointment to a particular committee should be based on those characteristics and attributes that contribute to the duty of care owed by a director to the corporation and its shareholders (§8.30, Revised Model Business Corporation Act, 1984). Prudence demands that the board as a whole consider the qualifications of members appointed to a particular committee if those outside the committee are to avoid being held liable when they rely on its reports for making decisions and the committee has failed to perform its duties (Braiotta and Sommer, 1987). Appointment, however, is limited by the qualifications of members of the board as well as legislation, regulation and exchange rules.

Since the U.S.' passage of Public Company Accounting Reform and Investor Protection Act of 2002 (Sarbanes–Oxley), the U.S. stock markets (prompted by SEC regulation) have imposed additional rules pertaining to director independence and committee structure for publicly traded companies. For companies traded on the New York Stock Exchange and the NASDAQ, listed companies must have a majority of independent directors. Independence is defined very specifically, requiring independent directors have no material relationship with the company (or its auditors or firms with material business relationships with the company) and receive no current compensation from the company except for director fees or pension income. This prohibition extends to family members of independent directors.

In addition, to empower non-management directors to serve as a more effective check on management, non-management directors of each listed company must meet at regularly scheduled executive sessions without management. Finally, three board committees – nominating/corporate governance, compensation and audit – must be composed entirely of independent directors (NASDAQ, 2003; NYSE, 2003).

We re-examine the roles that women play based on committee membership as B&P's work was based on 1984 data. We group board committees into the six categories suggested by Braiotta and Sommer (1987), consistent with Bilimoria and Piderit (1994): (1) Executive and/or strategic planning committees often act as a surrogate for the full board in crisis or expedient situations subject to statutory limits or additional restraints imposed upon them by the full board (Braiotta and Sommer, 1987). (2) Nominating/corporate governance is charged with identifying individuals qualified to become board members, consistent with criteria approved by the board; developing and recommending a set of corporate governance guidelines applicable to the corporation; and overseeing the evaluation of the board and management (NYSE Listed Company Manual, §303A, ¶4). (3) Compensation has direct responsibility to review and approve corporate goals and objectives relevant to CEO compensation and to evaluate the CEO's performance in light of those goals, and to make recommendations to the board with respect to non-CEO executive officer compensation (NYSE Listed Company Manual, §303A, ¶5). (4) The audit committee assists board oversight of the company's financial statements, compliance with legal and regulatory requirements, the independent auditor's qualifications and independence, and the performance of the company's internal audit function (NYSE Listed Company Manual, §303A, ¶7). (5) Financial committees review and recommend financing, dividend, investment, and risk management plans and policies of the company and its relationship to the financial community (Braiotta and Sommer, 1987). (6) The board of directors also has responsibility for the company's social performance. Public policy committees review and oversee corporate plans and programs dealing with social issues like community involvement, employee issues and government

regulations such as those dealing with equal opportunity, the environment, or product safety (Braiotta and Sommer, 1987). Finally, other committees may be formed to manage special issues like technology, shareholder litigation, corporate or officer misconduct or wrongdoing, or the proposed acquisition of the company (Braiotta and Sommer, 1987).

Whether women possess unique skills, expertise and experience that lead to their appointment to some committees and not others is an empirical question. Evidence exists that women's characteristics and corporate behavior are evaluated differently from men's (Jago and Vroom, 1982), but pro-male bias does not persist consistently across all work situations (Nieva and Gutek, 1980). Recent work continues to document these behaviors. Fuchs et al. (2004) and Bergeron et al. (2006) find that evaluation of female managers' performance of a task relative to that of a male manager varies with the gender role-typing of the task. Terborg and Ilgen (1975) suggest that prejudice decreases as more becomes known about the merits of the female relevant to the demands of the work. For example, Heilman and Haynes (2005) show that clear evidence of prior work experience can overcome negative expectations of female team member performance. Thus, gender bias should be virtually non-existent as nominating committees are charged with developing short lists of suitable candidates and thoroughly reviewing their qualifications and independence before submitting names of women or men to the full board for further consideration. This perspective is also consistent with the response of one executive who, in a study of CEOs' views on women directors, writes:

"Women are selected based on the same criteria as men and expected to perform the same functions ... A well-managed nominating committee pays no attention to personal friendships but examines the ideal Board configuration by training, by experience, by age, by personal characteristics, and many other criteria ..." (Burke, 2000a, b, p. 184).

It is therefore likely that characteristics rather than gender primarily guide committee recommendations. Once on board, however, life and work experiences may affect the odds of committee

membership (B&P, 1994). The data allow for a test of the gender-bias hypothesis:

H10: After controlling for corporate factors and individual experiences, the odds for female directors' membership on a given committee will not differ significantly from the odds for male directors.

Director taxonomy and classification

While the primary responsibility of a director is to act as a fiduciary, representing shareholders to management, the reason one individual rather than another is nominated may be to serve other corporate goals. Individual directors bring diverse attributes, individual expertise and organizational experiences to the boardroom (Baysinger and Butler, 1985). Insiders possess firm-specific information focused on internal problems and constraints (Fama and Jensen, 1983). In addition to monitoring management, outside directors provide expertise and resources for managing external environmental factors, including: (1) strategic advice and expertise; (2) communication channels to external organizations; (3) support from important elements outside the firm; and (4) legitimacy (Pfeffer, 1973; Pfeffer and Salancik, 1978).

Hillman et al. (2000, hereafter Hillman) develop a director taxonomy that corresponds to Pfeffer and Salancik's (1978) list of director-supplied benefits. They argue that each benefit relates to a specific firm need for which a different outsider may be selected. Their four categories are:

Insiders currently serve, or have served, as executives or owners of the firm. Typically, these directors hold chief executive, operating, or financial officer positions and have made normal progression through the corporate ranks. In the Pfeffer and Salancik (1978) framework, these directors provide strategic expertise almost exclusively.

Business experts are valued for their skills and knowledge as a result of experience in internal decision making of other large for-profit corporations. They primarily supply strategic advice and access to external communication channels.

Support specialists are professionals in capital markets, banking, law, insurance or public relations. They serve

as a primary channel of communication to and a conduit for support from external constituencies such as large suppliers or government agencies.

Community leaders have influence, knowledge, experience and connections to non-business organizations or the community affected by the firm's strategic choices and operations. The group includes university or other institutional representatives and officers of social or community organizations. These directors provide legitimacy and represent important external elements.

Resource dependence theory suggests the corporate need for important external linkages should affect board composition (Pfeffer, 1973; Pfeffer and Salancik, 1978). However, the widely used insider/outsider classifications do not adequately capture this important role (Hillman et al., 2000). To our knowledge, the Hillman taxonomy has not been applied to classify female directors in an attempt to understand how that characteristic affects their appointment to the board's standing committees. The resource dependence hypothesis states:

H2o: The influence of resource dependence on the odds of a director's appointment to a standing committee will not differ significantly for female and male directors.

In other words, female and male directors from similar backgrounds (as categorized by the resource dependence classifications) are treated equally in assignment to board committees.

Methods

Sample

We examine the 2002 Fortune 500 list of top United States companies based on prior year's gross revenues, gathering director data from the firms' 2002 proxy statements and notices of annual meeting. The majority is publicly held including 421 that list on the New York Stock Exchange, 53 on the NASDAQ, and three that trade on the American Stock Exchange. The remaining 23 are not publicly traded. Six companies were excluded because they were either privately, mutually or employee owned – thus published data pertaining to board membership were

not available. Five firms either merged or were acquired during the time period between listing in the U.S. Fortune 500 and the release of 2002 proxy materials, while two firms fell concurrently into bankruptcy and liquidation. As prior studies (Burke, 1997; Carter et al., 2003; Mattis, 2000) note, director demography and background data can be difficult to obtain due to the lack of uniform timing and format of firm reports. Also, as the list is updated annually, some longitudinal comparability is lost. However, our use of the U.S. Fortune 500 and our data collection method are consistent with prior work (B&P, 1994).

The final count reveals that women hold directorships in 429 among the 487 sampled firms or 88% of the U.S. Fortune 500 companies in 2002. This number is comparable to Catalyst's 2003 figure (89.2%). There is considerable disparity in the proportion of women in any given boardroom. While most U.S. Fortune 500 firms have only one female director, some firms have multiple females on their boards. For instance, TIAA-CREF has seven women among 29 seats on its three boards. Avon Products and SBC each have six women; Golden West Financial, Albertson's and Wells Fargo have 5; and another 11 corporations have 4 female directors. In percentage terms, the leaders are Golden West Financial (56%) and Avon Products (55%) – coincidentally each led by a female CEO. Tied for third are Wellpoint Health Networks (45%) and Pepsi Bottling Group (45%) – each having four women among nine directors.

Most of the women hold directorships at only one U.S. Fortune 500 firm (Table I, Panel a) as the 731 aggregate female-held seats are occupied by 525 individuals. However, 16 women hold seats on at least 4 boards, and this elite group accounts for 71 directorships in aggregate. Another 37 women serve on three and 77 on two U.S. Fortune 500 corporate boards. Many males also hold multiple appointments. The 72 men sitting on at least four boards includes one man on 8, another on 7, and five who serve on 6 boards. Collectively, these men hold 301 appointments.

In more specific terms and by comparison to men, Table I, Panel b shows the 525 women held 731 of 5530, or 13.2%, of the total number of directorships, rising from 8.3% in 1993 and 11.1% in

TABLE I
Director representation and demographics of U.S. Fortune 500 companies, 2002

Seats	Male	Female	Total	Cumulative		
<i>Panel a: Multiple seats (population)</i>						
8	1		1	8		
7	1	1	2	22		
6	5		5	52		
5	16	4	20	152		
4	44	11	55	372		
3	161	37	198	966		
2	538	77	615	2196		
1	2939	395	3334	5530		
Total	3705	525	4230			
<i>Panel b: Representation (population)</i>						
Directors			Board Seats			
Male	Female	Total	Male	Female	Total	
3705	525	4230	4799	731	5530	
87.6%	12.4%	100.0%	86.8%	13.2%	100.0%	
<i>Panel c: Demographic (male sample; female population)</i>						
	Male	Female	<i>t</i> -statistic			
Age	60.0	56.0	11.48			
<i>N</i>	1327	729	0.0001			
Tenure	7.86	6.50	4.79			
<i>N</i>	1311	718	0.0001			
<i>Panel d: Committee assignments (male sample; female population)</i>						
	Male	%	Female	%	<i>t</i> -statistic	Total
Executive	318	14.9	91	7.3	−6.03 [★]	409
Nominating	443	20.7	288	23.0	2.64 [★]	731
Compensation	460	21.5	242	19.3	0.53	702
Audit	498	23.3	356	28.4	5.32 [★]	854
Finance	257	12.0	147	11.7	0.19	404
Public affairs	160	7.5	129	10.3	5.16 [★]	289
Total	2136	99.9	1253	100.0		3389
<i>N</i>	1342		731			2073

Note: Statistical *N* differs from sample sizes (1342 men; 731 women) as not all boards report age and tenure data.

* Significance at 0.01.

1998 (Catalyst, 1998). In contrast, the 3705 men collectively hold 4799 seats.

Two groups of 731 male directors were randomly selected for comparison purposes to the population of 731 female board positions. The first sample was randomly selected from the entire population of 4799 men. A second sample of males was selected using a stratified procedure. We observe that the distribution of women directors declines as revenue decreases. There are 196 females in the largest 100 companies, 168 in the group ranked 101–200, 147

in the third 100, 127 in the fourth, and 93 in the fifth quintile. The entire population of male directors was similarly grouped and an equal number of men randomly selected from each quintile, without replacement, in proportion to female representation. There is overlap between the two male samples as each group of 731 individuals represents approximately 15% of the male population. Thus, it could be expected that randomly selecting two samples would include some of the same people. We observe 120 commonalities (16.4%) when we could

expect approximately 111 ($15.2\% \times 731$). The results reported herein are for the population of women directors ($n = 731$) and the joint sample of male directors less the 120 common names ($n = 1342$).

Panel c reports demographic data comparing the female population to the male sample. The average age of women was 56.0 years compared to an average age of 60.0 years for men ($t = 11.48$). Ages range from 32 to 84 for men compared to 39 to 93 for women. The 6.5 years of female service is significantly less than the 7.86 years male tenure ($t = 4.79$).

Panel d shows that women hold 1253 committee assignments whereas the sampled 1342 men serve on 2136 committees. Only 91 women (7.3%) serve on an executive or strategic planning committee in comparison to 318 sampled men (14.9%). The difference in representation is statistically significant ($t = -6.03$). In contrast, women are significantly more likely to serve on nominating ($t = 2.64$), audit ($t = 5.32$) or public affairs ($t = 5.16$) committees. There are no significant differences between genders for service on compensation ($t = 0.53$) and financial ($t = 0.19$) committees.

Separately, we find that board members on small companies also have fewer committee opportunities. Sample results show total committee (including special committees whose numbers are too small to include herein) involvement is 981 for the first 100 companies, 811 for companies 101–200, followed by 726, 618 and 467 for quintiles 3, 4 and 5, respectively.

Director taxonomy

In Table II, we extend Hillman et al. (2000) work instead of limiting the study to the U.S. passenger airline industry to categorize the women and random sample of men. We also expand upon their essay to include relevant principal occupation areas for each resource-dependence role, while still recognizing that classifying human beings using a single factor is insufficient. Clearly, all these people are multi-faceted in terms of skills and expertise they bring to the boardroom. Yet, parsimony in our empirical investigation requires the simplification.

Female insiders hold 6.0% of the female-held board seats as shown in Table II. This small number is similar to the increasing, yet still small fraction of women serving as senior executives. Female insiders are more likely to be founder or family members (45.5%) than are male insiders (12.9%). Women business professionals who work externally in for-profit firms hold 39.1% of the female seats versus 43.2% of the sampled males. This number includes 33 positions occupied by current or former CEOs of a publicly traded company other than their own and 70 leaders of privately-held companies. Female senior managers – defined as CFO, COO, general counsel or division president – of publicly traded US companies occupy 142 board seats.

The within group proportions seem to suggest an attempt by nominating committees to find and nominate women executives in both public (49.7% women to 26.0% men) and private (10.8–2.6%) companies. Private enterprise may provide the richest source for recruiting female board members as women-owned and -lead businesses have become a major force in the American economy. In 2002, the 6.5 million women-owned businesses (28% of total) generated over \$951 billion in sales (U.S. Census Bureau, 2002). Stymied by a lack of career advancement opportunities, organizational dynamics, and discrimination, women executives and professionals leave large organizations to become entrepreneurs and business owners (Buttner and Moore, 1997). Another potentially rich source for search firms charged with finding suitable female candidates are family-owned companies. In a 1997 survey by Mass Mutual Financial Group of 3000 family-owned firms in the United States, 25% responded that their next CEO would be a woman (Taylor, 2002). The data suggest the preferred board member has CEO or executive-level experience. Thus, private enterprise may be another avenue for women seeking to get the requisite expertise.

Foreign women comprise 3.5% of those directors with business expertise in comparison to 5.9% held by foreign men included in our sample. As international experience has been ranked a high priority for female board members (Burke, 1994a, b; Catalyst, 1995) and women often excluded from international assignments (Adler, 1984), the number, albeit small, may suggest an attempt by nominating

TABLE II
The resource dependence role of U.S. Fortune 500 directors, 2002 (N = 2073)

Taxonomy	Male sample	% w/in class	Female pop.	% w/in class
<i>Insiders</i>				
Founder or family	35	12.9	20	45.5
Management	237	87.1	24	54.5
Subtotal	272	100.0	44	100.0
	20.3%		6.0%	
<i>Business expertise</i>				
CEO public company other than own organization	247	42.6	33	11.5
Management publicly traded company	151	26.0	142	49.7
CEO privately held company	133	22.9	70	24.5
Management privately held company	15	2.6	31	10.8
Management foreign company	34	5.9	10	3.5
Subtotal	580	100.0	286	100.0
	43.2%		39.1%	
<i>Support specialists</i>				
Investment banking or money management	124	38.6	58	28.7
Commercial banking	43	13.4	16	7.9
Legal	57	17.8	27	13.4
Government	57	17.8	68	33.7
Public relations including public affairs and advertising	10	3.1	7	3.5
Non-university industry specialists	30	9.3	26	12.9
Subtotal	321	100.0	202	100.0
	23.9%		27.6%	
<i>Community influential</i>				
University or research institute	96	56.8	124	62.3
Management non-profit organization	15	8.9	15	7.5
Medical services or foundation	20	11.8	7	3.5
Philanthropy or community foundation	18	10.7	22	11.1
Historical or cultural organization	0	0.0	11	5.5
Community leader	20	11.8	20	10.1
Subtotal	169	100.0	199	100.0
	12.6%		27.2%	
Total	1342		731	
	100.0%		100.0%	

H₀: No association between gender and resource dependence classification. $\chi^2_{3 \text{ d.f.}} = 127.02$; $pr < 0.0001$.

committees and CEOs to expand the list of suitable candidates. These individuals may also reflect the United States' global leadership in nominating qualified females, regardless of nationality, as prior work has identified U.S. firms as the most likely among several industrial countries to have women directors (Burgess and Tharenou, 2002). A third possibility is that the presence of foreign nationals on the board, male or female, may be associated with the extent of the firm's business activities abroad,

trade relationships, and mergers and acquisition activity.

Firms value specialists for their specific expertise and/or contacts. Members of this group hold 27.6% of the female-held directorships vis-à-vis 23.9% male board members. Knowledge of or access to the capital markets either through the investment banking community (including venture capital, private equity, hedge funds and money management) or commercial banking appears to be a highly

desirable personal asset, as this subset of women hold 36.6% of the directorships and the sampled men 52% of board seats. The greatest within class proportion (33.7%) of women in this group are those having held significant executive or legislative positions in federal or state government. Twenty-seven women are lawyers or judges, seven are involved in public relations or advertizing, and 26 are industry-related specialists not affiliated with a research institution or university.

Community-influential women, even when they do not serve in a corporate role external to the firm they direct, provide valuable insight and communication on issues and problems that confront and impact their communities. Their position and status also increases the legitimacy and prestige of the board. Female community leaders hold 27.2% directorships whereas community influential males represent only 12.6% of the sampled men. Women professors, administrators and researchers associated with a university or research institution make up 62.7% of this group. Women who lead non-profit organizations like the American Red Cross, Girl Scouts of America, UNICEF or the National Geographic Society hold 15 seats. Another 40 board members are identified with a medical foundation or service (7), philanthropy, community or charitable foundation (22), or a historical/cultural group or organization (11) such as the American Museum of Natural History or the Los Angeles Museum of Art. Women, who typically identify themselves as a private investor or a civic leader without specifically identifying an organization or affiliation, constitute the remaining 20.

Table II also presents the results of a Chi-square test ($\chi^2 = 127.02$; $pr < 0.0001$) that shows an association between gender and resource dependence. This finding is similar to Hillman et al. (2002), who also report a significant relationship between white female ($n = 89$) and white male ($n = 99$) directors based on resource dependence categories. For comparison purposes, they report 88.9% (34.8%) business experts (including insiders), 6.1% (10.1%) support specialists, and 5.1% (55.1%) community influential males (females). Although their proportions differ from ours, so too are the sample sizes.

Logistic regression model

Presumably, corporations that value the expertise directors bring to the boardroom will also appoint or elect them to appropriate committees that guide the firm. This viewpoint contradicts the perspective of a figurehead, who has little or no committee involvement or who is used on committees tangential to firm strategy. These attributes, particularly when compared to prior published data, may yield insights into the genuineness of a corporate board appointment.

This study examines women directors among the firms that in 2002 comprised the U.S. Fortune 500. An empirical question is whether women have a say in setting corporate strategy and direction as measured by the odds of committee membership. Following B&P (1994), logistic regression is used to predict the odds of committee membership after controlling for firm characteristics and director experience and background. The model is:

$$\text{COMMITTEE} = f(\text{LMCAP}, \text{INSTPERC}, \text{GENDER}, \text{AGE}, \text{TENURE}, \text{INTRLCK}, \text{BUSXPRT}, \text{SUPPSPEC}, \text{COMMINFL})$$

Membership on the executive, nominating, compensation, audit, finance or public affairs COMMITTEE was measured dichotomously with 0 representing non-member and 1 member.

Two variables control for corporate factors that may affect committee membership. Larger companies tend to have more directors, thus providing increased opportunities for women to sit on a board (Burke, 2000a, b; Catalyst, 1995; Fryxell and Lerner, 1989; Singh and Vinnicombe, 2003) and serve on its standing committees. The natural log of market capitalization LMCAP is used to measure corporate size. There is also anecdotal evidence that institutional investors desire younger, more diverse board members (Browder, 1995; Dogar, 1997), the argument being that corporate performance improves as increased diversity leads to less insular board decisions and greater willingness to change (Mitchell 2002; Westphal and Milton, 2000). INSTPERC is measured as the proportion of institutional investors to shares outstanding as reported in Standard & Poor's *Security Owner's Stock Guide*, June 2002.

Personal factors associated with individual directors are obtained from biographical data reported in proxy statements and represented using a mixture of continuous and categorical variables. GENDER is a dichotomous variables with males defined as 0 and females 1. AGE and TENURE are measured in years. When a director has multiple U.S. Fortune 500 board appointments INTERLCK receives the value 1 and 0 otherwise. Resource dependence is also captured as a series of dichotomous variables. Business experts (BUSXPRT), support specialists (SUPPSPEC), or community influential (COMMINFL) are, respectively, labeled 1 or 0. Executives and owners of the firm (INSIDERS) are estimated as the intercept in the following regression models.¹ Interaction variables capture the joint effects of gender and personal experiences along with gender and the resource dependence needs of the firms. Table III presents summary statistics and correlations.

Logistic regression is appropriate for predicting scores of dichotomous variables using a mix of continuous (market capitalization, institutional percentage, age and tenure) and categorical variables (gender, interlocking board appointments and resource dependence). The procedure estimates the odds of a director being included on the respective committee with odds defined as the ratio of the predicted probability of service to the predicted probability of not serving. Partial regression coefficients indicate the direction and magnitude of each variables influence, holding the others constant, on the odds of committee membership (Cohen et al., 2003).

Directors for companies without a particular committee are excluded from a regression analysis. For instance, the bottom panel of Table IV shows 209 companies formally established an executive committee. Sampling results in a total of 1038 individuals of which 392 directors actually sit on this particular committee. It may seem peculiar that only 417 firms are represented in the audit committee results. Although the following list is not mutually exclusive, 13 firms were dropped as published board membership data was not available. An additional 17 organizations are not publicly traded and while some information about directors was available, other data like committee membership is missing. Finally, women sit as board members on only 429 of the 487

firms sampled. They have no representation on 12 audit committees. As our sample sizes are large, we do not believe that the results are significantly biased in one direction or the other.

Data analysis

Main effects

Parameter coefficients are reported in Table IV for all six committees. The chi-square statistic indicating model fit is significant in all cases, thus parameter coefficients can be meaningfully interpreted. In the regression models (columns 2, 5, 8, 11, 14 and 17), the significant and positive coefficients for gender suggest women are more likely to sit on audit (0.10 level) and public affairs (0.01 level) committees whereas the significant and negative coefficient (0.05 level) suggests men are more likely to have a place on the executive committee. The main effect of gender is not significant for nominating, compensation and finance committees. Thus, we reject our gender bias hypothesis (H1) concluding that boards favor female participation on some committees and not others. Previously, B&P (1994) found evidence that men were more likely to sit on executive, compensation and finance committees while women were more likely to find a place on public affairs.

A board member's personal experience is reflected in the age, tenure and interlock variables. Significance suggests how the odds that a board member will sit on a particular committee change as these variables are included in the regression equations. Board experience, as measured by TENURE, matters in appointing directors to serve on executive, nominating and compensation committees but not audit, finance or public affairs. AGE is not significant in the reduced models and only becomes a discriminating factor for compensation and public affairs committees after accounting for the interaction between gender and other variables measuring differences between individuals. Those who sit on another board (INTERLCK) are also likely to find a place on public affairs committees.

Hillman et al.'s (2000) resource dependence classification system is a measure of professional expertise. The parameter estimates for BUSXPRT, SUPPSPEC and COMMINFL measure the likelihood that an outside board member will sit on a

TABLE III
Summary statistics and correlations ($N = 2073$)²

Variables	Means	Stdev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. LMCAP	16.07	1.510	1.000															
2. INSTPERC	0.635	0.176	-0.016	1.000														
3. GENDER	0.353	0.478	-0.004	0.019	1.000													
4. AGE	58.592	7.820	0.053	-0.004	-0.246	1.000												
5. TENURE	7.376	6.465	-0.004	-0.005	-0.101	0.416	1.000											
6. INTERLCK	0.271	0.445	0.114	0.009	0.311	-0.054	-0.051	1.000										
7. BUSXPR.T	0.413	0.492	-0.030	0.005	-0.041	-0.029	-0.087	-0.025	1.000									
8. SUPPSPEC	0.251	0.434	-0.034	0.072	0.041	0.045	-0.013	0.081	-0.485	1.000								
9. COMMINGL	0.176	0.381	0.075	-0.055	0.184	0.088	0.053	0.127	-0.388	-0.268	1.000							
10. INSIDER	0.151	0.358	0.008	-0.036	-0.190	-0.107	0.080	-0.199	-0.354	-0.244	-0.195	1.000						
11. EXEC	0.201	0.402	-0.007	-0.053	-0.136	0.079	0.234	-0.061	-0.077	0.002	-0.085	0.195	1.000					
12. NOM	0.359	0.480	-0.047	0.040	0.064	0.099	0.117	0.074	0.079	0.015	0.091	-0.222	-0.007	1.000				
13. COMP	0.345	0.477	-0.070	0.023	-0.012	0.094	0.061	-0.018	0.190	-0.022	0.013	-0.248	-0.018	0.073	1.000			
14. AUDIT	0.419	0.494	-0.020	0.013	0.114	0.011	-0.038	0.108	0.136	0.071	0.048	-0.324	-0.093	-0.067	-0.103	1.000		
15. FINANCE	0.198	0.411	0.023	0.001	0.011	0.012	0.056	0.022	-0.027	0.087	-0.020	-0.048	0.062	-0.045	-0.073	-0.049	1.000	
16. PUB	0.142	0.350	0.162	-0.026	0.079	0.068	0.036	0.122	-0.060	0.049	0.106	-0.088	-0.007	0.007	-0.063	-0.012	0.040	1.000.
AFFAIRS																		

Correlations $\geq |0.060|$ significant at 0.01.

Correlations $\geq |0.045|$ significant at 0.05.

Correlations $\geq |0.038|$ significant at 0.10.

TABLE IV
Logistic regression: effect of gender on committee membership

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
INTERCEPT	2.260*	2.310*	2.367*	2.310*	2.367*	2.310*	2.367*	2.310*	2.367*	2.310*	2.367*	2.310*	2.367*	2.310*	2.367*	2.310*	2.367*	2.310*	2.367*
LMCAP	-0.111*	-0.113*	-0.116*	-0.113*	-0.116*	-0.113*	-0.116*	-0.113*	-0.116*	-0.113*	-0.116*	-0.113*	-0.116*	-0.113*	-0.116*	-0.113*	-0.116*	-0.113*	-0.116*
INSTPERC	-0.287	-0.337	-0.329	-0.337	-0.329	-0.337	-0.329	-0.337	-0.329	-0.337	-0.329	-0.337	-0.329	-0.337	-0.329	-0.337	-0.329	-0.337	-0.329
GENDER	-0.401*	-0.229	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304	-0.304
AGE	-0.005	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004
TENURE	0.109^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^	0.107^
INTRLCK	0.058	-0.203	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209	-0.209
BUSXPRT	-1.532^	-1.507^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^	-1.492^
SUPPSPEC	-1.238^	-1.212^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^	-1.304^
COMMINFL	-1.913^	-1.865^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^	-1.759^
FEMAGE	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008
FEMTENURE	0.009	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
FEMINTRLCK	0.600#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#	0.586#
FEMBUXPRT	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013
FEMSUPPSPEC	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.298
FEMCOMMINFL	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200	-0.200
Likelihood Ratio	191.9^	194.9^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^	196.2^
N companies	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209
NN Obs	1038	1038	1038	1038	1038	1038	1038	1038	1038	1038	1038	1038	1038	1038	1038	1038	1038	1038	1038
Response = 1	392	392	392	392	392	392	392	392	392	392	392	392	392	392	392	392	392	392	392

^Significant at 0.01.

*Significant at 0.05.

#Significant at 0.10.

particular committee. The odds that a member from this taxonomic classification will serve increase with the magnitude of the coefficient, *ceteris paribus*. The sign and significance of the intercept show the status of insiders on committee membership.

Lack of experience may be one reason women are not well represented on executive committees (Kesner, 1988). As previously discussed, we find that gender discriminates amongst executive committee members, supporting B&P's (1994) findings that after controlling for experience women were still unlikely to find a spot at the executive committee table. Odds are that insider status is a prime criterion meriting executive committee membership, as the intercept is significant and positive, and all resource dependence classifications for outsiders significant and negative. The fact that women do not have a significant presence on this committee may not be as important in the future as may have been true in the past. Some experts have noted both the decline and a diminished role for executive committees amongst Fortune 500 companies (Kenny, 2004).

Since passage of Sarbanes–Oxley with its emphasis on director independence and financial integrity and transparency, the three most important committees are nominating, compensation and auditing (Kenny, 2004). Since November 2003, the New York Stock Exchange has required listed companies staff these committees with independent directors. In our 2002 data, significant and negative intercepts are reported for compensation and audit committees, but not the nominating committee, suggesting that insiders did not have a significant numeric presence on these two committees even before the NYSE rule change. Parameter estimates of the resource dependence variables are significant and positive for all models. Although not directly comparable, B&P (1994) also show a significant outsider presence on these three committees. Note that our data precede Sarbanes–Oxley, which implies that business may already have been responding to market forces pushing them towards positive self-governance even before this piece of legislation. The Blue Ribbon Committee on corporate audit committees makes note of this self-improvement by boards in monitoring management activity (Millstein, 1999, p. 5, n21). However, in the case of the compensation committee, we should point out that changes in 1993 to IRS regulations [§162(m)] disallowed tax

deductibility of excessive (over \$1 million) executive compensation in cases where insiders participate on the compensation committee.

The past 20–25 years has seen an evolution in membership of the nominating committee. In 1980, the American Bar Association Committee on Corporate Laws recommended nominating committees should consist entirely of independent directors, but some committee members held the belief that CEOs should at least participate, if not have an active say, in approving who its members put forth as candidates (Business Lawyer, 1980). In practice, the latter viewpoint held sway. Vafeas (1999) documents that almost half (47.3%) of the 330 U.S. companies he examined included insiders on their nominating committees. Furthermore, O'Neal and Thomas (1995) report that most CEOs disagree with the suggestion that nominating committees should be composed solely of outside directors. By 2003, however, major stock exchanges in the United States would pass rules requiring nominating committees composed entirely of independent directors (e.g., NYSE Listed Company Manual, §303A, ¶4). In our study, the intercept is not significant and negative which suggests that there still exists an insider presence in 2002. The magnitude of the resource dependence coefficients further suggests that community influential directors have a strong presence. This finding would be consistent with Braiotta and Sommer's (1987) argument that its members need not possess some desirable characteristic like financial acumen as would be true for membership on an audit or financial committee. Business experts and support specialists may be less likely to serve to avoid any suggestion that company affiliations will affect their judgment about the independence of nominees (Braiotta and Sommer, 1987).

Executive participation would compromise a compensation committee's independence and could result in contracts skewed in management's favor (Vafeas, 2003). However, that point of view has not always been held or the prevailing practice. In 1981, for example, the SEC found approximately 15% of committee members had a 6(b) relationship [insiders and affiliated board members who have a significant creditor, supplier or customer relationship with the company (in Braiotta and Sommer, 1987, p. 67)]. Insider participation on compensation committees is documented by Newman and Mozes (1999), but the

trend is away from seating insiders (Anderson and Bizjak, 2003; Klein, 1998; Vafeas, 2003). Vafeas (2003) documents a steady decline in insider participation on compensation committees for 271 U.S. firms from 6.05% in 1991 to 1.42% in 1997 with a corresponding increase in independent directors. Within the independent director grouping, however, he notes a decrease in the number of public directors serving and an increase in representation by executive employees of other firms, who potentially may be more knowledgeable about executive compensation than your typical public director. Our findings that insider participation is significant and negative are consistent with his results. Odds are greatest that compensation committee members will be outside business experts, who are probably more capable at understanding and reviewing complex executive compensation issues having been similarly rewarded for performance at their own companies (Braiotta and Sommer, 1987).

In 1977, the SEC approved an NYSE rule requiring all listed domestic firms to establish an audit committee comprised solely of independent directors free from any relationship that would interfere with the exercise of independent judgment as a committee member. A recent report by the Blue Ribbon Committee of the American Bar Association put forth 10 recommendations designed to improve the committee's monitoring of the company's financials. Boiled down, those suggestions include: (1) committee members should be free (unaffiliated) and independent of management's influence; (2) making the operation of the committee more effective; and (3) improving the mechanisms for discussion and accountability among committee members, outside auditors and management (Millstein, 1999). We can only assume that in the spirit of good corporate governance and cognizant of their increased liability, most boards strive to appoint financially literate directors in keeping with recommendations 2 and 3 above. The results do show that insiders are not associated with the committee. The parameter estimates for the resource dependent variables suggest an equal likelihood that its members may be business experts, support specialists or influential within the community.

B&P (1994) provide evidence that men are more likely to be selected to serve on finance committees based on 1983 data. Our results using 2002 board

composition no longer support that conclusion. Those selected to serve on finance committees tend to be support specialists. Recall that this grouping (see Table II) was 52.0% (36.6%) male (female) engaged in investment or commercial banking. There are several reasons why gender-bias may have disappeared. First, Sarbanes-Oxley requires that one member of the audit committee be a financial expert. This has placed a premium on being financially savvy, and women executives are represented in fairly large numbers in finance and auditing (Weisul, 2003). Some 8.7% of companies in the Standard & Poor's 500 now have female CFOs (Krantz, 2004) and 11.4% of partners at the 25 largest accounting firms are women (SmartPros Editorial Staff, 2000).

The basic responsibility of public affairs committees is to advise and assist the board on public policy issues and ethical concerns that could affect significantly the interests of the corporation. Its focus tends to be broader than merely the economic perspective of maximizing stockholder wealth. Instead, stated goals and objectives are usually meant to enhance the welfare or utility of the company's constituencies including shareholders, employees, suppliers, communities and the environment. B&P (1994) report women are more likely to have a seat on this committee. We not only find similar evidence of a gender effect but also show a significant likelihood that committee members will be support specialists or influential in the community. There is no evidence to suggest that significant numbers of business experts sit on public affairs committees.

Two variables control for company factors affecting corporate boards. LMCAP is significantly negative for all regressions except finance and public affairs. Fryxell and Lerner (1989), Catalyst (1995) and Burke (2000a, b) have shown that larger companies tend to have more directors. Conversely, not only do smaller companies have smaller boards, but we also document that their directors sit on fewer committees. We interpret these estimates as suggesting that, even though large corporations have more committee opportunities than small companies, there is a decreasing likelihood that one will be appointed to sit on the executive (or nominating, compensation or audit) committee. Despite calls by institutional investors (INSTPERC) that boards look beyond the traditional white male corporate executives when seeking new members, there is no

significant evidence to suggest that their influence extends into the boards' operations and committee structure.

Interactions

Interaction terms, formed as the products of other predictors, may have an additive effect on the predictive probability of the logit (multiplicative in the odds) over and above the contribution of the individual variables alone (Cohen et al., 2003). Columns 3, 6, 9, 12, 15 and 18 reveal the interaction between gender and the personal experience variables. Columns 4, 7, 10, 13, 16 and 19 add interactions between gender and the resource dependence variables. Significant coefficients on the interaction terms indicate whether the odds of membership on a committee vary with a director's gender. We find some evidence to reject our resource dependence hypothesis (H2), concluding that boards are cognizant of their female peer's external linkages when appointing women to audit, finance and public affairs committees. There is no evidence to suggest that the interaction of gender and the resource dependence variables is significant in a female member's appointment to the executive, nominating or compensation committee.

All interactions of gender with the resource dependence variables are negative and significant for the audit committee. These results suggest that men tend to gain more from their connections to the external environment than women when it comes time to appoint audit committee members. The interactions of gender and age (FEMAGE) and women influential within the community (FEMCOMMINFL) are significant in discriminating membership on the finance committee. In the former case, we interpret the coefficient as suggesting that it is the younger women that tend to have the specialized knowledge necessary to make a contribution. In the latter situation, this resource dependence category probably includes some of the highest educated women – university administrators, scientists and professors – and female heads of major non-profit organizations. Many of these individuals would be extremely cognizant of the importance of finance to an organization considering that they probably would not only have budget responsibilities

but also need to devote significant amounts of time to fundraising (e.g., see Hager et al., 2002). The combination of gender and background suggests that these women are evaluated more positively vis-à-vis men with this background.

Women tied to other boards (FEMINTERLCK) are significantly more likely to sit on the executive committee and significantly less likely to be asked to serve on the public affairs committee in a comparison to a man with multiple board appointments. Executive committees apparently value the insights and experience women, who serve on boards of other companies, bring to the table. Multiple directorships also mean additional demands on time. On average, directors spent 188 hours per year on board issues in 2004 (Lichtenberg, 2005). It is conjecture only as the data does not specifically permit this comparison, but it may be that being asked to serve on a public affairs committee, in addition to one's other responsibilities, would be very difficult. A similar conjecture may also explain why women support specialists (FEMSUPPSPEC) are not likely to sit on public affairs committees. They already serve on audit and finance committees.

Limitations

It is important to note the potential limitations of this analysis. First, the U.S. Fortune 500 changes annually with 20–30 new companies entering the list as a similar number exit due to takeovers, mergers and acquisitions, liquidations or some other reason. Moreover, the mix of public to private firms or service to industrial companies is not static. Those changes make aggregate comparisons to earlier studies difficult as the statistics will vary with changes in the population. Also, public attention and increased scrutiny by the SEC directed towards this population suggests a possible large firm bias, as size is a consistent predictor for having women on boards (Burke, 2000a, b; Burgess and Tharenou, 2002).

Second, others have noted the difficulty in obtaining biographical information about directors (Burke, 1995, 1997; Carter et al., 2003; Mattis, 2000). While some work history and professional data can be gleaned from condensed biographies published by the company, a comprehensive data set including education, professional expertise and

background, and personal characteristics is not available for either gender. This type of private information has to be collected using questionnaires with the attendant low response rates. More importantly, we hypothesized experience affects the odds of committee membership. The lack of good, consistent quality data limits any inferences. As was noted by B&P (1994), experience is a "complicated and multifaceted construct that may vary by board and committee type" (p. 1470).

Third, we infer that committee representation is synonymous with director participation and contribution. Interesting questions arise centered on the roles assumed by women as they undertake board and committee responsibilities (Burke, 1994, b; Bradshaw, 1990; Sethi et al., 1981). Do women have a more active voice or agenda in some committees than others? (For example, see Briggs, 1998; Koretz, 1997, 2000; Williams, 2003.) How do women interact with their peers – female and male? What are the dynamics amongst the directors as a whole and within the committee separately? When statistics suggest gender-bias measured by participation is no longer a systematic problem, then the issue becomes whether it still exists in the behavior and interaction amongst group members.

Conclusion

We examine the prevalence, background and committee activity of female and a random sample of male directors during 2002. Early in this paper, we quote Felice Schwartz, Catalyst's founder (1980), who notes that two decades would need to elapse before women assumed significant proportions in upper management, and another 5–10 years must pass before women would acquire the experience and broad perspective as officers that is desirable for the board's planning function and necessary for board appointment. Early studies by Kesner (1988) and B&P (1994) find that women are less likely than men to serve on key corporate committees. Their conclusions are based on board and committee membership obtained from a sample of Fortune 500 companies for the years 1983 and 1984, respectively. Our analysis based on the 2003 U.S. Fortune 500 companies allows a unique intergenerational perspective on the progress of women directors in

corporate governance given Ms. Schwartz's prediction.

Based on our analysis, we proffer several observations. First, women continue to make real progress towards attaining a board presence in the U.S. Fortune 500 since the last published studies. Our study reports that women directors hold 13.2% of U.S. Fortune 500 companies in 2003. Only 3.6% of members were women in Kesner's (1988) sample of 250 companies and 8.3% in B&P's (1994) final set of individuals from 133 companies. Second, examination of the directors' professional backgrounds shows that these females are as highly qualified as their male counterparts. The status and prestige these women bring to various boards originates from positions of authority and power in public and private businesses, government, law firms, non-profit organizations and universities. Using data from two decades later, we show the joint proportion of men (67.1%) and women (66.8%) categorized as business experts or support specialists approximately equal. In contrast, both Kesner (1988) and B&P (1994) show that women are significantly less likely to have business occupations. It should be noted, however, that these results are not strictly comparable due to differences in samples and classification schemes.

Third, females are less likely than males to find a place on the executive committee and more likely to sit on public affairs-type committees. Gender is not a significant factor for placement on nominating, compensation, finance, and generally audit (as the evidence is weak) committees. Those findings are a change from results reported in earlier studies that find female directors relegated to low-profile committees either due to lack of experience or gender bias (B&P, 1994; Kesner, 1988). Fourth, our results suggest some relationship between committee assignment, gender, and the resource dependence role of directors.

Our findings in combination with U.S. Department of Education statistics provide another perspective on the growth in female board membership and activity in the past few decades. Table I shows the average age of women directors is 56. These women, on average, graduated high school in 1964 and were awarded bachelor's degrees in 1968. Most likely pursued a graduate degree sometime thereafter, as Hillman et al. (2002) document that female board members tend to be better educated than their

male peers. In 1976, this group would have averaged 30 years in age. Earned masters degrees in business totaled 42,054 that year – only 4909 (11.7%) awarded to women. Ten years later, the number of MBAs had increased to 66,689 including 31.1% awarded to women. Similar increases are reported in law. The number of new female attorneys comprised 19.2% of the 32,293 graduates in 1976 and 39% of those 35,844 earning their J.D. in 1986 (U.S. Department of Education, 2002). It is generally those women graduating in 1976 and earlier that are making their presence known on the boards of the U.S. Fortune 500 today. These are the female executives and professionals alluded to by Schwartz in her 1980 prediction.

Those women born in the late 1950s and early 1960s should start becoming a factor in boardrooms sometime around the year 2010 – a topic for future research. In the meantime, the quality of corporate boards and corporate governance should continue to improve as capable female executives increasingly augment the pool of existing candidates for corporate board positions and nominating committees recognize their qualifications.

Notes

¹ Note that the four alternative resource dependence classifications are fully specified by three dummy variables with the fourth implicit. The introduction of a separate insider classification would add a non-independent equation in the derivation of the least squares estimators (Pindyck and Rubinfeld, 1991, pp. 106–108).

² Insider status is estimated as the intercept in the regression models. The mean, standard deviation and correlation with other variables are provided herein because of its importance as a resource dependence classification variable.

References

- Adler, N. J.: 1984, 'Women in International Management: Where Are They?', *California Management Review* **26**(4), 78–89.
- Anderson, C. A. and R. N. Anthony: 1986, *The New Corporate Directors: Insights for Board Members and Executives* (John Wiley & Sons, New York).
- Anderson, R. and J. Bizjak: 2003, 'An Empirical Examination of the Role of the CEO and the Compensation Committee in Structuring Executive Pay', *Journal of Banking and Finance* **27**(7), 1323.
- Anonymous: 1980, 'The Overview Committees of the Board of Directors', *Business Lawyer* **35**, 1335–1342.
- Anonymous: 2004, 'One in Nine Corporate Directors of FP500 are Women in Latest Count', *Women in Management Review* **19**(5/6), 276.
- Anonymous: 2005, 'Getting Women on to UK Boards', Available online at http://www.womenandequality-unit.gov.uk/boardroom_diversity/index.htm.
- Baysinger, B. and H. Butler: 1985, 'Corporate Governance and the Board of Directors: Performance Effects of Changes in Board Composition', *Journal of Law, Economics, and Organization* **1**, 101–124.
- Bergeron, D. M., C. J. Block and A. Echtenkamp: 2006, 'Disabling the Able: Stereotype Threat and Women's Work Performance', *Human Performance* **19**(2), 133–158.
- Bilimoria, D.: 2000, 'Building the Business Case for Women Corporate Directors', in R. J. Burke and M. C. Mattis (eds.), *Women on Corporate Boards of Directors: International Challenges and Opportunities* (Kluwer Academic Publishers, The Netherlands), pp. 25–40.
- Bilimoria, D. and S. K. Piderit: 1994, 'Board Committee Membership: Effects of Gender-based Bias', *Academy of Management Journal* **37**(8), 1453–1477.
- Bradshaw, P.: 1990, 'Women in the Boardroom: Two Interpretations', Faculty of Administrative Studies, York University, unpublished manuscript.
- Braiotto, L., Jr. and A. A. Sommer: 1987, *The Essential Guide to Effective Corporate Board Committees* (Prentice-Hall, Englewood Cliffs, NJ).
- Browder, D.: 1995, 'Shareholders are Valuing Diversity', *Directors and Boards* **19**(3), 12–15.
- Burgess, Z. and P. Tharenou: 2002, 'Women Board Directors: Characteristics of the Few', *Journal of Business Ethics* **37**(1), 39–49.
- Burke, R. J.: 1994a, 'Benefits of Women on Corporate Boards of Directors as Reported by Male CEOs', *Psychological Reports* **75**(1), 329–330.
- Burke, R. J.: 1994b, 'Women on Corporate Boards of Directors: Views of Canadian Chief Executive Officers', *Women in Management Review* **9**(5), 3–10.
- Burke, R. J.: 1995, 'Personal, Educational and Career Characteristics of Canadian Women Directors', *Equal Opportunities International* **14**(8), 1–10.
- Burke, R. J.: 1996, 'Why Aren't More Women on Corporate Boards?: Views of Women Directors', *Psychological Reports* **79**(3), 840–842.
- Burke, R. J.: 1997, 'Women Directors: Selection, Acceptance, and Benefits of Board Membership', *Corporate Governance* **7**(4), 374–378.

- Burke, R. J.: 2000a, 'Company Size, Board Size and the Numbers of Women Corporate Directors', in R. J. Burke and M. C. Mattis (eds.), *Women on Corporate Boards of Directors: International Challenges and Opportunities*. (Kluwer Academic Publishers, The Netherlands), pp. 118–125.
- Burke, R. J.: 2000b, 'Women on Corporate Boards of Directors: Understanding the Context', in R. J. Burke and M. C. Mattis (eds.), *Women on Corporate Boards of Directors: International Challenges and Opportunities* (Kluwer Academic Publishers, The Netherlands), pp. 179–196.
- Buttner, E. H. and D. P. Moore: 1997, 'Women's Organizational Exodus to Entrepreneurship: Self-reported Motivations and Correlates with Success', *Journal of Small Business Management* **35**(1), 34–46.
- Briggins, A.: 1998, 'Equity Lacking in the Boardroom', *Management Review* **87**(2), 6.
- Carter, D. A., B. J. Simpkins and W. G. Simpson: 2003, 'Corporate Governance, Board Diversity and Firm Value', *Financial Review* **38**, 33–53.
- Catalyst: 1995, *The CEO view: Women on Corporate Boards* (Catalyst, New York).
- Catalyst: 2003a, *Catalyst Census of Women Board Directors* (Catalyst, New York).
- Catalyst: 2003b, *Catalyst Census of Women Board Directors in Canada* (Catalyst, New York).
- Cohen, J., P. Cohen, S. G. West and L. S. Aiken: 2003, *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences* 3 (Lawrence Erlbaum Associates Publishers, Mahwah, NJ).
- Daily, C. M. and S. T. Certo: 1999, 'A Decade of Corporate Women: Some Progress in the Boardroom, None in the Executive Suite', *Strategic Management Journal* **20**(1), 93–99.
- Dalton, D. R. and I. F. Kesner: 1993, 'Cracks in the Glass: The Silent Competence of Women', *Business Horizons* **36**(2), 6–11.
- Daum, J.: 1998, 'Women on board!', *Chief Executive*, October, 40–43.
- Dogar, R.: 1997, 'Crony Baloney', *Working Women* **22**(1), 34–37.
- Ehrhart, N. L., J. D. Werbel and C. B. Shrader: 2003, 'Board of Director Diversity and Firm Financial Performance', *Corporate Governance* **11**(2), 102–111.
- Fama, E. and M. Jensen: 1983, 'Separation of Ownership and Control', *Journal of Law and Economics* **26**(2), 301–338.
- Fryxell, G. E. and L. D. Lerner: 1989, 'Contrasting Corporate Profiles: Women and Minority Representation in Top Management Positions', *Journal of Business Ethics* **8**(5), 341–352.
- Fondas, N.: 2000, 'Women on Boards of Directors: Gender Bias or Power Threat?', in R. J. Burke and M. C. Mattis (eds.), *Women on Corporate Boards of Directors: International Challenges and Opportunities* (Kluwer Academic Publishers, The Netherlands), pp. 171–177.
- Fuchs, D., M. M. Tamkins, M. E. Heilman and A. S. Wallen: 2004, 'Penalties for Success: Reactions to Women Who Succeed at Male Gendered-Typed Tasks', *Journal of Applied Psychology* **89**(3), 416–427.
- Hager, M., P. Rooney and T. Pollak: 2002, 'How Fundraising is Carried Out in US Nonprofit Organizations', *International Journal of Nonprofit and Voluntary Sector Marketing* **7**(4), 311–324.
- Heilman, M. E. and M. C. Haynes: 2005, 'No Credit where Credit is Due: Attributional Rationalization of Women's Success in Male-Female Teams', *Journal of Applied Psychology* **90**(5), 905–916.
- Hillman, A. J., A. A. Cannella, Jr. and R. L. Paetzold: 2000, 'The Resource Dependence Role of Corporate Directors: Strategic Adaptation of Board Composition in Response to Environmental Change', *Journal of Management Studies* **37**(2), 235–255.
- Hillman, A. J., A. A. Cannella, Jr. and I. C. Harris: 2002, 'Women and Racial Minorities in the Boardroom: How do Directors Differ?', *Journal of Management* **28**(6), 747–763.
- Jago, A. G. and V. H. Vroom: 1982, 'Gender Differences in the Incidence and Evaluation of Participative Leader Behavior', *Journal of Applied Psychology* **67**(6), 770–783.
- Kenny, R. M.: 2004, 'Executive Committee: A Vestigial Appendage', *Directors and Boards* **28**(4), 43.
- Kesner, I. F.: 1988, 'Directors' Characteristics and Committee Membership: An Investigation of Type, Occupation, Tenure, and Gender', *Academy of Management Journal* **31**(1), 66–84.
- Klein, A.: 1998, 'Firm Productivity and Board Committee Structure', *Journal of Law and Economics* **41**, 275–303.
- Koretz, G.: 1997, 'A Boardroom Gender Gap; Women Say They Get Short Shrift', *Business Week*, November 24, 32.
- Koretz, G.: 2000, 'Women in the Boardroom; Why Their Presence Can Be a Plus', *Business Week*, September 25, 30.
- Krantz, M.: 2004, 'More Women Take CFO Roles', *USA Today*, October 12.
- Kuczynski, S.: 1999, 'If Diversity, then Higher Profits?', *HR Magazine* **44**(13), 66–74.
- Lichtenberg, R.: 2005, 'Now is the Time for Women to ask for a Seat at the Table', *Canadian HR Reporter*, **18** (14), August 15, 18.
- Mattis, M. C.: 2000, 'Women Corporate Directors in the United States', in R. J. Burke and M. C. Mattis (eds.), *Women on Corporate Boards of Directors: International Challenges and Opportunities* (Kluwer Academic Publishers, The Netherlands), pp. 43–56.

- Millstein, I. M.: 1999, 'Introduction to the Report and Recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees', *Business Lawyer* **54**, 1057–1096.
- Mitchell, L. E.: 2002, 'Corporate Irresponsibility', *Benefits Canada* **26**(7), 23–25.
- NASDAQ Corporate Governance Summary of Rules Changes, Revised November 2003. Available online at <http://www.nasdaq.com/about/CorpGovSummary.pdf>.
- Nieva, V. F. and B. A. Gutek: 1980, 'Gender Effects on Evaluation', *Academy of Management Review* **5**(2), 267–276.
- Newman, H. and H. Mozes: 1999, 'Does the Composition of the Compensation Committee Influence CEO Compensation Practices?', *Financial Management* **28**, 41–53.
- NYSE Listed Company Manual, Section 3: Corporate Responsibility, 303A.00 Corporate Governance Standards. Revised November 3, 2003. Available online at <http://www.NYSE.com/audience/listedcompanies.html>.
- O'Neal, D. and H. Thomas: 1995, 'Director Networks/ Director Selection: The Board's Strategic Role', *European Management Journal* **13**, 79–90.
- Pfeffer, J.: 1973, 'Size, Composition, and Function of Hospital Boards of Directors: A Study of Organization—Environmental Linkage', *Administrative Science Quarterly* **18**, 349–364.
- Pfeffer, J. and G. R. Salancik: 1978, *The External Control of Organizations: A Resource Dependence Perspective* (Harper & Row, New York).
- Pindyck, R. S. and D. L. Rubinfeld: 1991, *Econometric Models and Economic Forecasts* (McGraw-Hill, Inc., New York).
- Schwartz, F. N.: 1980, 'From the Boardroom: More Women than Meet the Eye', *Harvard Business Review* **58**(2), 6–18.
- Securities and Exchange Commission: 1982, 'Analysis of Results of 1981 Proxy Statement Disclosure Monitoring Program,' Title 17 Code of Federal Regulations, sec. 241 (March), p. 38, in L. Braiotto Jr. and A. A. Sommer Jr.: 1987, *The Essential Guide to Effective Corporate Board Committees* (Prentice-Hall, Englewood Cliffs, NJ).
- Sethi, S. P., C. L. Swanson and K. R. Harrigan: 1981, *Women Directors on Corporate Boards* (Center for Research in Business and Social Policy, University of Texas at Dallas, Richardson, Texas).
- Singh, V. and S. Vinnicombe: 2003, 'The 2002 Female FTSE Index and Women Directors', *Women in Management Review* **18**(7), 349–358.
- SmartPros Editorial Staff, 2000: 'Survey: Women Partners Gaining Ground at Large Firms', available online at <http://www.accountingnet.com>, October 25.
- Steane, P. D. and M. Christie: 2001, 'Non-profit Boards in Australia: A Distinctive Governance Approach', *Corporate Governance: An International Review* **9**(1), 48–60.
- Taylor, E.: 2002, 'Family Firms Embrace Feminine Mystique – New Succession Models Take Daughters Into Account', *Wall Street Journal*, March 6, B5.
- Terborg, J. R. and D. R. Ilgen: 1975, 'A Theoretical Approach to Gender Discrimination in Traditionally Masculine Occupations', *Organizational Behavior and Human Performance* **13**, 352–376.
- U.S. Census Bureau, 2002 Survey of Business Owners, July 28, 2005.
- U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), 'Degrees and Other Formal Awards Conferred' surveys, October 2002.
- Vafeos, N.: 2003, 'Further Evidence on Compensation Committee Composition as a Determinant of CEO Compensation', *Managerial Finance* **32**(2), 53–70.
- Weisul, K.: 2003, 'Make Way for Madame Director: Corporate Reform is Creating Unexpected Openings for Women in the Boardroom', *Business Week*, December 22, 57.
- Vafeos, N.: 1999, 'The Nature of Board Nominating Committees and Their Role in Corporate Governance', *Journal of Business Finance & Accounting* **26**(1–2), 199–225.
- Westphal, J. D. and L. P. Milton: 2000, 'How Experience and Network Ties Affect the Influence of Demographic Minorities on Corporate Boards', *Administrative Science Quarterly* **45**, 366–398.
- Williams, R. J.: 2003, 'Women on Corporate Boards of Directors and their Influence on Corporate Philanthropy', *Journal of Business Ethics* **42**(1), 1–10.

Craig A. Peterson
Western Michigan University,
Grand Rapids, MI, 49503,
U.S.A.

James Philpot,
Finance and General Business,
Missouri State University,
Springfield, MO, 65897,
U.S.A.

E-mail: JamesPhilpot@MissouriState.edu

Copyright of Journal of Business Ethics is the property of Springer Science & Business Media B.V. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.