CHAPTER 12

Board Diversity

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INTRODUCTION

The board of directors is the most important decision-making body in a corporation. Boards are responsible for approving major strategic and financial decisions, such as mergers and acquisitions (M&As) and changes in capital structure, and also for the most important task of all, which is to hire and fire top executives. Not surprisingly, substantial research focuses on the workings of corporate boards. But researchers focus on varying aspects of boards. Some view boards as groups of diverse individuals who have different biases and prejudices and whose behavior is affected by social constraints and power relations. This perspective suggests that director heterogeneity plays a key role in how boards function. In contrast, most researchers in economics consider the board as a single entity. The only heterogeneity considered is whether directors are independent from managers. All other director characteristics are usually deemed unimportant unless they are somehow related to (formal or real) independence. More recently, an increasing amount of economic research on board diversity can be found in the academic pipelines.

This chapter discusses current board diversity literature. The chapter mainly focuses on the recent contribution of economists to this topic but also provides some discussion of the noneconomic literature. Specifically, the chapter attempts to provide partial answers to three questions: What can be learned about diversity by studying boards? What can be learned about corporate governance from studies of board diversity? Is research on board diversity useful for policy discussions?

Directors may differ in many important characteristics, such as educational and functional background, industry experience, social connectedness, insider status, gender, and race. The goal of this chapter is not to discuss each of these characteristics in isolation but to use some examples to illustrate what can be learned from this research area. These examples are predominantly taken from the literature on demographic characteristics of directors. In particular, this chapter focuses mainly on gender and only briefly discusses other characteristics.

The chapter starts by discussing how economics and management scholars differ in their theoretical analyses of boards and board diversity more specifically. It then discusses a more practical issue: the costs and benefits of board diversity. After a brief overview of the literature on board diversity, the chapter examines

gender diversity in the boardroom in more detail. The end of the chapter provides a summary of its main points in the form of some tentative answers to the three questions previously stated.

BOARD DIVERSITY, ECONOMIC THEORY, AND MANAGEMENT THEORIES

In economics, theoretical analyses of corporate boards usually abstract from the process of how board members reach an agreement (Hermalin and Weisbach 1998; Adams and Ferreira 2007). Whenever directors are treated as heterogeneous, this typically occurs because of their status as corporate insiders or outsiders (e.g., Raheja 2005). Accordingly, most of the existing empirical research in economics disproportionately focuses on the distinction between independent and nonindependent directors as the main source of director heterogeneity (see, for example, the survey by Adams, Hermalin, and Weisbach [2010]).

Unlike economists, management scholars normally create taxonomies to describe different views of boards. For example, the view that boards perform an important monitoring role is usually called the *agency* perspective. As an alternative or a complement to the agency view, some management scholars propose a *resource dependence* perspective (Pfeffer and Salancik 1978). Directors are viewed as providing important resources to the firm such as connections to key outsiders (regulators, suppliers, financiers, and others) and advice and counsel. When considering directors as resource providers, various dimensions of director diversity clearly become important. Thus, most of the original research on board composition beyond independence has been done by management scholars, especially those in the resource dependence tradition.

A sense arises that the approach adopted by management scholars is richer than the one adopted by most economists. Management scholars have no difficulties working with many theories at the same time. For example, Hillman and Dalziel (2003) discuss the possible relations between firm performance and board composition accounting for both agency and resource dependence perspectives. In contrast, economists normally only consider the monitoring role of boards (the agency perspective in the management jargon).

Despite some remaining skepticism, the dual role of boards is now becoming a mainstream idea in the economics literature. For example, Adams and Ferreira (2007) develop a formal model of boards, taking into account the dual role of boards as monitors and advisers of management. Skeptics of the economic approach will point out that a mathematical model of the dual role of boards is unnecessary. After all, management scholars have always considered boards to have this dual role. But economists think differently. They would ask: Why can't firms separate the two roles? Why not hire a group of people to monitor the chief executive officer (CEO) and another one to provide advice and other resources?

The analysis in Adams and Ferreira (2007) explains why separating the two functions of boards is not always desirable. First, directors should perform these two tasks because the same information that is used for monitoring purposes is also relevant for advising managers. But a second and subtler reason exists for combining the two functions in one board: A CEO is more likely to reveal

firm-specific information to outside directors if he expects this information to improve the quality of advice provided by directors. Thus, a board with a superior advisory capability is likely to become better informed.

Today, both economists and management scholars tend to assign to boards the dual role of monitors and advisers of management. Whether boards perform such functions effectively is still a controversial issue. Powerful executives are likely to influence the nomination process in favor of those directors who are more likely to help managers achieve their self-serving goals (Hermalin and Weisbach 1998). Consequently, some view board composition as the outcome of choices made by executives in their attempt to reduce the effectiveness of monitoring by boards. This is also known as the *managerial power* view of boards.

What both the economic approach and the managerial approach have in common is the idea that firms choose directors for their characteristics. Different board compositions provide diverse connections with the outside environment (competitors, suppliers, investors, politicians, the media, and others). Director characteristics could affect directors' competence and incentives to monitor and advise managers, and thus could be chosen either to maximize shareholder value or to protect the interests of executives.

BENEFITS AND COSTS OF DIVERSITY

From a practical perspective, if firms want to choose the composition of their boards in order to maximize firm value, they should have at least a qualitative idea about the trade-offs of demographic diversity. This section discusses various potential benefits and costs of board diversity featured in the academic literature.

Potential Benefits of Board Diversity

- *Creativity and different perspectives*. People from different backgrounds and with different life experiences are likely to approach similar problems in different ways. Some evidence indicates that more diverse groups foster creativity and produce a greater range of perspectives and solutions to problems (e.g., Wiersema and Bantel 1992; Watson, Kumar, and Michaelsen 1993). That is, diverse groups are less likely to suffer from *groupthink*. Dissimilar group members may also contribute to group creativity by acquiring information through a more diverse set of sources. For example, minority members' networks may give them access to unique information sources (Granovetter 1973).
- *Access to resources and connections*. By selecting directors with different characteristics, firms may gain access to different resources. For example, directors with financial industry experience can help firms gain access to specific investors. Directors with political connections may help firms deal with regulators or win government procurement contracts. These reasons probably cannot explain a demand for some other demographic characteristics such as gender, age, or ethnicity.
- *Career incentives through signaling and mentoring*. Diversity in the boardroom may signal to lower-level employees that the company is committed to the promotion of minority workers or at least that their minority status

is not a hindrance to their careers in the company. Because mentoring is likely to be important for career advancement, boardroom diversity may also be beneficial for the careers of minority top executives, although whether outside directors engage in mentoring relationships with executives is not obvious. Because promotions at the highest levels are likely to be discussed in the boardroom, boardroom diversity is also a means of committing to a policy of nondiscrimination against minority managers.

- *Public relations, investor relations, and legitimacy*. Some firms may benefit more from conforming to societal expectations than others. For example, consumer goods firms may want to cultivate an image of social responsibility. Firms in which institutional investors comprise a larger fraction of their shareholder bases may surrender to investors' demands for board diversity. Those types of firms are more likely to pay attention to director demographics, especially gender and ethnicity. For those firms, having a more diverse board can be a means of acquiring legitimacy in the view of the public, the media, and the government.

Potential Costs of Board Diversity

- *Conflict, lack of cooperation, and insufficient communication*. The social psychology literature provides evidence on the relationship between demographic similarity and attraction (Zander 1979). In the management literature, Lau and Murnighan (1998, 328) develop the concept of group *faultlines* as "hypothetical dividing lines that may split a group into subgroups based on one or more attributes." Salient demographic characteristics may split groups into implicit subgroups. Demographic dissimilarity may limit communication among subgroups, create conflict, and reduce interpersonal attraction and group cohesiveness.

  In the case of corporate boards, perhaps a key problem associated with diversity is the possibility of communication breakdowns between top executives and minority outside directors. As Adams and Ferreira (2007) point out, outside directors rely on executives to gain access to firm-specific information. Executives may perceive demographically dissimilar directors as sharing different values and espousing dissimilar views. The reluctance of executives to share information with minority outside directors could compromise board effectiveness.
- *Choosing directors with little experience, inadequate qualifications, or who are overused*. An indirect cost of choosing directors mainly for their demographic characteristics is the possibility of neglecting other important characteristics. Take, for example, the case of gender diversity. Because the proportion of women in top executive positions is small but growing, a preference for female directors may lead to a board that is disproportionately young and little-experienced. Furthermore, because qualified minority candidates may be in short supply, minority directors are likely to accumulate more board seats than the average director. Busy directors are possibly less effective than non-busy ones.
- *Conflicts of interests and agenda pushing*. Some directors may be more interested in pushing their own personal agenda even at the expense of the

company's profits. Perhaps more problematic is the case in which directors also represent the interests of outsiders (for example, directors with financial industry connections). A more diverse board may be in greater risk of being influenced by directors with distinct personal and professional agendas. The cause of this risk is not diversity per se, but an insufficient alignment with shareholders' interests. An excessive focus on some characteristics (e.g., functional background) as a criterion for selecting directors may have the unintended consequence of appointing directors whose loyalties lie elsewhere.

A SELECTIVE OVERVIEW OF THE EMPIRICAL LITERATURE ON BOARD DIVERSITY

Management scholars with backgrounds in sociology and social psychology were among the first to conduct statistical studies of board composition. Pfeffer (1972) should perhaps be credited as the pioneer of this field. Pfeffer views boards mainly as a mechanism for co-opting other external organizations and individuals, which is consistent with his view of firms as dependent on external resources. He hypothesizes that board composition in terms of insiders and outsiders, the number of directors with financial expertise, and the number of lawyers on boards depends on the firm's need for creating links with the external environment (for example, the need to deal with regulators and banks).

Pfeffer's (1972) idea that the board is an instrument for dealing with the firm's external environment underlies much of the research in board diversity. For example, Agrawal and Knoeber's (2001) investigation of the appointment of directors with political connections is motivated by this idea. They find that firms in industries that are more dependent on the government have more directors with political connections.

Goldman, Rocholl, and So (2009) find evidence consistent with the hypothesis that the appointment of politically connected directors affects shareholder value. In particular, they find that a portfolio of firms with Republican directors outperforms a similar portfolio of Democratic firms after the 2000 presidential election. In a companion paper, Goldman, Rocholl, and So (2008) show evidence of at least one mechanism by which political connections can affect firm value: by affecting the probability of winning government procurement contracts.

While the case of politically connected directors fits well with the resource dependence view of boards, the case of directors with financial expertise is more complicated. Kroszner and Strahan (2001) discuss the potential conflicts of interests associated with the presence of bankers on boards. Güner, Malmendier, and Tate (2008) present evidence suggesting that firms with directors with financial industry experience tend to borrow too much with respect to their investment opportunities and to engage too frequently in value-destroying M&As. The authors claim that directors with financial expertise may distort their advice towards excessive borrowing and M&A activities in order to benefit commercial and investment banks.

As the case of bankers on boards suggests, the conflict-of-interest problem is the flip side of the resource dependence story. Bankers may be providers of resources to banks and not to the firms in which they serve as directors.

Knyazeva, Knyazeva, and Raheja (2009) study heterogeneity in directors' characteristics such as the number of board appointments, their experience in other firms and industries, and their equity ownership in the firm. They find substantial variation in board heterogeneity that is explained by industry- and firm-level variables. Once more, this evidence provides support for the resource dependence view. The authors also document correlations between some dimensions of board heterogeneity and firm performance.

The resource dependence view seems particularly useful when applied to characteristics such as functional background, experience, and social and political connections. But it is of limited appeal as a means to understanding the role of other demographic characteristics of directors. Understanding the role of characteristics such as gender or age requires paying attention to the impact of demographic diversity on director behavior and board dynamics.

James Westphal and his co-authors have produced some of the most original research on board diversity to date, using data from surveys of directors in large U.S. companies. Westphal and Zajac (1995) argue that CEOs prefer to work with demographically similar directors. Thus, CEOs who can influence the director nomination process will try to hire directors who are demographically similar to themselves. They also find evidence that CEO compensation is higher when CEOs and directors are demographically similar.

Westphal and Milton (2000) find that minority directors have more influence on board decisions if they have prior experience in a minority position on other boards and if they have social network ties to majority directors through common memberships on other boards. Westphal and Bednar (2005) argue that demographic homogeneity among directors (with respect to gender, functional background, education, and industry experience) increases the likelihood that directors will express their concerns in board meetings. Westphal and Stern (2006) show results suggesting that managers from a demographic minority group or without elite credentials are more likely to use interpersonal influence to obtain board appointments.

In summary, there are some important practical lessons from the academic literature on board diversity:

- Firms appear to choose directors for their characteristics; different types of firms choose different levels of director heterogeneity.
- Firms choose directors as a means to deal with the external environment.
- CEOs and top executives appear to prefer directors who are similar to themselves.
- Social networks and commonality of backgrounds appear to affect director appointments and the dynamics of the board.
- Directors from minority groups perceive their minority status as a hindrance to their work as a director.
- Minority directors may serve interests other than those of shareholders.

GENDER DIVERSITY IN THE BOARDROOM

This section discusses gender diversity in boards. The following relies extensively on research conducted by Adams and Ferreira (2009).

Women hold few corporate board seats. In the United States, women held 15.2 percent of Fortune 500 board seats in 2008 (Catalyst 2009). The percentage of female directors in Japan, Europe, Australia, and Canada is estimated to be 0.4 percent, 8.0 percent, 8.7 percent, and 10.6 percent, respectively (Equal Opportunity for Women in the Workplace Agency [EOWA] 2006; European Professional Women's Network [EPWN] 2004).

This relative underrepresentation of women in the boardroom has not gone unnoticed. Catalyst, a nonprofit organization committed to promote women in business, has been publishing a census of women in Fortune 1000 boards since 1993. The Higgs report (Higgs 2003) and the Tyson report (Tyson 2003) call for increased representation of women on British boards. In some countries, legislative initiatives to promote women on boards are gaining momentum. In Norway, since January 2008 all listed companies must abide by a 40 percent gender quota for female directors or face dissolution. Spain has enacted a law requiring companies to increase the share of female directors to 40 percent by 2015.

The remainder of this section provides an overview of the empirical evidence on female directors in publicly listed U.S. firms. The analysis is based on an unbalanced panel of director-level data for Standard & Poor's (S&P) 500, S&P MidCaps, and S&P SmallCap for the period 1996–2003, which is the same sample used in Adams and Ferreira (2009).

Women on Boards: Who Are They?

A first question is whether female directors are different from their male counterparts in terms of observable characteristics. Exhibit 12.1 provides some answers. As Exhibit 12.1 shows for a sample of U.S. firms from 1996 through 2003, female directors have more directorships and shorter tenure than male directors. They are also younger and less likely to be retired from their main occupation than male directors. These differences are all statistically significant.

These simple statistics are highly revealing. The evidence on tenure and age confirms the impression that female directors are, on average, less experienced, but also that there is a trend towards having more women on boards. Female directors are slightly busier than male directors, providing evidence consistent with the view that firms actively seek female directors but female directors are in short

Exhibit 12.1 Difference in Characteristics between Female and Male Directors

This table provides a contrast between women and men on four director characteristics. The sample consists of an unbalanced panel of 86,714 director-level observations from 1,939 U.S. firms (S&P 500, S&P MidCap, and S&P SmallCap firms) for the period 1996–2003.

Director Characteristic	Women	Men
Number of directorships	2.1	1.9
Tenure as director	7.2 years	10.0 years
Age	55.0 years	59.0 years
Percentage of retired directors	10%	19%

supply. The magnitude of the difference in the number of directorships appears small, perhaps suggesting that women might not be much busier than men. But the evidence on the proportion of retired directors again suggests that women might be busier; men are twice as likely to be retired as women.

Another characteristic in which male and female directors clearly differ is their status as independent. In the full sample of Adams and Ferreira (2009), the average proportion of independent directors is 63 percent; female directors are classified as independent in 80 percent of the cases.

The similarities must also not be overlooked. The average male or female director is above 55 years old, has two directorships, has been on the same board for at least seven years, and has another main occupation.

Characteristics of Firms with Women on Their Boards

An interesting issue is whether firms with and without female directors differ. There are several reasons this might be the case. For example, women may be more likely to be on the board of firms in particular industries, perhaps due to some industries having more diverse workforces.

Exhibit 12.2 provides summary statistics for the fraction of women on boards in selected two-digit standard industrial classification (SIC) codes. Female directors are less prevalent in firms that deal with infrastructure, energy, or electronics as compared to firms in consumer goods. Casual observation suggests that the consumers of the products from the latter five industries in Exhibit 12.2 are more likely to be diverse. Having a woman's perspective may be particularly valuable in such industries.

According to Hillman, Shropshire, and Cannella (2007), firms with female directors are larger and older, have more directors who sit on other boards with

Exhibit 12.2 Percentage of Female Directors in Selected Industries

This table presents the percentage of female directors, partitioned by industry. The sample consists of an unbalanced panel of 86,714 director-level observations from 1,939 U.S. firms (S&P 500, MidCap, and SmallCap firms) for the period 1996–2003.

Industry	N	Female Directors %
Special trade contractors	11	2
Oil and gas extraction	292	4
Transportation services	36	4
Water transportation	46	4
Electronic and other equipment	794	5
Paper and allied products	203	8
Eating and drinking places	169	9
Transportation by air	93	9
Furniture and home furnishings stores	58	10
Leather and leather products	40	14
Tobacco products	9	15
Apparel and accessory stores	164	15
Food stores	76	15
Real estate	6	16

female directors, and are in industries with a higher proportion of women in the workforce. Adams and Ferreira (2009) report that firms with female directors are larger, have more business segments, have larger boards, have worse performance in terms of Tobin's q (market value of assets over book value of assets) but better performance in terms of return on assets (ROA), and have lower stock return volatility than firms without female directors.

Do Women Change Boards?

Attendance at Board Meetings

Knowing much about what goes on in the boardroom is difficult. Minutes of meetings and voting outcomes are understandably treated as secret documents, when they exist at all. Thus, measuring the individual contribution of each director to the decision-making process is usually impossible. An exception exists with respect to attendance at board meetings. A Securities and Exchange Commission's (SEC) rule requires firms listed in the United States to disclose the names of those directors who missed more than 25 percent of the meetings in a year. Thus, identifying which directors had severe attendance problems in any given year is possible (Adams and Ferreira 2008).

The analysis in Adams and Ferreira (2009) suggests that female directors are significantly less likely to experience severe attendance problems. Furthermore, male attendance also appears to improve in boards with relatively more female directors. These results suggest that the addition of women to boards changes the behavior of all board members.

Of course, knowing whether attendance is important in practice is not obvious. But attendance behavior has improved dramatically after the Sarbanes-Oxley Act of 2002. The most recent data suggest that the proportion of directors with severe attendance problems is now almost zero. Thus, one of the consequences of the new emphasis on outside directors' responsibilities apparently was to eliminate absenteeism. The key lesson from the attendance data, however, is that more women on boards is associated with a more active board.

Board Committee Composition

Another way of trying to understand how women change boards is to see how they are deployed. Committees do most of the real work in boards. Unlike the board as a whole, board committees such as audit, nominating, corporate governance, compensation, and executive committees specialize in narrowly defined tasks. The first four committees are usually considered the most important monitoring committees (Kesner 1988; Adams and Ferreira 2009). The executive committee is mostly responsible for serving as a stand-in to act in lieu of a full board when immediate actions are needed, counseling the CEO, and overseeing the activities of other board committees (Kesner 1988).

Kesner (1988) has the pioneering work on the composition of board committees. She analyzes a cross-sectional sample of 250 Fortune 500 companies in 1983. In that sample, the proportion of female directors is a mere 3.6 percent. She finds only weak evidence that gender matters for committee appointments: Female directors are underrepresented in executive and nominating committees, but not in compensation and audit committees. She interprets the results with caution, admitting

that due to the small cross-sectional sample, she cannot conclude whether gender or other characteristics drive committee assignments.

Bilimoria and Piderit (1994) reinvestigate these issues in a cross-sectional sample of 270 Fortune 500 firms in 1984. They find that women are significantly less likely to be appointed to compensation committees, as well as finance and executive committees, but are more likely to be part of public affairs committees. Despite using a similarly small cross-sectional sample, they interpret their findings much more provocatively and claim to find evidence for sex-based discrimination in committee appointments.

Adams and Ferreira (2009) analyze the issue of committee membership using data during 1996–2003. Due to the size (more than 1,900 firms) and the panel nature of the data, they can provide results that are more reliable than the ones from the previous studies. In particular, their study controls for various firm and director characteristics as well as for time-invariant firm characteristics through firm fixed effects regression methods. Analyzing only monitoring committees, Adams and Ferreira find that female directors are more likely to be appointed to audit, corporate governance, and nominating committees than male directors. Yet female directors are less likely to be appointed to compensation committees than male directors.

These most recent data paint a more complicated picture of women in the boardroom. There is no clear sign of discrimination against women in monitoring committee appointments. If anything female directors appear to have a greater chance of being deployed to audit, nominating, and corporate governance committees than men. Still, women are underrepresented in compensation committees and they also do not appear to affect CEO compensation (Adams and Ferreira 2009). Westphal and Zajac (1995) argue that demographic similarity between CEOs and directors is associated with higher CEO compensation. Thus, CEO influence on the composition of board committees is one possible explanation for the relative underrepresentation of women on compensation committees. An open question for future research is whether the increasing number of women on boards will eventually lead to more women on compensation committees and whether that will affect CEO compensation.

Director Compensation Structure

Despite not having a discernible impact on CEO compensation, female directors appear to affect director compensation. Adams and Ferreira (2009) show that the proportion of overall director compensation that is paid in stock options and deferred shares is higher in firms with relatively more women on boards. However, there is no clear impact on the overall level of director pay. Whether equity-based compensation for directors is good or bad depends on one's view of how stock markets work. Stock ownership aligns directors' and shareholders' interests in relatively efficient markets, when no significant distinction between long-term and short-term shareholders exists.

Does Gender Diversity Affect Firm Outcomes?

CEO Turnover

One of the most interesting results in the board diversity literature is the impact of board gender diversity on CEO turnover. From a theoretical viewpoint, whether

and how diversity should matter for CEO turnover is unclear. Westphal and Bednar's (2005) *pluralistic ignorance* theory of boards suggests that demographic homogeneity among directors would make them more willing to take action after problems are encountered. Thus, according to this view, a more homogeneous board would take action more frequently after poor financial performance, perhaps replacing the CEO more often in such cases. The evidence in Adams and Ferreira (2009) suggests that the opposite is true: CEO turnover is more sensitive to stock return performance in firms with relatively more women on boards. This result suggests that boards with relatively more female directors are more likely to hold CEOs accountable for poor stock price performance.

Stock Return Volatility

Ferreira (2002) is the first to investigate the relation between gender diversity in the boardroom and stock return volatility. A positive relation between volatility and gender diversity is perhaps the most robust finding in this literature. Farrell and Hersch (2005), Hillman et al. (2007), and Adams and Ferreira (2009) also report a similar finding. Although this is a very robust finding, the literature has not yet fully addressed it. Further work is still needed to make sense out of this evidence.

Market Value and Operating Performance

No question has attracted more attention in this literature than the link between women on boards and the bottom line. Catalyst, a nonprofit organization seeking to promote women in business, regularly produces reports showing correlations between accounting performance and the presence of female directors on the boards of Fortune 500 firms. Those reports receive substantial media attention. The evidence is usually that the presence of women on boards correlates positively with measures of accounting performance such as return on equity (ROE). Despite the usual disclaimer that "correlation does not imply causation" that accompanies those reports, the language and the use of those reports implicitly suggest that having more women on boards is a way of improving financial performance. For example, Catalyst (2007, 1) states that "companies with more women board directors outperform those with the least by 53 percent." Most of the media coverage also interprets these results in a similar fashion.

Such evidence does not present an obvious case for the promotion of women in the boardroom. This point is further discussed in the conclusions. The following discussion presents the existing evidence in more detail.

Keeping in mind that Catalyst's reports are not scholarly research is important. Although academics help Catalyst researchers, the final reports from Catalyst do not undergo peer review and are not published in academic journals. The empirical findings in such reports are usually simple raw correlations without taking into account other possible determinants of firm performance. Furthermore, they are mostly cross-sectional and do not consider how performance changes after adding women to the board.

Academic literature exists that appears to give credence to Catalyst's results. For example, Carter, Simkins, and Simpson (2003) document a positive relationship between gender and ethnic diversity of the board and corporate performance, as proxied by Tobin's q. Carter, D'Souza, Simkins, and Simpson (2008) follow up that study and document additional evidence consistent with a positive impact of

gender diversity on the market value of firms. Erhardt, Werbel, and Shrader (2003) provide evidence that board diversity is positively correlated with accounting measures of performance. Some other papers fail to find any statistically significant results (Farrell and Hersch 2005; Rose 2007, using data from Denmark).

Adams and Ferreira (2009) show the results of regressions of Tobin's q and ROA on the fraction of women on boards. After controlling for a long list of possible covariates, a positive relation between performance and board gender diversity is revealed. Although the statistical significance of the estimates is not particularly impressive, the positive correlation between performance and board diversity is compatible with some previous results such as those of Catalyst and Carter et al. (2003).

To address the causation versus correlation issue, Adams and Ferreira (2009) consider the problem of omitted variables. Gender diversity could correlate with omitted firm-specific variables such as corporate culture. Firms that are more progressive may have better performances and also more female directors. One way of taking into account time-invariant firm characteristics is to run firm fixed effects regressions. This basically amounts to considering only how within-firm changes in board diversity correlate with changes in firm performance.

Adams and Ferreira (2009) show a surprising result: The inclusion of firm fixed effects flips the sign of the estimated coefficients on the fraction of female directors. That is, now the (conditional) correlation between performance (ROA and Tobin's q) and board gender diversity is negative and statistically significant (at the 10 percent level). Clearly, the fixed effects results suggest that firm-specific omitted variables are an important enough concern to cast doubt on a causal interpretation of the widely publicized positive relation between profits and women on boards.

Of course, the fixed effects results also do not establish the direction of causality. Past and expected future performance may influence firms' decisions to select female directors. Baysinger and Butler (1985, 114) argue that "top-performing firms may be willing to invite independent directors onto their boards in order to appear progressive." A similar argument could be made for the selection of women to boards. If female directors are appointed because of tokenism, boards may choose female directors when they believe they can afford to have tokens. By contrast, Ryan and Haslam (2007) argue that women face a "glass cliff" in that they are more likely to be appointed to leadership positions where change is required, for example, following poor performance. Finally, women may also use firm performance as a criterion for accepting a directorship. All of these arguments suggest that corporate performance could influence the proportion of women on the board and highlight the importance of disentangling causality.

A typical way of addressing the causality issue is by means of instrumental variables (IV) methods. These methods identify causality only under very strong and usually unrealistic assumptions. Thus, any claims of detecting causality by means of IV methods should be taken cautiously. Adams and Ferreira (2009) find that, if the number of male director connections to female directors on other boards is used as an instrument for the fraction of women on boards, the impact of an increase in the fraction of female directors on both Tobin's q and ROA is negative in their sample.

The key message from Adams and Ferreira (2009) is that the impact of board diversity on performance is likely to be heterogeneous: Some firms benefit from more diversity while others do not. They hypothesize that female directors are more likely to be truly independent from managers (the evidence supports this view) and as such more likely to be tough monitors. But because an excessive emphasis on monitoring can be counterproductive at times, additional monitoring can harm performance in firms that are otherwise well governed. Adams and Ferreira provide some suggestive evidence in this direction.

An alternative method for ascertaining causality is to look for exogenous changes in the environment forcing firms to change the composition of their boards. Ahern and Dittmar (2009) exploit the introduction of a mandatory 40 percent female quota on boards of Norwegian firms. They find that firms that adjust to this new level suffer a significant negative reduction in market value.

Some Methodological Issues

Unfortunately, some of the authors in this literature do not acknowledge the limitations of IV methods. Some appear to believe that using two- or three-stage least squares, generalized method of moments (GMM), and dynamic panel methods somehow solve the causality problems. These are all variants of IV methods and as such are only useful if the chosen instruments are valid. Contrary to what some believe, the validity of all assumptions necessary for identification cannot be tested by statistical methods.

Choosing instruments in an arbitrary fashion can lead to almost any result. For example, Carter et al. (2003) estimate a system of equations in which Tobin's q depends on gender diversity and gender diversity depends on Tobin's q. The excluded variables from the diversity equation are board meetings, a dummy indicating that directors receive stock compensation, insider ownership, and ROA. They provide no rationale for these identification assumptions. To put it simply, why should ROA be assumed not to affect board diversity?

Although so-called natural experiments such as the one provided by the introduction of gender quotas in Norway are a promising way of sorting out causality, they also have limitations. The main problem is the lack of a randomly chosen control group—that is, a group of firms that are not affected (or are expected to be less affected) by the proposed legislation. Ahern and Dittmar (2009) avoid this problem by considering changes in performance following large changes in board composition, exploiting the fact that not all firms adjust to the quota level at the same time. The problem with this approach is that the timing of the adjustment is endogenously chosen by firms. If the timing of the adjustment is driven by past or expected performance, this identification strategy may not be valid.

Board Diversity and Firm Performance: The Way Forward

The evidence in Adams and Ferreira (2009) is compatible with the view that board diversity has costs and benefits. Their evidence also suggests that the balance between these benefits and costs varies across firms. Further research on the impact of board composition on firm performance is likely to generate new insights about the potential costs and benefits of heterogeneity in director characteristics.

An example is the recent work by Anderson, Reeb, Upadhyay, and Zhao (2009). They analyze the impact of board heterogeneity on firm performance taking into account six director characteristics: education, experience, profession, gender, ethnicity, and race. To address endogeneity problems, they use the heterogeneity of the county of the firm's corporate headquarters as an instrument for board diversity and they also run first-difference regressions. They find an overall positive effect of their diversity index on Tobin's q in a sample of Russell 1000 firms in 2003 and 2005. Consistent with diversity having costs and benefits, they find that the impact of board diversity on performance varies with firm characteristics. In particular, the authors report that board diversity has a beneficial effect in more complex firms, but a detrimental one in less complex firms. Similarly, board diversity is particularly beneficial in firms with high levels of a proxy variable for CEO power.

SUMMARY AND CONCLUSIONS

We return now to the three questions asked at the beginning of this chapter.

What Do We Learn about Diversity by Studying Boards?

Diversity affects the way groups behave. The composition of boards seems to affect directors' attendance behavior and the number of scheduled board meetings. Demographic dissimilarity in the boardroom seems to affect incentives for replacing CEOs, the director nomination process, and the design of compensation systems.

The study of diversity also helps to understand discrimination in business situations. Some use research findings that women are underrepresented in some key board committees as evidence of discrimination. Because evidence from more recent data also suggests that women are overrepresented in some important committees, the overall findings of discrimination on the basis of committee assignments are weak.

Others view a positive relation between profits and board diversity as evidence of discrimination. *Taste-based* discrimination implies that firms forgo profits to avoid hiring minority workers. This is particularly plausible in the case of corporate boards because some firms may not be governed in the interests of shareholders due to agency problems. Research findings suggest that some firms would benefit from more diversity, but positive discrimination also exists, suggesting that some firms forgo profits in favor of a more diverse board.

What Do We Learn about Corporate Governance from Studies of Board Diversity?

Studies of board diversity indicate that boards matter. In particular, board composition is correlated with various firm characteristics and outcomes. Firms in various industries choose different board compositions. Board diversity seems to affect corporate performance, but in diverse ways depending on the characteristics of the firm.

The evidence supports the view that directors perform multiple functions. They monitor managers, give advice on strategic issues, and provide access to crucial external resources. The need to balance these multiple roles requires close attention to board composition in terms of directors' personal characteristics.

Board diversity research also reveals some potential flaws in existing governance practices. Research suggests that CEO pay is higher in firms in which directors are demographically similar to the CEO. Evidence also indicates that female directors are underrepresented in compensation committees that set CEO compensation, despite being overrepresented in other monitoring committees (Adams and Ferreira 2009). Knowing whether CEO pay levels would change if there were more diversity in compensation committees is an empirical issue that deserves further scrutiny.

Board Diversity: Policy Concerns

Some in academia and the media have used the positive association between certain measures of financial performance and the presence of women on boards to make a business case for women in the boardroom. For example, Nowicki (2009, 2) cites Catalyst's reports and asks "what can be done to increase the number of women directors, serving in the Fortune 500 in these challenging economic conditions, given the correlation between women directors and firm performance?" Tuhus-Dubrow (2009, 1) cites research on women on boards and top management teams to conclude that there is "a new reason for businesses to promote women: it's more profitable."

Whether such arguments are helpful in advancing women in the boardroom is doubtful. Making a business case for women in the boardroom on the basis of statistical evidence linking women to profits obviously creates the possibility of a business case against women if the evidence turns out to suggest that women reduce profits. Conservative newspapers have used the evidence in Adams and Ferreira (2009) in exactly this way. The evidence on Norwegian quotas is also likely to be used by antidiversity constituencies.

The research on board diversity is best used as a means to understand the costs and benefits of diversity in the workplace and to study corporate governance issues. There are fruitful lessons for the practice of business. But correlations between profits and diversity in either direction are unlikely to be of much guidance for policy debates.

DISCUSSION QUESTIONS

1. From the point of view of shareholders, what are the main costs and benefits of board diversity?
2. What are the key findings from the board diversity literature?
3. Why does the proportion of female directors vary across industries?
4. What could explain the statistical evidence on the relation between profits and gender diversity in the boardroom?

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