

# Gender and Board Activeness: The Role of a Critical Mass

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## Abstract

This study analyzes detailed minutes of board meetings of business companies in which the Israeli government holds a substantial equity interest. Boards with at least three directors of each gender are found to be at least 79% more active at board meetings than those without such representation. This phenomenon is driven by women directors in particular; they are more active when a critical mass of at least three women is in attendance. Gender-balanced boards are also more likely to replace underperforming CEOs and are particularly active during periods when CEOs are being replaced.

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## 1. Introduction

In recent years, companies have been pressured – and at times required – to compose gender-balanced boards. For example, in the United States, and other countries, organizations such as Catalyst, Spencer Stuart, and Ernst & Young continuously track and publish statistics on the representation of women on boards. These statistics are used by the media and legislators, among others, to pressure companies to add more women to their boards.<sup>1</sup> In addition, several countries, including Norway, the Netherlands, France, Spain, and Malaysia, have already created laws enforcing gender quotas for boards.

Matsa and Miller (2012) and Ahern and Dittmar (2012) take a closer look at the case of Norway. Their research reveals that introducing a 40% gender quota for boards of directors led, in the short term, to the appointment of younger and less experienced female directors and to decreased firm value (Matsa and Miller, 2012) and profitability (Ahern and Dittmar, 2012).

The present paper seeks to contribute to the discussion on whether gender-balanced boards are different – and specifically, more active – than non-gender-balanced boards. This question is addressed using a novel dataset of minutes that document the board and board-committee meetings of eleven Government Business Companies (hereafter: GBCs) in which the Israeli government holds a substantial equity interest. The GBCs are for-profit companies that are explicitly required by law to maximize their profits. Their minutes are confidential, but were made available to the author ex-post.

The minutes recorded document the details of the meetings, including the statements made by every participant in each meeting. For each company, I examine minutes for one year between 2007 and 2009 – 155 board meetings and 247 board-committee meetings altogether. In these minutes, 2,459 issues were discussed. Hence, although the number of companies examined in

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<sup>1</sup> See for example “Boardroom Bound? Ten Steps to Get You There,” published in *Forbes* by Kay Koplovitz, 4/22/2015.

this study is limited, the data are rich.<sup>2</sup>

This database is used to evaluate the extent to which the gender composition of a board catalyzes the actions it takes. Minutes-data are ideal for examining the effect of gender on board dynamics for at least three reasons. First, unlike studies based on publicly available information, the minutes, which are quasi-transcripts, allow us to observe the actions of directors at their meetings, most of which are unobservable to outsiders. Second, using data on the attendance and the actions taken at each meeting, while controlling for firm-level characteristics, allows us to observe *within-firm* variation across meetings. Third, the GBCs whose minutes are examined have boards that are relatively gender-balanced, with roughly 37% women on average, and they have included a large proportion of women for almost two decades. This diversity is unique, as women directors average only 5%–17% of most boards of directors (Catalyst, 2014).<sup>3</sup> Such boards are ill-suited to study the effects of diversity beyond very low levels of female participation.

As a point of departure, I assume that the impact of gender most closely resembles a step function, meaning that once a certain minimal threshold of gender-balance is crossed, gender-balance will increase the productivity of a team or, in this case, a board. The step function modeling is based on the critical-mass theory introduced by Kanter (1977), who argues that only once the minority gender comprises at least 35% of a team, thereby creating a gender-balanced team, will gender diversity enhance team performance. The critical mass theory argues that the minority gender members are not as productive as they could be when they comprise less than 35% of a team because they are reduced to symbolic representatives, or tokens, of their social category. Based on the critical mass theory, Rosener (1995), Shrader et al. (1997), and Kramer et al. (2006) argue that in board meetings, a critical mass of at least three women directors (which constitutes approximately a

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<sup>2</sup> See Schwartz-Ziv and Weisbach (2013) on the board dynamics documented in this database.

<sup>3</sup> For example, in the United States, in 2013, 16.9% of the directors of Fortune 500 companies were women (Catalyst, 2014).

third of most boards) will catalyze board activeness/performance.

Following the critical mass theory, I examine whether the existence of a critical mass of at least three women directors – and also one of at least three men directors – does, indeed, catalyze board and directors’ activeness. I also study how it relates to “observable” outcomes, such as CEO turnover. Although the critical mass theory emphasizes the importance of a critical mass of women, I choose to address how a critical mass of *both* genders relates to board activeness, in order to understand (to the extent possible given the variation in the data), whether the critical-mass effect applies to both genders.

Board activeness is measured using two variables: based on the minutes-data, for each of the 2,459 issues discussed, I document whether the board (1) requested to receive further information or an update and (2) whether it took an initiative, such as proposing what steps should be taken. These two actions reflect the intensity of the boards’ work, both in monitoring (as measured by the first variable), and in being involved in managing the company (as measured by the second variable). I examine how the gender composition of the directors attending a meeting relates to the likelihood of a board taking each of these actions. The empirical results indicate that boards are most active when they are relatively gender-balanced – when at least three men and three women directors are in attendance, a condition I term a “dual critical mass.” Boards with a dual critical mass are found to be at least 79% more likely to request further information or an update or to take an initiative than boards without a dual critical mass.

One potential concern is that defining a gender-balanced board as one that includes at least three directors of each gender attending a board-meeting means that any board that has less than six members will not be defined as gender-balanced. To address this concern, I re-estimate the results using an alternative definition for critical masses, which also follows the critical mass theory but is not sensitive to the board’s size. This alternative definition defines boards as gender-balanced if 35%–65% of the

attending directors are women. The results remain robust and significant when this alternative definition is used, further supporting the conclusion that gender-balanced boards are more active than non-gender-balanced boards.

An additional potential concern is that non-random attendance might be driving the results. Perhaps one gender – or both – is particularly likely to attend meetings in which a high – or perhaps low – level of activeness is expected to be required. This concern is addressed using instrumental variables (IVs) that instrument for the likelihood of a critical mass of women and/or a critical mass of men attending a given board meeting. Specifically, I use two IVs that document the number of women directors and men directors who were invited to at least one board-committee meeting scheduled on the same day as a particular board meeting at which a particular issue was discussed. These instruments exploit the reality that GBC directors have a higher incentive to attend board meetings held on days when they also have a board-committee meeting scheduled, as the compensation GBC directors receive depends only on the number of (board and committee) meetings they attend. When using these IVs, I still find that boards are most active when they are gender-balanced.

Next I examine whether the increased board activeness documented occurs especially because the men directors, or perhaps the women directors, are more active when boards are gender-balanced. To do this, I attribute all actions taken by a single director to that specific director and, thereby, also to the gender of that director. Consistent with the critical mass theory that argues that a member of the minority gender will be more active if a critical mass of his or her own gender is present, I find that women directors in particular are likely to be more active at board meetings if a critical mass of at least three women directors is in attendance.

Finally, I examine both on the typically observable level, and on the typically unobservable level, how critical masses relate to the board's work during periods when CEOs are being replaced. The analysis of the generally observable level is based on a panel data-set of the universe of the 34

GBCs for the 2000–2009 period. This analysis reveals that GBCs that have weak financial performance and whose boards include a dual critical mass are significantly more likely to experience CEO turnover. Consistent with these patterns, also on the generally unobservable level (i.e., at the board’s meetings), boards are found to be particularly active during periods in which GBCs are in the process of replacing their CEOs if a dual critical mass is in attendance.

To conclude, the findings of this study document that boards with a dual critical mass are more active than boards that do not have a dual critical mass, particularly because the minority gender (women) is more active when the board includes a critical mass of their own gender. Gender-balanced boards are also particularly active during crucial times, such as CEO turnover. These results suggest that gender-balanced boards may be invaluable particularly when a board’s involvement is needed.

## **2. Literature Review**

### **2.1. Gender Composition and the Outcome of the Work of Teams and Boards**

Why should gender affect how a board or a team operates? Prior studies have documented three potential channels. The first channel is the critical mass channel, which emphasizes that the minority gender (in practice – women directors) may feel more comfortable expressing opinions if a sufficient number of the minority gender is present. Kanter (1977), who proposed the critical mass theory, argues that when women are “tokens,” comprising only a marginal fraction of a team or an organization, they are treated as female representatives rather than as individuals. Kanter argues that this increases the pressure on “tokens,” hindering their ability to perform optimally. Kanter argues that once women comprise at least 35% of a team, thereby creating a relatively gender-balanced group, gender diversity will enhance team performance.

Following Kanter, Rosener (1995) and Shrader et al. (1997) argue that a critical mass of

three women directors is necessary in order to enhance boards' work (this critical mass equals approximately 35% of an average board). Indeed, based on interviews with directors, Kramer et al. (2006) find that once a board includes at least three women directors, the women directors no longer represent the "woman's point of view," and directors notice the women directors' opinions rather than their gender.<sup>4</sup>

The second channel through which gender may relate to the decision-making process of boards is peer monitoring between genders (a phenomenon documented for example, Hoxby (2000) and Lavy and Schlosser (2011)). With respect to boards, Adams and Ferreira (2009) find that men directors have fewer attendance problems as the fraction of women directors increases, which suggests that women directors monitor the men directors. Consistent with this channel, Allmendinger and Hackman (1995), Woolley et al. (2010), Bear and Woolley (2011), Hoogendoorn et al. (2011), and Apestegua et al. (2012) document that gender-balanced teams generally outperform non-gender-balanced teams.

The third channel through which the gender of directors may relate to the working of boards is the specialization, or relative advantage, channel. One gender of directors may be different from the other (Adams and Funk, 2012), and accordingly specialize in certain types of tasks, or be particularly good at certain types of tasks (Huang and Kisgen, 2013).

In sum, prior studies have frequently demonstrated that assembling teams or boards that include critical masses of each gender, that may monitor each other and specialize in different types

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<sup>4</sup> Tuggle et al. (2011) find evidence in support of this channel. Examining minutes of board meetings of American public companies, they find that the larger the fraction of women directors present, the more the women directors participate in board meetings. Torchia et al. (2011) also find evidence in support of the critical mass theory in their 2005–2006 study of Norwegian boards. They find that boards with a critical mass of three women directors are significantly more innovative. Similarly, Joecks, Pull, and Vetter (2012) examine 151 German companies between the years 2000 and 2005. They find a negative correlation between the percentage of women directors and firm performance (measured by ROE) when women directors comprise less than 40% of a board; however, once more than 40% of a board is made up of women, this correlation is reversed. Finally, Gupta and Raman (2014) establish that the larger the percentage of women directors, the more likely they are to support other women: the larger the percentage of women directors, the greater the likelihood of a female CEO/executive being selected.

of tasks, may help boost the output of teams and boards.

## **2.2. Gender Composition of Boards and Financial Performance**

The most common approach to understanding the relation between board composition and board performance – and ultimately firm performance – is to examine the association between board composition and firm performance. However, this approach is subject to significant endogeneity concerns (Hermalin and Weisbach, 2003).<sup>5</sup> In addition, prior studies have also documented inconsistent findings on the relation between boards' gender composition and financial performance (see Rhode and Packel (2010) who survey many of these studies).<sup>6</sup> However, most gender-board studies examine boards that have, on average, less than 10% women directors, because this is the most common gender composition of boards.

In one unique setting, boards did become gender-balanced. Norwegian legislation required that at least 40% of the directors of Norwegian firms be women as of 2008. Ahern and Dittmar (2012) establish that as a result of this this quota, younger and less experienced women directors were appointed, and the profitability of these firms decreased (Matsa and Miller, 2012), as did their firm value (Ahern and Dittmar, 2012). In sum, the literature shows that the relation between boards' gender composition and their financial performance is not always consistent.

## **3. Backgrounds of GBCs and Their Directors**

Thirty-four GBCs operate in Israel in various fields, including infrastructure, military technology, construction/housing, and services. Table 1 provides a list of the universe of the GBCs. All GBCs

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<sup>5</sup> For example, if a positive association between the fraction of women directors and firm performance is documented, this could be interpreted as an indication that women enhance firm performance. However, it is also possible that firms with strong firm performance are those that are able to attract the best women directors.

<sup>6</sup> For example, some studies find a positive association between the percentage of women directors and financial performance (e.g., Carter et al., 2003; Erhardt et al., 2003; Farrell and Hersch, 2005), some studies find no relationship (e.g., Shrader et. al, 1997; Carter et al., 2010), and other studies find a negative one (e.g., Adams and Ferreira, 2009).



are overseen by the Government Companies Authority, which represents the government in its role as a shareholder. The size of these companies varies greatly; some companies employ dozens of employees, while others employ more than ten thousand. The annual income of the smaller GBCs is just a few million USD; the corresponding figure for the larger firms is 1 to 4 billion USD.

Israel's 1999 "Corporation Law" applies to all corporations in Israel, including government-owned firms. The 1975 "Government Companies Law" (GCL) applies only to government-owned firms. Both laws stress that the board must determine the company's policy and monitor the CEO. Concerning "business companies," which are the firms examined in this study, the GCL explicitly requires that "the firm operate according to business considerations just as firms with no government shareholder do."<sup>7</sup> Furthermore, the GCL specifies additional tasks for which the board is responsible, which include determining the company's budget, discussing its financial reports, and determining its long-term strategic plan, as well as choosing, appointing, and monitoring the CEO.

The bylaws of each GBC generally require that the board be made up of eight to twelve directors, with seven to ten serving directors being most common. The bylaws of each of the companies also specify which government minister appoints the directors of the company; in most cases, this is the Minister of Finance and one additional minister—the minister most relevant to the industry of each GBC. The only compensation GBC directors receive is a fixed payment for each board or board-committee meeting they attend, which ranges between \$200 and \$300 per meeting; with the exact amount being a function of the company's size.<sup>8</sup> The bylaws of each company also specify the quorum required to hold a board meeting. All GBCs examined have a quorum that is

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<sup>7</sup> Here, as elsewhere in this paper, translation from Hebrew was done by the author.

<sup>8</sup> Until 2008, the compensation GBC directors received was similar to the compensation outside directors of Israeli public companies were permitted to receive: a fixed annual income no larger than \$3,500 plus an additional \$180 per meeting. Since 2008, a change in the "Rules Applying to Directors of Public Companies" has allowed outside directors of Israeli public companies to receive substantially higher compensation: they are permitted to receive a fixed annual compensation ranging between \$5,000 and \$35,000 plus an additional \$280–\$1300 per meeting, with the exact amount depending on the size of the firm and the directors' experience. See Ynet article by Lavi, 2007.

equal to, or larger than, five directors. Appendix A provides additional information on GBCs and their directors.<sup>9</sup>

Since 1993, the Israeli Government Companies Law requires that boards of GBCs in which the government holds at least 50% of the shares be composed in a way that “gives appropriate representation to women.” This law is enforced by a designated committee that oversees the directorship appointment process. In practice, women directors constituted 34% of GBC boards during the years 2000–2009.

Table 2 examines the representativeness of the GBC directors in the sample. Specifically, it explores the differences between the background of the GBC men directors and that of the GBC women directors, in comparison to other benchmark boards (public Israeli, public Norwegian, public Swiss, and American S&P 500 companies; sources are specified in Table 2). This table shows that the background of the GBC directors, and the difference between the backgrounds of the men versus that of the women GBC directors, is similar to that documented for boards in other countries. Namely, the table shows that the male directors serving on the boards of the eleven GBCs examined (a) were older than their female counterparts, a phenomenon which has also been documented for the other four benchmark boards for which data is available; (b) possessed more executive experience – this, too, is documented for all other benchmark-boards mentioned above; but (c) were less educated than the women – which is also documented for Israeli and Norwegian directors, although not for the Swiss directors.

To conclude, the Israeli GBC directors examined in the present study have backgrounds similar to those of directors in other countries, and the differences between the backgrounds of male and female directors of GBCs are consistent with those reported for boards in other countries. In addition, the legal requirements and responsibilities of GBC boards are very similar to those of

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<sup>9</sup> All appendices are available online at this link [http://papers.ssrn.com/sol3/Papers.cfm?abstract\\_id=1868033](http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=1868033).

boards in other countries, including the United States. For all of these reasons, the gender dynamics of Israeli GBC boards may well reflect those of other boards around the world.

#### **4. Data and Methods**

I have been given access to unique data: detailed minutes of eleven GBCs' board and board-committee meetings for a period of one year.<sup>10</sup> The calendar years studied were 2007 (two companies), 2008 (eight companies), and 2009 (one company). Nine of the eleven companies examined provided minutes of both board meetings and board-committee meetings; the other two supplied only the former. These minutes amount to 4,758 pages, which document 402 board and board-committee meetings (155 and 247, respectively), in which – according to my tabulation – 2,459 issues were discussed. Confidentiality agreements preclude identification of the specific firms in the sample. However, all eleven firms are among those listed in Table 1, and they tend to reflect the different fields in which the GBCs operate. They are of different sizes, as measured by annual income. As reflected in the bottom section of Table 1, the eleven GBCs studied are among the larger GBCs in Israel.

To allow a structured analysis of the data, I coded the minutes according to the principles of the content-analysis methodology (Lieblich et al., 1998; Krippendorff, 2004). Content-analysis methodology is a “systematic replicable technique for comprising many words of text into fewer content categories, based on explicit rules of coding” (Stemler, 2001). All coding was done manually (by the author) because the coding guidelines defined required a comprehensive understanding of the contents of the meetings. The coded data was reviewed several times to assure consistency. The following guidelines and categories were used to code the data (further details are given in Appendix

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<sup>10</sup> The minutes obtained are substantially more detailed than the minutes of the meetings of American boards of directors, which rarely document the board's discussions in detail. I thank the GCA for graciously providing access to the minutes-data, both during my employment period and subsequently.

B):

- i. **General information.** For each issue discussed, the type of meeting (board/board-committee) at which it was discussed was recorded.
- ii. **Topic-subjects.** Each topic discussed or decision made was coded under one of 23 topic-subjects.
- iii. **Further updates.** The board requested to receive further information or an update on the subject discussed. When only one director requested the update, this director's name was recorded.
- iv. **Taking an initiative.** The board took an action or an initiative. For example: the board approved a lease it was asked to approve, yet decided to introduce a few revisions of details; it took an active part in defining the steps that should be taken; or it delved into an issue presented to it, discussed the issue, and, finally, formulated and adopted a new alternative policy. When only one director took the initiative, this director's name was recorded. Appendix C provides further illustrative examples for "taking an initiative" and also for the category "further updates" (see item iii above).
- v. **Board composition.** For each meeting, the total number of attending directors was coded, as were the numbers of attending women directors and outside directors (i.e., directors not employed by the government or the company).
- vi. **Supervision.** The 23 topic-subjects were divided according to whether they were supervisory or managerial in nature. Supervisory issues include the issues for which boards are expected to oversee senior management but not to make managerial decisions themselves. Managerial issues include the type of issues boards are expected (by law, for example) to act upon.

## 5. Gender Diversity and Actions Taken by the Board

### 5.1. Descriptive Statistics

Because most board actions are unobservable, it is challenging to find good empirical measures for the intensity with which boards both monitor and advise the CEO (see Adams and

Ferreira, 2007, and Schwartz-Ziv and Weisbach, 2013, on these two roles boards carry out). Fortunately, in this study the actual actions directors take can be observed. Accordingly, this study uses a board's request for an update to proxy for the extent to which boards monitor the CEO, and boards taking an initiative (e.g., proposing the CEO take a specific action) as a proxy for the extent to which boards advise the CEO. Panel A of Table 3 reports summary statistics on these actions.

Figures 1a and 1b offer an initial indication of how critical masses relate to the frequency with which boards (1) request an update and (2) take an initiative, based on the 1,313 issues discussed by the GBC boards at the 155 board meetings examined. These figures reveal that the likelihood of an update being requested or an initiative being taken jumps once the board includes at least three directors of each gender.

Table 3, Panel B, provides summary statistics on the critical mass phenomena. This panel documents that when no more than two women directors attend a board meeting, the likelihood of an action being taken is within the 9.56%–10.95% range. When three or more women directors are in attendance, that likelihood increases to the 13.06%–16.98% range. Similarly, when no more than two men directors are in attendance, the likelihood of an action being taken is within the 4.0%–4.44% range; that likelihood increases sharply to the 12.55%–13.33% range if three or more men directors are in attendance. Hence, these figures document that board activeness is more frequent when at least three men and/or at least three women directors are in attendance.

## **5.2. Basic Econometric Model**

In each meeting, the board is composed of somewhat different members. This variation exists because: (a) a natural turnover of directors throughout the year examined exists, and (b) not all directors are able to attend all meetings. The varying gender composition of the directors in attendance facilitates the examination of how that composition relates to board activeness. This

analysis is executed at the board-meeting-issue level using the following model:

$$(1) \quad A_{bmi} = \alpha_b + \beta_t + B'_{bm}\lambda_1 + I'_{bmi}\lambda_2 + \varepsilon_{bmi}$$

In Equation (1), board is denoted by  $b$ , meeting is denoted by  $m$ , and issue is denoted by  $i$ .  $A_{bmi}$  is a binary variable that equals one if the board took an action (requested an update, and/or took an initiative as defined above). In most specifications, this action pertains to the board (i) requesting to receive further information or an update, and/or (ii) taking an initiative.  $B'_{bm}$  is a vector that documents the independent variables at the board-meeting level: the fraction of women directors in attendance, the square of the fraction of women directors in attendance, a dummy variable that equals one if a critical mass of at least three women directors is in attendance, a dummy variable that equals one if a critical mass of at least three men directors is in attendance, the fraction of attending outsiders, the total number of attending directors, a dummy variable that equals one if the company is in the process of replacing its CEO at the time the issue is discussed, the fraction of attending directors with executive experience, and the fraction of attending directors with an MA or an MBA.

$I'_{bmi}$  controls for the type of issue discussed using 22 dummy variables that control for the 23 topic-subjects.  $I'_{bmi}$  includes a dummy variable that equals one if the issue discussed is of supervisory nature rather than managerial nature, as defined in Section 4vi. For those analyses including observations from both board and board-committee meetings,  $I'_{bmi}$  also includes a dummy that equals one if the observation occurred in a board meeting as opposed to a board-committee meeting. All regressions are OLS regressions, unless noted otherwise.  $\alpha_b$  controls for company fixed-effects.  $\beta_t$  controls for the year for which the minutes were examined (2007, 2008, or 2009). Standard errors are clustered at the meeting level.

### 5.3. Are Gender-Balanced Boards More Active?

Table 4 starts by examining how the gender composition of boards relates to board activeness.

Regressions 1–2 of Table 4 examine whether a linear or a U-shaped relation exists between the fraction of women directors in attendance and the likelihood of boards either requesting an update or taking an initiative. The dependent variable in these regressions is equal to one if the board took an action (i.e., either requested an update or took an initiative) and zero if it did not. Regression 1 examines only observations from board meetings, while Regression 2 examines only observations from board-committee meetings. Both regressions fail to establish a significant linear or U-shaped relation between gender composition and board activeness. Such non-significant results are obtained (in unreported specifications), for both specifications, when including only the fraction of women directors in attendance and excluding its square, and also when defining a binary dependent variable that equals one only if an update is requested or, alternatively, only if an initiative is taken. Perhaps this suggests that a linear or U-shaped function is not the ideal model for characterizing the relation between gender and board activeness.

Regressions 3–7 of Table 4 explore the main hypothesis of this paper, namely that a critical mass of at least three directors of one, or both, genders catalyzes board activeness. Indeed, the results show that a critical mass of at least three women directors (“three or more women directors in attendance”) significantly increases the likelihood of the board requesting an update (Regression 3) and taking an initiative (Regression 4). The coefficient in Regressions 3–4 that controls for the presence of a critical mass of at least three men directors is positive, yet its impact is statistically insignificant. However, this insignificant result may derive from the limited variation concerning a critical mass of men directors: in only 9% of the observations did the boards examined not include a critical mass of men directors.

Regression 5 supports the abovementioned hypothesis, and reports that if at least three directors of both genders are in attendance, the board is significantly (at the 1% level) more likely to take an action, i.e., to request an update or to take an initiative. The economic magnitude

documented is quite substantial: compared to the average percentage of cases in which boards took an action at board meetings when no critical mass was in attendance (9.8%), Regression 5 estimates an increase of 100% (.098/.098). A more conservative estimate would be based on the average percentage of issues for which an action was taken at a board meeting, which is equal to 12.4% (as documented in Table 3, Panel A). Compared to this average, having a critical mass of both genders is expected to increase the likelihood of the board taking an action by 79% (0.098/0.124). In this paper, when interpreting the magnitudes of subsequent findings, I will follow the latter conservative estimate; accordingly, I will estimate the economic magnitudes using the average frequency with which an action was taken.

Regression 6 is the logit version of Regression 5. Similar to the Regression 5 results, Regression 6 shows that a critical mass of at least three directors of each gender significantly increases (at the 1% level) the likelihood of the board either requesting an update or taking an initiative. The odds ratio reported in Regression 6 for the variable “at least three directors of each gender” equals 2.83. To allow a clear understanding of the latter magnitude, based on this logit model, Figure 2 reports the predicted probabilities that an action is taken if a dual critical mass is, or is not, present. These probabilities are evaluated at the mean of the covariates of the control variables included in this regression. Figure 2 estimates that when no dual critical mass is in attendance, the probability of a board taking an action is 6.2%; this probability jumps to 16% when a dual critical mass is in attendance. Put differently, Regressions 5–6 show that boards that include a dual critical mass are at least 79% more active, the precise magnitude depending on the econometric method and benchmark used.

In Regression 7 I examine whether the results are driven by both large critical masses and small ones. A small critical mass is defined as a board with exactly three directors of each gender or three directors of one gender and four of the other gender. A large critical mass is defined as a board



whose critical mass is larger than a “small critical mass.” Essentially, Regression 7 compares each of these critical masses to the base group – boards that do not have critical masses. The results of Regression 7 indicate that both a small critical mass and a large one significantly increase the likelihood of an action being taken by the board (results are significant at the 10% and 1% levels, respectively). This finding shows that the results are driven by both types of critical masses.

One may wonder if a jump in board activeness is observed also when the board includes at least two directors of each gender in attendance. Regression 1 of Table 5 documents that having at least two directors of each gender is not associated with a significant increase in board activeness.

A potential concern is that the results pertaining to the activeness of gender-balanced boards are driven by large boards. Specifically, large boards may be particularly likely to be defined as “gender balanced” because they include more directors, and therefore they are also more likely to have at least three directors of each gender. To address this concern, I re-estimate the results using an alternative definition for gender-balanced boards, one that is not sensitive to the board’s size: a board in which 35%–65% of the attending directors are women. The latter definition follows, once again, the critical mass theory which argues that in a team/board, each gender should comprise at least 35% of the team/board (implying that no more than 65% of the directors should be women).

Accordingly, Regression 2 of Table 5 includes the dummy variable “35%–65% women” that equals one if 35%–65% of the directors attending are women. Regression 2 of Table 5 documents that boards in which 35%–65% of the attending directors are women are, indeed, significantly more likely to take an action than are boards in which 0%–35% or 65%–100% of the attending directors are women. The coefficient for the dummy variable “35%–65% women” is equal to 0.066. This coefficient is somewhat smaller than the parallel one estimated when a dual critical mass is defined as a board that includes at least three directors of each gender (0.098 according to Regression 5 of Table 4). Nevertheless, the results estimate a substantial increase of 67.3%

(.066/.098) in the likelihood of an action being taken when 35%–65% of the board members are women (this result is significant at the 1% level).

Regressions 3 and 4 of Table 5 examine the robustness of the “35%–65% women” range defined above. Regression 3 includes the dummy “25%–35% or 65%–75% women,” which equals one if the percentage of women directors in attendance is in those ranges. This variable is included to examine whether widening the range defined as gender-balanced from 35%–65% women in attendance to 25%–75% women in attendance further increases board activeness. Once again, in Regression 3, the “35%–65% women” dummy enters the regression significantly, but the “25%–35% or 65%–75%” dummy variable does not (and it has a negative coefficient). This indicates that expanding the “35%–65% women” range to a 25%–75% range does not further increase board activeness compared to a non-gender-balanced board.

Regression 4 of Table 5 examines whether having a particularly gender-balanced board, defined as “45%-55% women,” further increases board activeness. Once again, the “35%–65% women” variable is found to increase significantly board activeness, while the coefficient for “45%–55% women” is negative and insignificant. This indicates that having an extremely gender balanced-board does not further increase board activeness.

Last, in unreported specifications, I examine whether at board-committee meetings (which, as reported in Table 3, Panel A, are attended on average by 4.3 directors), the relation between the gender composition of the committee and the activeness of the committee also follows a step function. These specifications examine whether having at least one director of each gender, or alternatively, at least two directors of each gender, significantly increases the likelihood of the board-committee taking an action (i.e., requesting an update and/or taking an initiative). No such significant relation is found. These results imply that the critical mass effect is particularly pronounced at board meetings (as larger teams), rather than at board-committee meetings (as small

teams). Overall, the analysis in this section documents that boards are particularly active when at least three men and three women directors are in attendance.

#### **5.4. Gender-Balanced Boards and Board Activeness – 2sls Analysis**

I also address the possibility that one or both genders prefers to attend meetings that are expected to require low – or alternatively, high – levels of activeness. A director may develop such expectations based on the agenda and materials he or she receives (usually at least several days) prior to each meeting. If this is indeed the case, the existence of a critical mass of each gender may be endogenous.<sup>11</sup> This section addresses this possibility by introducing a model similar to the one presented in Section 5.2, with one difference: the model in this section assumes that the presence of a critical mass of at least three women directors, and also one of at least three men directors, is endogenous.

Accordingly, the model includes exogenous instrumental variables (IV) that control for the likelihood of a critical mass of women directors, and a critical mass of men directors, attending a particular board meeting in which a particular issue is discussed. Exogenous variables exist as a result of the customary ways in which meetings are scheduled. Committee meetings are frequently scheduled on the same day as board meetings, just before or immediately after the board meeting. Because different directors sit on different board-committees, a variation exists in the total number of meetings to which each individual director is invited on a day on which a board meeting takes place. Correspondingly, each gender of directors will also have a different number of meetings to which they are invited.

If a director is a member of a board-committee that meets before or after the board meeting,

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<sup>11</sup> The attendance rates of GBC men and women directors examined were similar: on the level of the individual directors, the average percentage of meetings a director was invited to but did not attend equaled 20% for women directors and 19% for men directors.

he or she has a stronger incentive to attend (both) meetings – because the only compensation GBC directors receive is a fixed amount for each meeting they attend (as described in Section 3). Hence, a director who has a board meeting and a board-committee meeting scheduled on the same day must commute only once (since the meetings are held at the same location) but receives compensation that corresponds to the number of meetings he or she attends. In addition, regardless of the financial compensation, directors usually want to be involved; they therefore may prefer to attend meetings on days in which they have an increased opportunity to do so – the days when they have more than one meeting scheduled.

Thus, using the number of women who were invited to at least one board-committee meeting scheduled on the same day as a board meeting at which a particular issue was discussed instruments for the likelihood that a critical mass of women attend the board-meeting. A parallel variable is constructed to instrument for the presence of a critical mass of men directors.

These instruments conform to the requirements of an IV: as will be shown, these IVs are positively and significantly (at the 1% level) related to the attendance of critical masses of both men and women directors. In addition, because the meetings are – in the vast majority of cases – scheduled well in advance (six to twelve months), and almost all meetings are held on their scheduled dates, the IVs have no direct impact on the likelihood of boards taking an action (i.e., requesting to receive an update or to taking an initiative) at a given board meeting. The meetings' agendas are determined only *after* they are scheduled, usually one to three weeks prior to the meeting. It follows that the scheduling of a board-committee meeting on a particular day should not be correlated with the directors' expectations that the board meeting held on the same day will require a high, or perhaps low, level of board activeness.

Moreover, Appendix D (Panels 1 and 2 of Table A) addresses potential exclusion restriction concerns. This appendix confirms that firms do not seem to modify the types of issues brought up for

discussion at board meetings depending on whether a board-committee meeting is also being held or whether the board includes a dual critical mass. Accordingly, the following 2sls model is defined (using the notations introduced in Section 5.2):

$$(2) \quad A_{bmi} = \alpha_b + \beta_t + CMW_{bmi} + CMM_{bmi} + B'_{bm}\lambda_1 + I'_{bmi}\lambda_2 + v_{bmi}$$

The difference between the OLS model, specified in Equation (1) in Section 5.2, and the 2sls model, specified here in Equation (2), is that the primary variables in the latter equation documenting the gender composition in attendance are assumed to be endogenous. These endogenous variables are denoted in (2) by  $CMW_{cmi}$ , which is a dummy variable that equals one if at least three women directors are in attendance, and  $CMM_{cmi}$ , which is a parallel variable for men directors. As described above, two exogenous variables are used to solve this equation:  $CoW_{cmi}$ , which is an instrument that equals the number of women directors that were invited to at least one board-committee meeting held on the same day issue  $i$  was discussed at a board meeting, and  $CoM_{cmi}$  which is a parallel variable for men directors. Accordingly, the 2sls model includes the following two first-stage equations:

$$(3) \quad CMW_{bmi} = CoW_{bmi} + CoM_{bmi} + \alpha_b + \beta_t + B'_{bm}\lambda_1 + I'_{bmi}\lambda_2 + \varepsilon a_{bmi}$$

and

$$(4) \quad CMM_{bmi} = CoW_{bmi} + CoM_{bmi} + \alpha_b + \beta_t + B'_{bm}\lambda_1 + I'_{bmi}\lambda_2 + \varepsilon b_{bmi}$$

Each of these two first-stage regressions predicts the likelihood of a critical mass of a certain gender attending the board meeting, given the number of directors of the same gender that were invited to a board-committee meeting held on the same day.

Regressions 1–2 of Table 6 record the first-stage equations (Equations (3) and (4), respectively). Indeed, Regression 1 documents that the number of women directors who were invited to at least one board-committee meeting held on the same day that issue  $i$  was discussed is positively and significantly (at the 1% level) related to the likelihood of a critical mass of at least three women directors being present at a board meeting. Similarly, Regression 2 establishes parallel results for men

directors. Both Regressions 1 and 2 of Table 6 report that the Angrist-Pischke multivariate F-test (Angrist and Pischke, 2009) is larger than the  $F=10$  threshold suggested by Stock et al. (2002) as the minimal threshold required to conclude that the instruments used are strong.

The results of the second stage of the 2sls analysis (Equation (2) above) are reported in Regressions 3–6 of Table 6. The dependent variable in these regressions is a binary variable that equals one if the board requested to receive further information or an update (Regression 3), took an initiative such as suggesting which action should be taken (Regression 4), or either requested an update or took an initiative (Regression 5–6). Consistent with the results presented in Section 5.3, the results of the 2sls analysis reported in Table 6 indicate that the presence of a critical mass of women directors, and to some extent a critical mass of men directors (Regressions 3–5), or a dual critical mass (Regression 6), is associated with a significant increase in the likelihood of the board requesting an update and/or taking an initiative. Hence, the 2sls analysis confirms the results obtained in the OLS regressions.

The economic magnitudes documented for the critical mass effect reported in the 2sls analysis (Table 6) are substantially larger than those obtained in the OLS analysis (Table 4). To examine whether in this case the 2sls model is indeed required to address endogeneity concerns, and accordingly, if the economic magnitude of the 2sls model is more reliable, the Anderson canonical correlation statistic is reported for Regression 5 of Table 6. This figure, which tests the relevance of the instruments, is large, and its p-value is small, indicating that the two instruments are jointly valid.

However, the Hausman test indicates that for each of Regressions 3–6 of Table 6, the Hausman test fails to reject, at the 1% level, the null hypothesis that no difference exists between the 2sls and the OLS estimates. Put differently, the results of the Hausman test imply that no systematic difference exists between the OLS and the 2sls estimates. Therefore, given that the 2sls results are biased and inconsistent in finite samples, in this case the estimates of the OLS model provide the most

accurate estimation of the magnitude of the critical mass effect. The contribution of the 2sls analysis is that it demonstrates that the significant and positive effect of a critical mass of women directors is not driven by non-random attendance. In sum, the results in this section reinforce the conclusion that appointing gender-balanced boards catalyzes board activeness.

## 6. Gender Composition and Activeness of Individual Directors

This section examines how a board's gender composition relates to the extent to which *individual* directors are active. Put differently, this section examines, on the level of the individual director, whether a man or a woman director took an action (i.e., requested an update or took an initiative) when an issue was brought up for discussion. Accordingly, the observations in this section are at the board-meeting-issue-director level.

To facilitate this level of analysis, for each case in which a single director either requested to receive further information/an update or took an initiative, the action taken was attributed to the specific director taking the action, and thereby also to a specific gender. If more than one director took the action, the action was not attributed to a specific director. I am able to attribute 69% of the actions taken to one specific director. The remaining actions were taken by more than one director, and therefore not linked to a specific director and gender. These observations are not included in the analysis presented in this section.<sup>12</sup>

To estimate how the gender of the director relates to the extent to which he or she is active, given the gender composition in attendance, the following econometric model is defined, at the board-meeting-issue-director level (using the notations from Section 5.2):

$$(5) \quad A_{bmid} = \alpha_b + \beta_t + B'_{bm}\lambda_1 + D'_{bmd}\lambda_2 + I'_{bmi}\lambda_3 + \varepsilon_{bmid}$$

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<sup>12</sup> Due to the limited size of the sample, it is not possible to conduct a detailed analysis of the cases in which an action was taken by two or more directors by further breaking down the gender of those taking the action into more refined categories (e.g., action taken by only men directors, by only women directors, or by both genders).

Equation (5) contains an additional vector that is not included in equation (1):  $D'_{dbm}$ . This controls for the director-level variables (the subscript  $d$  denotes director). This vector includes a dummy variable that equals one if the observation pertains to a woman director, a dummy that equals one if the director holds an MA or MBA, and the number of years of executive experience the director has. Standard errors are clustered at the director level.

Table 7 examines how the gender of directors relates to the frequency with which they take an action. Accordingly, the dependent variable in the specifications reported in Table 7 is a binary variable that equals one if a given director took an action, and zero if he or she did not. Regression 1 of Table 7 documents an insignificant relation between “woman director” and the likelihood of an action being taken at a board meeting, indicating that one gender is not clearly more active than the other at board meetings. In contrast, Regression 2 documents a positive and significant relation between “woman director” and the likelihood of an action being taken in board-committees. This indicates that women directors are more active at board-committee meetings than are men directors. Perhaps women directors are particularly comfortable being active in small teams such as board-committees.

Regressions 3–5 of Table 7 explore how critical masses of each gender relate to directors’ activeness at board meetings. Consistent with the findings reported in Table 4, Regression 3 of Table 7 confirms that when boards include at least three women directors, directors are significantly more likely to take an action at board meetings.

To estimate the effect of critical masses on the activeness of each gender of directors, Table 7 examines the observations pertaining to each gender separately. Regression 4 includes only the observations pertaining to women directors, while Regression 5 includes those that pertain to men directors. Regression 4 reveals that women directors are significantly more active when a critical mass of women directors is in attendance. A woman director is likely to take an action at board



meetings in 0.8% of the cases on average (as documented in Table 3, Panel A); Regression 4 estimates that having a critical mass of at least three women directors increases the likelihood of a woman director taking an action by 180% (0.0144/0.008). This finding provides support for the board version of the critical mass theory (Rosener, 1995; Shrader et al., 1997; Kramer et al., 2005; as discussed in Section 2.1), which argues that women directors are more active at board meetings once the board includes at least three women directors.

Regressions 4 and 5 of Table 7 both present a positive relation between critical masses of one gender and activeness of the other gender. For example, Regression 4 documents that when a critical mass of men directors is in attendance, the likelihood of a woman director taking an action increases by 0.33%. Such patterns are consistent with the peer monitoring theory discussed in Section 2.1, which proposes that one gender monitors the other, which in turn catalyzes the activeness of individual team members. However, these cross-gender coefficients are insignificant, and therefore it is not possible to conclude with confidence that peer monitoring between genders indeed occurs.

Appendix E explores how directors' genders relate to the types of issues about which men and women directors choose to be active. This appendix reveals that women directors are more likely to be active with respect to supervisory issues, while men directors are more likely to be active with respect to managerial issues. However, the presence of a critical mass of one's own gender is found to mitigate these tendencies. It increases the likelihood of a director taking an action on a type of issue that the other gender is typically active about (e.g., women directors are more likely to take an action pertaining to a managerial issue when a critical mass of women directors is in attendance). In sum, the analysis in this section documents that the presence of a critical mass of women directors significantly increases the likelihood of women directors being active at board meetings.

## **7. The Gender of Directors at Times of CEO Turnover**

Firing and hiring the CEO, and bridging the gaps between CEOs, are among a board's most important functions (Mace, 1971; Weisbach, 1988; Adams and Ferreira, 2009). I choose to focus on this transitional time to gain a better understanding of how the gender composition of boards relates to the working of boards during periods when boards are particularly needed.

### **7.1. Gender Composition and CEO Turnover**

This section examines the relation between the gender composition of boards and CEO turnover, given the financial performance of GBCs. This analysis is conducted using a panel data set for the universe of the 34 GBCs for the years 2000–2009. These data were obtained from an internal database of the Government Companies Authority and from the annual reports it publishes. Since 1993, Israeli GBCs have been legally required to maintain gender-balanced boards. For this reason, during the period examined women directors constituted on average 34% of GBC boards (which is a relatively large percentage).

Table 8 examines how the gender composition of boards, given the financial performance, relates to the likelihood that CEO turnover occur. The regressions reported are at the company-year level. The dependent variable in the regressions is a binary variable that equals one if CEO turnover occurred in a given company in a given year.<sup>13</sup> The primary independent variables examined are the ones that control for gender composition and those that control for financial performance (measured by ROE). Year and firm dummies are included, and standard errors are clustered at the company level.

Regression 1 of Table 8 starts by examining whether, given the financial situation of the company, a linear relation exists between the gender composition of the board and CEO turnover.

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<sup>13</sup> During the 2000–2009 period examined, 59 CEO turnovers occurred in the 34 GBCs.

The regression does not document such a significant relation. Regression 2 of Table 8 documents (via the “Fraction of women\*ROE” coefficient) that when women constitute a small fraction of the board, and performance is weak, CEO turnover is less likely to occur. However, once the fraction of women directors increases in weak companies (as indicated by the “square of fraction of women\*ROE” coefficient) weak companies are more likely to experience CEO turnover.

Regressions 3–5 of Table 8 further examine the latter pattern by investigating how, given the financial performance of the company, a critical mass of women or men directors relates to CEO turnover. Regression 3 does not document a significant relation between critical masses of at least three directors of a certain gender and CEO turnover. This may indicate that critical masses do not catalyze CEO turnover. However, these results change once interaction variables between critical masses and financial performance are introduced. Regression 4 establishes that when boards include a critical mass of women directors, and firm performance is weak (“at least three or more women\*ROE”), CEO turnover is significantly (at the 10% level) more likely to occur. In other words, when firm performance is weak, CEOs are more likely to find their way out if the board includes a critical mass of women directors.

Finally, Regression 5 highlights that companies that have a dual critical mass and also weak financial performance (“at least three directors of each gender\*ROE”) are significantly more likely to experience CEO turnover. The magnitude noted implies that a 1% decrease in the ROE is expected to increase the likelihood of CEO turnover occurring by 2.02%, if the board includes a dual critical mass. This result suggests that when boards include a dual critical mass, CEOs are likely to be held accountable if they underperform, and, one way or the other, they are likely to leave the firm. These findings are consistent with those of Adams and Ferreira (2009), who examine American public firms and find that firms with weak financial performance that have a higher fraction of women directors are particularly likely to experience CEO turnover.

## 7.2. Board Activeness When Companies Are between CEOs

This section explores how the gender of directors relates to board activeness during a particularly delicate period – when the CEO is being replaced. The analysis in this section is based on the minutes-data described in Section 4. Four of the eleven firms for which minutes were examined replaced their CEO during the year studied, and all of these firms had periods during which they were literally “between” CEOs, with no serving CEO. Those periods lasted between several weeks and several months. Such periods occurred for one or more of the following reasons: the board asked the incumbent CEO to resign his position at very short notice, the process of selecting the new CEO continued for at least three months,<sup>14</sup> legal issues complicated and extended the selection process, and/or the newly selected CEO was not able to leave his former position immediately.

The board is expected to step in immediately once it fires the CEO, or once it learns that the current CEO will not continue serving in his or her position. Accordingly, I define a “gap period” between CEOs as starting when the minutes document for the first time that the board is aware that the current CEO will not continue serving in this position, and ending when the new CEO first attends a meeting of the board or of a board-committee. Based on this definition, the gap periods experienced by the four companies that replaced their CEOs lasted between three and seven months. This gap period is longer than the period noted in the previous paragraph, since the gap period defined typically starts before the incumbent CEO leaves the company, and ends after the new CEO is selected.

Table 4 (which is discussed in Section 5.3) does not show that boards are significantly more active when their companies are in a gap period (“Between-CEO period”). However, gender-

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<sup>14</sup> It can take several months for a GBC to hire a CEO. This is because GBC boards are required to publish an advertisement in the newspapers inviting candidates to apply for the CEO position. This is usually followed by several rounds of interviews. In addition, in most cases the board refers at least the final candidates to an external company that specializes in executive placements for evaluation.

balanced boards may be particularly active during gap periods. Table 9 explores this possibility by analyzing how critical masses of women and men directors relate to board activeness during gap periods. This analysis follows the econometric model presented in Section 5.2, and the observations are at the board-meeting-issue level. Regressions 1–2 of Table 9 examine whether a linear or a U-shaped relation exists between the gender composition of the board and board activeness during gap periods as compared to non-gap periods. These regressions do not find a significant relation for board meetings (Regression 1) or for board-committee meetings (Regression 2).

Regression 3 examines whether a critical mass of women and/or men directors increases the likelihood of the board taking an action at a board meeting, particularly during a gap period as opposed to a non-gap-period. Regression 3 shows that having a critical mass of women directors when a company is in a gap period (“three or more women directors and between CEOs”) increases the likelihood of the board taking an action by 11.2% (this result is significant at the 10% level). Similarly, Regression 3 documents that having at least three men directors in attendance when a company is in a gap period increases the likelihood of the board taking an action by 16% (this result is significant at the 10% level).

In Regression 4, the coefficient for “at least three directors of each gender and between CEOs” documents that boards with a dual critical mass are significantly (at the 5% level) more active during gap periods. The average percentage of cases in which boards took an action at board meetings during gap periods is 24.8%. Regression 4 of Table 9 estimates that having a dual critical mass during gap periods increases the likelihood of boards taking an action by 75.4%  $([6.7\%+12.0\%]/24.8\%)$  as compared to this average. This result emphasizes that not only are gender-balanced boards more active (as documented by the positive and significant coefficients for “at least three directors of each gender”), but gender-balanced boards are particularly active during gap periods, as documented by the coefficient for “at least three directors of each gender and

between CEOs.” Thus, perhaps gender-balanced boards are particularly likely to be involved and step in at crucial times, such as those in which the CEO is replaced.

## **8. Summary**

This study finds that boards are more active at board meetings when they are gender-balanced, meaning that they include at least three directors of each gender. This phenomenon is particularly driven by women directors, who are more active when a critical mass of at least three women directors is in attendance. The research also reveals that gender-balanced boards are particularly active around CEO turnover periods, which are periods in which a board’s involvement is particularly needed. These findings suggest that gender-balanced boards may be valuable particularly when a company is in need of the board’s involvement.

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Table 1

**Business Companies in which the Israeli Government Holds Shares (GBCs)**

This table reports 2007 figures for all GBCs. The data were taken from annual reports of the Government Companies Authority. “ND” indicates that data is not available. Data for public Israeli companies was obtained from the “Super Analyst” database.

	Name of company	Annual revenue in thous. USD	Number of employees	Field	Percentage held by the government
1	A.T. Communication Channels	940	8	Transportation and Communication	100%
2	Agrexco Agricultural Export Co. Ltd.	868,460	365	Agriculture	50%
3	Arim Urban Development Ltd.	13,040	28	Building, Housing, and Development	100%
4	Ashdod Port Company Ltd.	263,670	1,275	Transportation and Communication	100%
5	Ashot-Ashkelon Industries Ltd.	56,120	399	Defense	88%
6	Ashra the Israel Export Insurance Corporation	12,440	18	Industry and Commerce	100%
7	Atarim Tourist Development Corp. Tel Aviv Jaffa Ltd.	6,140	23	Industry and Commerce	50%
8	E.M.S. Ltd.	83,130	ND	Electricity and Water	100%
9	Eilat Port Company Ltd.	27,380	112	Transportation and Communication	100%
10	Elta Systems Ltd.	918,750	3,407	Defense	100%
11	Haifa Port Company Ltd.	210,950	1,064	Transportation and Communication	100%
12	Industrial Development Bank of Israel Ltd.	26,580	43	Industry and Commerce	49%
13	Insurance Fund for Natural Risks in Agriculture Ltd.	46,000	69	Agriculture	50%
14	Isorad Ltd.	12,250	20	Industry and Commerce	100%
15	Israel Aircraft Industries	3,292,110	12,939	Defense	100%
16	Israel Bank of Agriculture	9,780	25	Agriculture	92%
17	Israel Government Coins and Medals Corporation Ltd.	4,560	39	Industry and Commerce	100%
18	Israel Military Industries Ltd.	571,440	2,966	Defense	100%
19	Israel Natural Gas Lines Company Ltd.	7,970	69	Energy and Petroleum	100%
20	Israel Ports Development and Assets Company Ltd.	172,030	105	Transportation and Communication	100%
21	Israel Postal Company Ltd.	421,930	4,860	Transportation and Communication	100%
22	Israel Railways Ltd.	222,770	2,107	Transportation and Communication	100%
23	Life Science Research Israel Ltd.	4,820	47	Industry and Commerce	100%
24	Maatz – The Israel National Roads Company Ltd.	606,470	296	Industry and Commerce	100%
25	Mekorot Water Co. Ltd.	708,070	2,211	Electricity and Water	100%
26	Oil Products Pipeline Ltd.	20,050	0	Energy and Petroleum	100%
27	Petroleum and Energy Infrastructures Ltd.	75,750	383	Energy and Petroleum	100%
28	Pi-Gliloth Petroleum Terminals and Pipelines Ltd.	9,990	76	Energy and Petroleum	50%
29	Postal Bank Company Ltd.	ND	0	Transportation and Communication	100%
30	Rafael Advanced Defense Systems	1,286,160	5,213	Defense	100%
31	Rotem Industries Ltd.	14,890	95	Industry and Commerce	100%
32	The Israel Electric Corporation Ltd.	4,689,390	12,212	Electricity and Water	100%
33	The Marine Trust Ltd.	6,240	8	Building, Housing, and Development	50%
34	The National Coal Supply Corporation Ltd.	1,069,140	26	Electricity and Water	99%
<u>Average</u>					
	All 34 GBCs	476,952	1,531		91%
	11 GBCs whose minutes are examined, num. rounded	700,000	2,300		90%
	743 companies listed on TASE (in 2007)	284,753	624		0%

Table 2

**Representativeness of Sample**

This table compares the backgrounds of the directors serving on the boards of the eleven GBCs for which minutes were examined to those of directors serving on boards of other types of companies. ND indicates that data is not available.

	<b>GBCs</b>		Public Israeli		Public Norwegian		Public Swiss		American S&P 500	
	<b>Women directors</b>	<b>Men directors</b>	Women directors	Men directors	Women directors	Men directors	Women directors	Men directors	Women directors	Men directors
Average age	<b>49.3</b>	<b>52.5</b>	51	59	48	55	ND	ND	56 <sup>^^^</sup>	60 <sup>^^^</sup>
Have executive experience <sup>^</sup>	<b>52%</b>	<b>62%</b>	79%	94%	51%	61%	4%	28%	56%	67%
Have undergraduate degree	<b>100%</b>	<b>94%</b>	90%	86%	56%	46%	91%	95%	ND	ND
Have an MA/MBA	<b>56%</b>	<b>44%</b>	85%	78%	24%	22%	79%	84%	ND	ND
Served or are serving on other boards	<b>45%</b>	<b>44%</b>	ND	ND	ND	ND	ND	ND	ND	ND
Of these: non govt./non-NGO boards	<b>18%</b>	<b>22%</b>	ND	ND	ND	ND	ND	ND	ND	ND
Currently on a board of a listed company	<b>ND</b>	<b>ND</b>	17%	18%	17% <sup>^^</sup>	19% <sup>^^</sup>	18%	31%	24% <sup>^^^</sup>	21% <sup>^^^</sup>
Number of directors	<b>50</b>	<b>86</b>	684	3020	249	383	50	1628	ND	ND
Percentage of each gender	<b>37%</b>	<b>63%</b>	18%	82%	39%	61%	3%	97%	16%	84%
Year examined	2008		2009		2009		2003		2011	
Number of companies examined	11		100		113		269		500	
Source from which data were obtained/used to calculate figure	GCA database		Israeli Stock Exchange Authority, 2010		Ahern and Dittmar, 2012		Ruigrok et al., 2007		Spencer Stuart US Board Index, 2011	

<sup>^</sup> In most studies, executive experience is defined as having been a CEO or having held an executive position previously in an organization – e.g., head of a functional unit, partner/principal, or vice president. However, definitions vary among studies.

<sup>^^</sup> Figures pertain only to directors whose primary occupation is serving as directors.

<sup>^^^</sup> Figure from Peterson and Philpot (2007); pertains to 2002 Fortune 500 boards.

Table 3

**Panel A: Summary Statistics on Minutes-Data**

This panel presents summary statistics on the minutes of the eleven GBCs studied.

	Board meetings	Committee meetings	Board & committee meetings
<u>Sample size</u>			
Number of companies examined	11	9	
Total number of meetings examined	155	247	402
Total number of issues discussed	1,313	1,146	2,459
Total number of pages of minutes	2,204	2,554	4,758
Average number of meetings per company	14.1	27.4	
Average number of issues discussed per meeting	8.5	4.6	
Average number of lines in minutes per issue discussed	65	90	
Average number of pages of minutes per meeting	14.2	10.3	
<u>Frequency actions are taken by <b>boards</b></u>			
Average % of issues discussed for which an update was requested	6.4%	17.1%	
Average % of issues discussed for which an initiative was taken	6.8%	12.1%	
Average % of issues discussed for which an update was requested or an initiative was taken	12.4%	25.7%	
<u>Frequency actions are taken by <b>individual</b> directors</u>			
Average % of issues discussed for which an action (request or initiative) was taken by a man or a woman director	0.89%	4.18%	
Average % of issues discussed for which an action was taken by a woman	0.8%	4.56%	
Average % of issues discussed for which an action was taken by a man	0.91%	4.05%	
<u>Board composition in attendance</u>			
Average number of directors in attendance	8.1	4.3	
Average % of attending directors who are women	36%	37%	

**Panel B: Frequency with Which an Action Is Taken at Board Meetings**

This panel reports the frequency with which an action was taken at board meetings by the eleven GBC boards examined, given the number of directors of each gender in attendance.

Number of <b>women</b> in attendance	% of cases in which action was taken by board	N	Number of <b>men</b> in attendance	% of cases in which action was taken by board	N
<=1	9.56%	324	<=1	4.00%	25
2	10.95%	219	2	4.44%	90
3	16.98%	265	3	12.55%	215
>=4	13.06%	505	>=4	13.33%	744

Table 4

**Gender Composition and Board Activeness**

This table reports regressions analyzing the issues discussed at the board-meeting-issue level. These issues were discussed at board- and board-committee meetings held by the eleven GBCs examined. The dependent variable in Regressions 1–2 and 5–7 is a binary variable that equals one if the board either requested to receive further information or an update, or if it took an initiative (e.g., suggested which action should be taken). In Regression 3 the dependent variable equals one if the board requested an update, while in Regression 4 the dependent variable equals one if the board took an initiative. The primary independent variables are: the fraction of attending women directors and its square, a dummy that equals one when at least three women directors were in attendance, a dummy that equals one when at least three men directors were in attendance, a dummy that equals one if at least three directors of each gender were in attendance, a dummy that equals one if the board included a small critical mass (three directors of both genders or three directors of one gender and four of the other), and a dummy that equals one if the board included a large critical mass (a dual critical mass that is larger than a small critical mass). In addition, the regressions control for the fraction of attending outside directors, the total number of directors in attendance, the average number of years of executive experience of the attending directors, the fraction of attending directors with an MA/MBA, whether the firm was in the process of replacing the CEO (using a dummy that equals one if this is the case), and whether the issue discussed was one of supervisory nature as described in Section 4vi (using a dummy that equals one if this is the case). For each variable, the first line in Regressions 1–5 and 7 reports the coefficient, while the first line in Regression 6 reports the odds ratio. For all variables and regressions, the second line (in parentheses) reports clustered errors at the meeting level. \*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 level, respectively.

	Action taken		Update	Initiative	Action taken		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fraction of women directors in attendance	-0.268 (.226)	-0.083 (.250)					
Square of fraction of women directors in attendance	0.302 (.255)	0.106 (.307)					
Three or more women directors in attendance			0.044** (.019)	0.092*** (.029)			
Three or more men directors in attendance			0.031 (.021)	0.035 (.025)			
At least three directors of each gender					0.098*** (.032)	2.832*** (.315)	
Small critical mass							0.075* (.040)
Large critical mass							0.123*** (.040)
Fraction of outsiders	-0.059 (.046)	-0.062 (.088)	-0.003 (.039)	0.007 (.033)	-0.033 (.047)	0.419 (.752)	-0.04 (.049)
Number of directors in attendance	0.003 (.007)	-0.012 (.017)	-0.007 (.004)	0.001 (.004)	-0.006 (.006)	0.948 (.065)	-0.01 (.007)
Fraction with executive experience	0.006 (.007)	-0.002 (.005)	0.003 (.006)	-0.002 (.005)	0.001 (.008)	1.04 (.084)	0.002 (.008)
Fraction with an MA or an MBA	0.088 (.088)	-0.163** (.077)	-0.043 (.062)	0.166*** (.049)	0.078 (.078)	2.157 (.831)	0.069 (.080)
Dummy supervisory issue	-0.031 (.045)	0.387*** (.056)	-0.086** (.040)	0.140*** (.031)	0.027 (.049)	0.000*** (1.185)	0.036 (.053)
Between-CEO period	0.053 (.051)	0.052 (.057)	0.009 (.033)	0.049* (.025)	0.06 (.044)	1.577 (.347)	0.047 (.046)
Company, year, and topic-subject dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Meetings examined	Board	Committee	Board	Board	Board	Board	Board
Type of regressions	OLS	OLS	OLS	OLS	OLS	Logit	OLS
R-squared	0.075	0.141	0.059	0.077	0.084		0.084
N	1313	1145	1313	1313	1313	1313	1313

Table 5

**Gender Composition and Board Activeness Using Alternative Measures for Critical Masses**

This table reports OLS regressions analyzing, at the board-meeting-issue level, the issues discussed at board meetings of the eleven GBCs examined. The dependent variable is a binary variable that equals one if the board requested to receive an update or further information or if it took an initiative (e.g., suggested which action should be taken). The primary independent variables are: a dummy that equals one if at least two women directors were in attendance, a dummy that equals one if at least two men directors were in attendance, and dummies that equal one if the fraction of attending women directors was between 35% and 65%; 25% and 35% or 65% and 75%; or 45% and 55%. In addition, the regressions control for the fraction of attending outside directors, the total number of attending directors, the average number of years of executive experience of the attending directors, the fraction of attending directors with an MA/MBA, whether the firm was in the process of replacing the CEO (using a dummy that equals one if this is the case), and whether the issue discussed was one of supervisory nature, as described in Section 4vi (using a dummy that equals one if this is the case). For each variable, the first line reports the coefficient and the second line (in parentheses) reports clustered errors at the meeting level. \*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 level, respectively.

	Action taken			
	(1)	(2)	(3)	(4)
Two or more women directors in attendance	-0.0318 (.503)			
Two or more men directors in attendance	0.0108 (.831)			
35%–65% women directors		0.0685** (.033)	0.0740** (.033)	0.0808** (.015)
25%–35% or 65%–75% women directors			-0.025 (.553)	
45%–55% women directors				-0.0403 (.235)
Fraction of outsiders	-0.0745 (.146)	-0.0232 (.639)	-0.0196 (.691)	-0.0316 (.521)
Number of directors in attendance	0.0038 (.589)	0.0015 (.794)	0.0016 (.775)	0 (.998)
Fraction with executive experience	0.0051 (.486)	-0.0007 (.921)	-0.0001 (.987)	0.0005 (.945)
Fraction with an MA or an MBA	0.0866 (.310)	0.0804 (.329)	0.0927 (.292)	0.0846 (.305)
Dummy supervisory issue	-0.0091 (.860)	0.0191 (.708)	0.0016 (.977)	0.0136 (.784)
Between-CEO period	0.0418 (.440)	0.0595 (.186)	0.0575 (.204)	0.0605 (.183)
Company, year, and topic-subject dummies included	Yes	Yes	Yes	Yes
R <sup>2</sup>	1313	1313	1313	1313
N	0.075	0.081	0.08	0.081

Table 6

**Gender Composition and Board Activeness – 2sls Analysis**

This table reports results of a linear 2sls model analyzing, at the board-meeting-issue level, the 1,313 issues discussed. These issues were discussed at board meetings held by the eleven GBCs examined. The model instruments for the likelihood of a critical mass of at least three women directors attending a particular board meeting in which a particular issue is discussed using an instrumental variable that equals the number of women directors invited to at least one board-committee meeting held on the same day when a particular issue was discussed at the board meeting. A parallel instrumental variable is constructed to predict the likelihood of the board including at least three men directors. Regressions 1–2 report the first-stage regressions of the 2sls analyses. In Regressions 3–6, which report the second stage of the 2sls analysis, the dependent variable is a binary variable that equals one if the board requested to receive further information or an update (Regression 3), took an initiative such as suggesting which action should be taken (Regression 4), or either requested an update or took an initiative (Regressions 5–6). The regressions include the following control variables (not reported): the fraction of attending outside directors, the total number of attending directors, the average number of years of executive experience of the attending directors, the fraction of attending directors with an MA/MBA, a dummy that equals one if the firm was in the process of replacing the CEO, and a dummy that equals one if the issue discussed was one of supervisory nature as described in Section 4vi. For each variable, the first line reports the coefficient and the second line reports (in parentheses) standard errors. \*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 level, respectively.

	Three or more women in attendance	Three or more men in attendance	Update	Initiative	Update or initiative	
	(1)	(2)	(3)	(4)	(5)	(6)
Number of women invited to board-committee	.061*** (.006)	-.015*** (.005)				
Number of men invited to board-committee	-.017*** (.005)	.017*** (.004)				
Three or more women directors in attendance			.241** (.122)	.338*** (.128)	.561*** (.201)	
Three or more men directors in attendance			0.576 (.370)	.659* (.389)	1.401** (.611)	
At least three directors of each gender						.558*** (.160)
Board control variables	Yes	Yes	Yes	Yes	Yes	Yes
Year and firm dummies	Yes	Yes	Yes	Yes	Yes	Yes
Topic-subject dummies	Yes	Yes	Yes	Yes	Yes	Yes
2sls equation estimated	First stage	First stage	Second stage	Second stage	Second stage	Second stage
Number of observations	1313	1313	1313	1313	1313	1313
R <sup>2</sup>	0.712	0.369				
Angrist-Pischke F-test	66.38	10.01				
Hausman			2.55	2.45	3.81	8.02
(p-value)			0.999	0.999	0.999	0.999
Anderson canonical correlations					10.39***	
(p-value)					0.001	

Table 7

**Women and Men Directors Taking Action**

This table examines whether or not a director took an action (either requesting an update or taking an initiative) at the board-meeting-issue-director level; the analysis refers to the 11 GBCs examined. The dependent binary variable in the OLS regressions equals one if the director took an action and zero if he or she did not. The primary independent variables are: a dummy that equals one in cases in which the director taking the action was a woman, the fraction of all women directors in attendance and its square, a dummy that equals one if at least three women directors were in attendance, and a dummy that equals one if at least three men directors were in attendance. In addition, the regressions control for the fraction of outsiders, number of directors in attendance, number of years of executive experience of the director taking the action, whether the director taking the action had an MA or an MBA (using a dummy that equals one if he or she does), whether the company was in the process of replacing the CEO at the time the issue was discussed (using a dummy that equals one if this is the case), and whether the issue discussed was one of supervisory nature as described in Section 4vi (using a dummy that equals one if this is the case). For each variable, the first line reports the coefficient and the second line reports (in parentheses) clustered errors at the director level. \*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 level, respectively.

	Action taken by director				
	(1)	(2)	(3)	(4)	(5)
Woman director	-0.0011 (.002)	0.0468** (.020)	-0.0018 (.002)		
Fraction of women directors in attendance	-0.0586** (.026)	-0.1236** (.055)			
Square of fraction of women directors in attendance	0.0624** (.032)	0.1751** (.068)			
Three or more women directors in attendance			0.0072** (.004)	0.0144** (.006)	0.0044 (.005)
Three or more men directors in attendance			0.0048 (.004)	0.0033 (.005)	0.006 (.008)
Fraction of outsiders	-0.0034 (.004)	-0.0301* (.018)	-0.0032 (.004)	0.0042 (.007)	-0.0039 (.005)
Number of directors in attendance	-0.0009* (.001)	-0.0105*** (.003)	-0.0015*** (.001)	-0.0002 (.001)	-0.0022*** (.001)
MA/MBA	0.0057*** (.002)	-0.0162** (.007)	0.0055*** (.002)	0.0064* (.003)	0.0062** (.003)
Years of executive experience	0.0003*** (.000)	-0.0002 (.000)	0.0003*** (.000)	0.0001 (.000)	0.0003** (.000)
Between CEOs	0.0048 (.004)	0.0005 (.014)	0.005 (.004)	0.0250*** (.007)	-0.0031 (.005)
Dummy supervision	-0.0069 (.034)	0.0723 (.065)	0.0007 (.034)	0.003 (.089)	-0.0005 (.038)
Meetings examined	Board	Committee	Board	Board	Board
Gender examined	Both	Both	Both	Women	Men
Company, year, and topic-subject dummies included	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.006	0.017	0.006	0.004	0.011
N	10588	5047	10588	3865	6723



Table 8

**Gender Composition and CEO Turnover**

This table reports OLS regressions, analyzing a panel data set at the company-year level for the universe of the 34 GBCs in the years 2000–2009. The dependent variable is a binary variable that equals one if CEO turnover occurred in a given company in a given year. The primary independent variables are the fraction of women directors serving on a board and its square, the fraction of women directors serving on a board times ROE (ROE is expressed in decimals), the square of the fraction of women directors serving on a board times ROE, a dummy that equals one if at least three women were serving on the board, that dummy times ROE, a dummy that equals one if at least three men were serving on the board, and that dummy times ROE. In addition, the regressions control for the ROE, the fraction of outside directors, the total number of directors, the tenure of the CEO, and whether the CEO was female or male (using a dummy variable that equals one if she is a woman). For each variable, the first line reports the coefficient, and the second line reports (in parentheses) clustered errors on firm level. \*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 levels, respectively.

	CEO turnover				
	(1)	(2)	(3)	(4)	(5)
Fraction of women directors	0.259 (.272)	-0.77 (.505)			
Fraction of women*ROE	-0.591 (1.691)	11.065** (4.194)			
Square of fraction of women directors		1.579** (.618)			
Square of fraction of women*ROE		-18.284*** (5.737)			
Three or more women directors appointed			0.088 (.067)	0.128* (.070)	
Three or more women*ROE				-1.752* (.913)	
Three or more women directors appointed			0.005 (.133)	0.018 (.134)	
Three or more men*ROE				-0.695 (.852)	
At least three directors of each gender					0.172** (.084)
At least three directors of each gender*ROE					-2.027** (.883)
ROE	0.052 (.641)	-1.494* (.805)	-0.225 (.358)	0.628 (.861)	0.389 (.301)
Fraction of outsiders	-0.14 (.168)	-0.092 (.170)	-0.108 (.171)	-0.136 (.171)	-0.191 (.134)
CEO tenure	0.049** (.018)	0.052*** (.018)	0.050** (.019)	0.049** (.019)	0.050** (.018)
Number of directors	-0.004 (.013)	-0.001 (.014)	-0.009 (.017)	-0.014 (.018)	-0.014 (.020)
Woman CEO	0.451** (.187)	0.434** (.186)	0.465** (.182)	0.480** (.181)	0.455*** (.135)
R <sup>2</sup>	0.193	0.21	0.181	0.188	0.009
N	222	222	244	244	244

Table 9

**Gender Composition and Board Activeness in the Absence of a CEO**

This table reports OLS regressions analyzing issues discussed at the board-meeting-issue level; these were discussed at board and board-committee meetings of the eleven GBCs examined. The dependent variable is a binary variable that equals one if an action was taken (i.e., the board requested to receive either further information/ update, or if the board took an initiative). The primary independent variables are the fraction of women directors attending and its square, interaction variables for the latter two variables with a dummy documenting if the company was between CEOs (i.e., the board was in the process of replacing a CEO), a dummy which equals one if at least three women directors were in attendance, a dummy which equals one if at least three men directors were in attendance, and interaction variables for the latter two variables with a dummy that equals one if the company was between CEOs. In addition, the regressions control for (but do not necessarily report) the fraction of outside directors in attendance, the total number of directors in attendance, the average number of years of executive experience of the attending directors, the fraction of attending directors with an MA/MBA, and whether the issue discussed was one of a supervisory nature (using a dummy that equals one if this is the case). For each variable, the first line reports the coefficient and the second line reports (in parentheses) the clustered errors at the meeting level. \*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 levels, respectively.

	Action taken			
	(1)	(2)	(3)	(4)
Fraction of women directors in attendance	-0.278 (.272)	0.057 (.229)		
Fraction of women directors and between CEOs	0.373 (.415)	-0.56 (.370)		
Square of fraction of women directors in attendance	0.255 (.359)	-0.019 (.270)		
Square of fraction of women directors and between CEOs	-0.245 (.504)	0.472 (.430)		
Three or more women directors in attendance			0.077* (.041)	
Three or more women directors and between CEOs			0.112* (.058)	
Three or more men directors in attendance			0.024 (.043)	
Three or more men directors and between CEOs			0.160* (.094)	
At least three directors of each gender				0.067** (.032)
At least three directors of each gender and between CEOs				0.120** (.052)
Fraction of outside directors	-0.066 (.054)	-0.09 (.069)	-0.036 (.053)	-0.05 (.050)
Number of directors in attendance	0.004 (.006)	-0.011 (.012)	-0.005 (.006)	-0.005 (.006)
Fraction with executive experience	0.005 (.007)	-0.002 (.004)	0.002 (.007)	0.002 (.007)
Between-CEO period	-0.033 (.083)	0.149* (.079)	-0.146 (.107)	0.007 (.041)
Firm and year dummies	Yes	Yes	Yes	Yes
Company, year, topic-subj. dummies	Yes	Yes	Yes	Yes
Meetings examined	Board	Committees	Board	Board
R <sup>2</sup>	0.075	0.148	0.087	0.089
N	1313	1145	1313	1313

Figure 1

**Actions Taken by Boards at Board Meetings**

Figures 1a and 1b examine the 1,313 issues discussed by the eleven GBC boards studied, at the 155 board meetings they held. Figures 1a and 1b report the average fraction of cases in which the boards examined (1) requested to receive further information or an update or (2) took an initiative. The figures are broken down by the number of women directors in attendance (Figure 1a) and the number of men directors in attendance (Figure 1b).

Figure 1a – Number of Women Directors and Frequency Action Is Taken

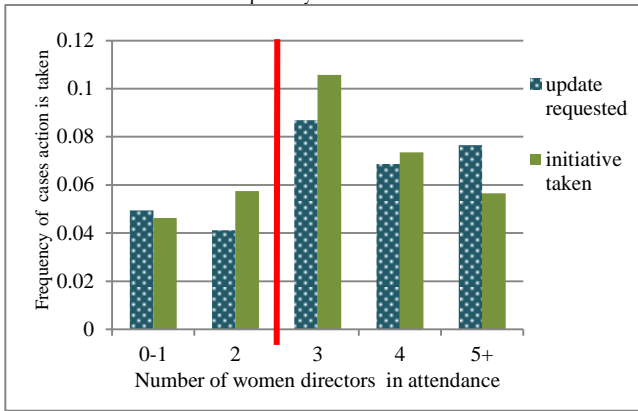


Figure 1b – Number of Men Directors and Frequency Action Is Taken

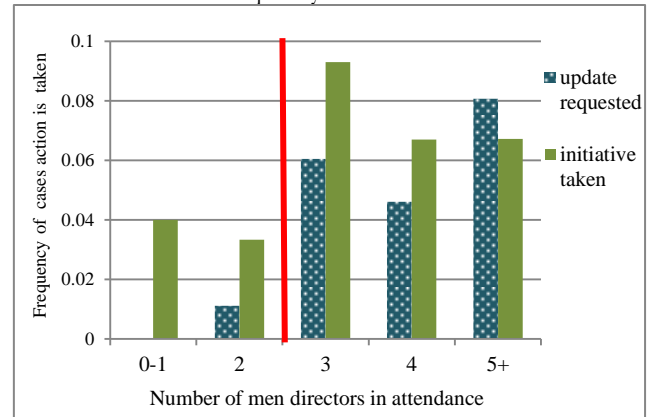
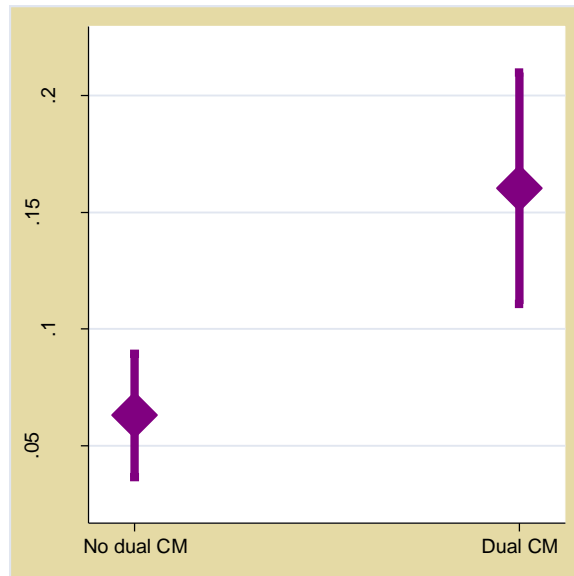


Figure 2

**Predictive Likelihood of an Action Being Taken**

For the eleven GBCs examined, this figure reports the predictive likelihood of an action being taken at a board meeting (i.e., the board requested to receive further information/ update, or the board took an initiative) given that a dual critical mass (CM) is, or is not, present. The prediction reported is based on the logit model reported in Regression 6 of Table 4, using the mean of the covariates of the control variables included in this regression. The error bars indicate the 95% confidence interval.



### **Appendix A: Additional Information on GBCs**

The 1975 “Government Companies Law” (GCL) states that a CEO is not permitted to serve as chairman or director of the firm of which he or she is CEO. However, in the minutes examined, the CEO is present in virtually all meetings of the board and its committees.

The bylaws of each GBC generally require that the board be made up of eight to twelve directors, with seven to ten directors being most common. The bylaws of each company also specify which ministers appoint the directors of the company; in most cases it is the Minister of Finance and one additional relevant minister. In certain cases, the bylaws state that some of the directors must be employees of the ministries, and/or representatives of the company’s employees; however, in none of the companies can more than two of the latter sit on a board. The Government Companies Law imposes restrictions on nominating politicians to GBC boards, and these restrictions are strictly enforced by the nomination committee. Hence, although the directors nominated must be somehow connected to the ministers, virtually no politicians were nominated to the firms examined.

The GCL requires of companies in which the government holds more than half of the votes in the general stockholders’ meetings that directors must be at least twenty-five years old, be residents of Israel, and either have relevant degrees (business, economics, law, accounting, engineering, public service, or any other field relevant to the firm) or have at least five years of relevant experience or experience in a senior management position. The requirements for the chairman are stricter.

GBC directors have the same fiduciary duties as directors serving on public and private Israeli companies. Israel’s 1999 “Corporation Law” specifies these duties: “An office holder shall owe a fiduciary duty to the company [and] shall act in good faith and for the benefit of the company” (paragraph 254 (a)). Israeli law is based on the common law, and therefore is very similar to comparable American law. Lawsuits against officers and directors of both public and private companies are less common in Israel than in the United States. All directors in our sample have Directors’ and Officers’ Liability Insurance, which provides them with coverage that is similar to that given to directors of comparable non-governmental firms.

The only compensation given to GBC directors is a fixed compensation for each meeting they attend, which ranges between \$185 and \$350 per meeting, depending on the company’s size. Although this financial compensation is not high, many people are interested in being directors of GBCs; such positions bestow a certain status, allow for the expansion of one’s professional network, and also facilitate the development of an expertise that is in demand in the better-paying private sector. In small- and medium-sized companies, the chairman is not employed on a full-time basis, and his compensation is based on the number of meetings he or she attends in practice. In large companies, the chairman is employed on a full-time basis, and accordingly receives (only) a monthly salary.

All GBCs have finance and audit board-committees. In addition, most GBCs have approximately two to three additional board-committees.

## Appendix B: Complete Coding Guidelines

### A. Complete coding guidelines

The following guidelines were defined in coding the data:

1. *General information.* For each issue discussed, the coding included the name of the company, date of meeting, type of meeting (board or specific board-committee), whether the issue was merely presented as an update or alternatively culminated in a decision made by the board, the number of lines in the minutes documenting the issue discussed, and the total number of pages of minutes of the complete meeting at which the issue was discussed.
2. *Aggregate topic-subjects.* Each topic discussed or decision made in a board meeting or board-committee meeting was coded under one of the following five aggregate topic-subjects: audit and contracting, business issues, financial issues, formal issues, and personnel and benefits. Each of these aggregate topic-subjects includes the following 23 topic-subjects (defined in Section B of this appendix):
  - a. *Audit and contracting:* audit issues, contracting or purchases, legal, and ratification of audit committee.
  - b. *Business issues:* business issues, business projects, cross-firm issues, ongoing general issues, ratification of operational committee, regulation and government, and strategic issues.
  - c. *Financial issues:* budget, financial reports, investment or finance, and ratification of financial committee.
  - d. *Formal issues:* appointments of members, approving past minutes of meetings, choosing a chairman for the meeting, and formal issues.
  - e. *Personnel and benefits:* appointing or firing an executive, organizational change, personnel and benefits, and ratification of human resources committee.
3. *Supervision.* All topic-subjects were divided according to whether they were of supervisory or managerial nature. Supervisory topic-subjects were defined as appointment of members, approving minutes of earlier meetings, audit issues, choosing a chairman for the meeting, contracting or purchases, financial reports, formal issues, legal issues, personnel and benefits, ratification of audit committee, ratification of human resources committee, ratification of operational committee, ratification of financial committee, and regulation and government. Managerial topic-subjects were defined as appointing or firing an executive, budget, business issues, business projects, cross-firm issues, investment or finance, ongoing general issues, organizational change, and strategic issues.
4. *Presentation of alternatives.* These are cases in which the board was presented with at least two alternatives, including cases in which the CEO or management made its own preference clear.
5. *Further updates.* These are cases in which the board requested to receive further information or an update on the subject discussed. In cases in which the board requested more than one update or further information on a single topic-subject, this was coded as one request.
6. *Taking an initiative.* When a board took an action whose intent was to improve the company, according to its own understanding, this was coded as either “minor initiative” or as “major initiative.” “Minor initiative” indicates that the board slightly modified an original proposal. For examples: the board approved a lease it was asked to approve, yet decided to introduce a few revisions of details; the board requested that some moderate action be taken, for instance, that the CEO write a letter to the regulator about an issue discussed at the board meeting; or the board decided to form a committee or appoint a director to handle a certain issue, but when this decision was made it is

too early to know whether any action was indeed taken.<sup>15</sup> “Major initiative” indicates that the board took an active part in defining the steps or actions that should be taken, or delved into an issue it actively requested to discuss. For example: a board asked to examine the company’s policy concerning perks (e.g., which employees were eligible to be driven to work, at what times, and under what circumstances), discussed the policy concerning that perk quite thoroughly, and, finally, formulated and adopted a new alternative policy; or a board actively sought, both within the boardroom and elsewhere, to change the regulation imposed on the firm.

7. *Decision in line with CEO.* For each decision made by the board, the decision was coded as either in line, partially in line, or not in line with the CEO’s or management’s proposal.<sup>16</sup>
8. *Dissension.* These are cases in which a decision was made, and one or more of the directors did not vote as the others (either opposing or abstaining).
9. *Size of board and board composition.* For each meeting, the total number of attending directors was coded, along with the number of attending men and women directors, directors from ethnic minorities (Arabs), and outside directors.<sup>17</sup>
10. *Between CEOs.* These are cases in which the firm had no CEO at the time the board or board-committee meeting was held.
11. *Consistency.* To assure consistent standards all coding was executed by the author,<sup>18</sup> who reviewed the coding several times.

#### B. *List of topic-subjects*

Each topic discussed or decision made in a board or board-committee meeting was coded under one of the following 23 topic-subjects.

- i. *Appointing or firing an executive* – executives include the CEO, deputies, and auditor.
- ii. *Appointment of members* to board-committees or boards of subsidiary firms.
- iii. *Approving minutes of past meetings* – formal approval of the minutes by the board.
- iv. *Audit* – audit reports and audit issues regarding the firm.
- v. *Budget* – updates, suggested changes, and projected budget.
- vi. *Business issues* – standard business issues. For instance, in the case of a bank, waiving part of a client’s problematic debt.
- vii. *Business project* – data regarding a specific project the firm or a subsidiary had undertaken or had considered undertaking.

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<sup>15</sup> If the minutes of subsequent meetings documented that the board did take a major initiative, it was categorized accordingly for that subsequent meeting.

<sup>16</sup> In cases in which the chairman received a monthly salary and, accordingly, dedicated most of his or her time to the firm, it is generally evident from the minutes that in the boardroom his or her views were coordinated and aligned with those of the CEO. In these cases, the chairman usually complemented the CEO and vice versa. Accordingly, views of chairmen who receive monthly salaries were regarded and coded as identical to those of the CEO. In contrast, in firms in which the chairman was compensated only on the basis of board and board-committee meetings he or she attended, his or her views were not always coordinated and aligned with those of the CEO and, therefore, he or she was regarded as a board member and his or her views were coded accordingly as the views of the board.

<sup>17</sup> Inside directors were defined as government employees and firm employees.

<sup>18</sup> This was also due to the confidentiality of the minutes, which were generously made available to the author.

- viii. *Choosing a chairman for the meeting* – electing a chairman for a board meeting when the company does not have a permanent chairman.
- ix. *Contracting or purchases* – contracts regarding purchasing raw materials, supplies, real estate, or services from advisers and external accountants. This category also includes problems that could arise within contractual relation.
- x. *Cross-firm issues* – an issue with firm-wide implications (for example, proposed changes in customer service or moving offices to a new location) or plans for a specific unit that have ramifications and implications for the firm at large.
- xi. *Financial reports* – discussions regarding the financial reports and the assumptions they are based upon.
- xii. *Formal issues* – issues that must receive the formal approval of the board, such as granting the authority to sign a contract or financial reports or to represent the firm in a general meeting.
- xiii. *Investment or finance* – issues regarding money invested, borrowed from banks or the government, or raised from institutional investors or the stock market; issues regarding the firm's floating stock.
- xiv. *Legal* – legal issues, including insurance.
- xv. *Ongoing general issues* – ongoing continuing issues in the everyday function of the firm, including brief anecdotal updates on issues previously discussed by the board. Most board meetings commenced with such brief updates presented by the CEO or chairman. When distinct issues were discussed in detail, each issue was coded separately.
- xvi. *Organizational change* – structural changes in the firm.
- xvii. *Personnel and benefits* – employee benefits (e.g., receiving bonuses or leasing cars), behavioral problems among employees, changes in the total number of employees, general policies regarding employees, and a limited range of issues regarding compensation and benefits received by the directors.
- xviii. *Ratification of audit committee* – a decision made by the audit board-committee that was only briefly presented to the board, to allow ratification of the decision.
- xix. *Ratification of financial committee* – a decision made by the financial board-committee that was only briefly presented to the board, to allow ratification of the decision.
- xx. *Ratification of human resources committee* – a decision made by the human resource board-committee that was only briefly presented to the board, to allow ratification of the decision.
- xxi. *Ratification of operational committee* – a decision made by the operational board-committee that was only briefly presented to the board, to allow ratification of the decision.
- xxii. *Regulation and government* – relation with the government, whether as regulator, shareholder, or otherwise. Examples of issues included are fees determined by the regulator, dividends the government demanded, and privatization.
- xxiii. *Strategic issues* – discussions pertaining to the strategic business plan of the firm, or at least of a major activity of the firm, for the following years.

## **Appendix C: Examples of Actions Taken**

This appendix illustrates the types of actions that were taken by the boards. Namely, the appendix documents all the actions that were taken and coded under one of the twenty-three topic subjects – the “budget” topic-subject. For the budget topic-subject, eighteen requests were made to receive further information or an update, and ten initiatives were taken. All these actions are specified below.

### **Requests to receive further information or an update:**

The board requested to receive:

1. A sensitivity analysis examining how the budget would change if the Dollar/Israeli New Shekel exchange rate were to increase or decrease.
2. Information on new business projects that have not been presented to the board, and the proposed budget for those business projects.
3. An analysis examining how the budget would be affected if the firm’s projected revenue were to decrease by 5%.
4. An analysis of how the valuation methods required by SOX (which the firms were required to implement gradually) affected the value of the firm’s assets and those of its subsidiaries.
5. An analysis of how purchasing raw materials in the spot market could affect the firm’s budget.
6. The actual expenses of several projects, compared to those projected.
7. An analysis of the expenses incurred in order to maintain the vehicles owned and used by the company, and a parallel analysis of what the company’s expenses would be if it were instead to lease the vehicles it uses.
8. A report on the profitability of the different business sectors in which the firm operates.
9. A list of all the outside advisers providing services to the firm, the services they provide, and their cost.
10. An updated budget following the firing of some of the employees.
11. Information on how one of the major raw materials is purchased, and a proposal of alternatives that could possibly cut those expenses.
12. A report on the actual expenses of a specific budget category that, in the previous year, the board had demanded be cut.
13. A more accurate long-term budget.
14. A new investment budget that would cut spending by 10%.
15. A legal opinion concerning the company’s ability to use a designated budget category for other purposes.
16. A document that summarizes the exposures of the company following a change in regulation.
17. A quarterly update comparing the budget as initially planned to the actual expenses.
18. Several alternatives to the proposed budget.

### **Initiatives taken:**

1. Following the presentation of the revenue and expenses of one of the subsidiaries, the board expressed its desire to seriously consider selling it. An additional discussion of this topic was scheduled.



2. The board requested that the firm change its current policy not to include any “allowance for bad debt,” and that the company would make such an allowance.
3. To increase the company’s limited cash flow, the board suggested and resolved that the company attempt to increase its suppliers’ credit, that it limit the number of miles employees are permitted to drive in the company’s vehicles, and that it limit the cell phone bills reimbursed by the company.
4. The board proposed and resolved to hire an outside consultant who would map the firm’s financial exposures and recommend how to invest the firm’s money.
5. The board proposed and decided that the budget allocated to providing improved customer service be increased.
6. The board made it clear that it expected the company to generate the minimal profit it set as a target, and demanded that the projected budget be revised accordingly.
7. The board requested that the CEO seek alternative suppliers. These alternative suppliers were expected to affect the short- and long-term budget.
8. The board initiated a meeting with the regulator, which was attended by the board and the management. In this meeting, the boards and management requested that the regulation be changed in a way that would increase the firm’s income.
9. The board decided to prioritize which projects should receive increased budget, and, at the next meeting, it made changes to the proposed budget which reflected these new priorities.
10. The board initiated a discussion on the times, intervals, and format in which it wished to receive information concerning the budget.

## **Appendix D: Exclusion Restriction**

This appendix addresses potential concerns related to the exclusion restriction requirement. First, I examine the concern that boards might discuss different types of issues at board meetings scheduled on days on which a board-committee meeting is also scheduled, compared to board meetings held on days on which no additional board-committee meeting is scheduled. The insignificant t-statistics reported in Panels 1 and 2 of Table A show that the type of issues discussed on days on which a board-committee meeting is also scheduled – as opposed to days in which no such meeting is scheduled – are not significantly different, or more “important.”<sup>19</sup>

I also address the concern that firms may adjust the type of issues brought up for discussion depending on whether the board includes a dual critical mass. The insignificant t-statistics reported in Panel 3 of the Table A document that the type of issues discussed are not significantly different when the board does, or does not, include a dual critical mass.

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<sup>19</sup> Important issues are defined as appointing or firing an executive, budget, business issues, business projects, cross-firm issues, financial reports, investment/finance, organizational changes, personnel and benefits, regulation and government, and strategic issues. Issues of secondary importance include appointment of members, approving minutes of past meetings, audit, choosing a chairman for the meeting, contracting and purchases, formal issues, legal issues, ongoing general issues, ratification of audit committee, ratification of financial committee, ratification of HR committee, and ratification of operational committee.

Table A

**Board Meetings on Days with and without Board-Committee Meetings**

This table compares board meetings held on days on which there was no board-committee meeting (“only board”) to board meetings held on days on which at least one board-committee meeting was held (“board and committee”). Panel 1 breaks down the number of issues discussed categorized as “important” as opposed to those that were categorized as being only of secondary importance. Column 1 in Panel 1 reports the average percentage of the *number* of issues boards discussed that were categorized as important (i.e., number of important issues/[number of important issues + number of issues of secondary importance]), while Column 2 reports the percentage of *time* boards spent discussing important issues. The time spent on each issue discussed is estimated based on the number of lines in the minutes that document each discussion. Column 3 reports the percentage of the number of supervisory issues boards discussed as opposed to managerial issues (see Section 4vi for definitions), and Column 4 reports on the percentage of time boards spent on supervisory issues. Panels 2 and 3 break down, on the aggregate topic-subject level, the topics discussed by boards depending on whether a board-committee took place on the same day (Panel 2), and depending on whether a dual critical mass (at least three directors of each gender) was in attendance. For each column, all panels report t-statistics that estimate whether the frequency pertaining to “only board” observations is statistically different from the observations pertaining to “board and committee” observations.

Panel 1

	Number of issues Important (1)	Percent of time Important (2)	Number of issues Supervisory (3)	Percent of time Supervisory (4)
Only board	51.6%	64.5%	64.0%	58.3%
Board and committee	40.6%	57.5%	62.5%	53.0%
t-statistic (two sided)	0.568	0.186	0.692	0.295

Panel 2

	Percentage of issues discussed, broken down by aggregate topic-subject level					Total
	Business issues	Financial issues	Formal issues	Personnel & benefits	Audit & contracting	
Only board	11.9%	36.6%	18.4%	5.0%	28.2%	100%
Board and committee	10.3%	27.6%	25.4%	3.6%	33.1%	100%
t-statistic (two sided)	0.614	0.342	0.655	0.134	0.930	

Panel 3

	Percentage of issues discussed, broken down by aggregate topic-subject level					Total
	Business issues	Financial issues	Formal issues	Personnel & benefits	Audit & contracting	
Dual critical mass	11.8%	29.8%	18.6%	17.9%	21.9%	100%
No dual critical mass	11.8%	28.9%	16.1%	20.9%	22.1%	100%
t-statistic (two sided)	0.982	0.801	0.459	0.290	0.963	

## **Appendix E: Do Different Genders Focus on Different Types of Issues?**

This appendix examines whether men and women directors have different inclinations or predispositions to take action concerning different types of issues. The analysis is conducted on the level of the individual director.

Board-committee appointments are among the few generally observable variables that may indicate whether each gender of directors tends to specialize in certain types of issues. Studies examining board-committee appointment patterns have found that women directors are more likely to be appointed to committees that conduct tasks oriented toward monitoring and sustaining the corporate governance of the company, while men directors are more likely to be appointed to the business-oriented/managerial committees (Kesner, 1998; Bilimoria and Piderit, 1994; Peterson and Philpot, 2007; Adams and Ferreira, 2009). However, directors are not necessarily appointed to the committees they prefer, and therefore board-committee appointments may not reflect the relative proclivities of each gender of directors.

This appendix examines whether each gender of directors does indeed tend to focus on different types of issues by examining if each gender is likely to take actions pertaining to different types of issues. To allow such an analysis, each action taken by only one director is attributed to that director. In addition, the type of topic discussed when the director took the action is categorized under one of twenty-three topic-subjects, which are each classified as either supervisory or managerial (see Section 4vi and Appendix B for further details).

Columns 2 and 3 of Table B report the frequency with which directors of each gender took an action pertaining to a supervisory issue (henceforth a “supervisory action”) or to a managerial issue (henceforth a “managerial action”). Column 5 of Table B reports the average percentage of actions taken by each gender of directors that were supervisory actions (this figure is computed by dividing the figure in Column 2 by the figure in Column 1). Column 5 documents that women directors are more likely than men directors to take a supervisory action both at board meetings and at board-committee meetings: in board meetings, 80.6% of all actions taken by women are supervisory, whereas the corresponding figure for men directors is only 61.7%. A similar difference is documented for board-committee meetings: 89.2% of all actions taken by women directors are supervisory, whereas the corresponding figure for men directors is only 77.9%.

Table C explores these differences further using regressions. Table C estimates the likelihood of a particular gender taking an action pertaining to a supervisory issue as opposed to a managerial one. As the analysis here is only of actions taken by a director of one gender or another, the observations included in Table C are conditional on an action being taken (i.e., they include only observations in which a director requested an update or took an initiative). These regressions are conducted at the board-meeting-issue-director level.

The dependent variable in the Table C regressions is a binary variable which equals one if the action the director took pertained to a supervisory issue and zero if it pertained to a managerial one. Consistent with the summary statistics reported in Table B, Regression 1 of Table C documents that the probability of a woman director taking a supervisory action at a board meeting is 32% higher than the corresponding figure for her male counterpart. Similarly, Regression 2, which is the logit version of Regression 1, estimates that the odds of a woman director taking an action concerning a supervisory issue as opposed to a managerial one are 1.71 times greater than the odds of a male director doing so. Using the corresponding coefficient for “woman director taking action” (not reported) and the mean covariates of the other variables included in Regression 2, women directors are predicted to take a supervisory action in 86.3% of the cases in which they take an action, whereas men directors are predicted to do so in only 53.3% of the cases.

Regression 3 of Table C (an OLS regression) documents a similar pattern for board-committee meetings: in these meetings, women directors are 11% more likely than men directors to take an action concerning a supervisory issue. Put differently, at board meetings in which both genders have equal opportunity to be active on the same issues (Regressions 1–2) and at board-committee meetings (Regression 3) in which directors can be active only with respect to the issues discussed at the committees to which they are assigned, women directors are more likely than men directors to take an action pertaining to a supervisory issue. This suggests that women directors have a tendency to focus on supervisory issues.

Regressions 4–5 of Table C examine how critical masses relate to the likelihood of men and women directors taking a supervisory action, as opposed to a managerial one, at board meetings. To allow a clear understanding of the magnitude of the critical mass effect on the actions taken by each gender of directors at board meetings, Regressions 4 and 5 examine only the actions taken by women directors, and only those taken by men directors, respectively. Regression 4 documents that women directors are 0.308 less likely to take a supervisory action if a critical mass of women directors is in attendance (results are significant at the 10% level). Since, as reported in Table B, 80.6% of the actions taken by women are supervisory, Regression 4 estimates that having a critical mass of women directors is expected to decrease the likelihood of women directors taking a supervisory action by 38.2% ( $0.308/0.806$ ). The flip side of this finding is that women directors are more likely to take a managerial action when a critical mass of women directors is in attendance.

Regression 5 shows that having a critical mass of men directors increases the likelihood of men directors taking a supervisory action at board meetings by more than 100%. This extremely high estimate may be due to the well-documented limitation of the linear probability model in estimating equations with binary dependent variables (Greene, 2008). For this reason, in an unreported specification, a logit version of Regression 5 is estimated. This regression generates a smaller estimate – when boards include a critical mass of men, men directors are 35.8% more likely to take a supervisory action than they are on boards that do not have such a critical mass (results are significant at the 1% level). Since on average 61.7% of the actions taken by men directors at board meetings are supervisory (see Table B), the 35.8% increase documented in the logit regression is, nevertheless, quite substantial. These high estimates documented by both the OLS and the logit model indicate that men directors are significantly more likely to take a supervisory action if a critical mass of men directors is in attendance.

Regression 5 reports that a critical mass of women directors is also expected to increase the likelihood of a supervisory action being taken by men directors by 0.361. Since 61.7% of the actions taken by men directors are supervisory, this coefficient indicates that men directors are 58.5% ( $0.361/0.617$ ) more likely to take an action pertaining to a supervisory issue if a critical mass of women directors is in attendance. This indicates that a critical mass of the other gender can also nudge directors to take actions pertaining to different types of issues.

In sum, the findings of this section support the argument that women directors have a stronger inclination than men directors to focus on supervisory issues. However, the findings also show that gender-balanced boards mitigate women directors' inclination to focus on supervisory issues and vice versa: critical masses of women directors increase the likelihood of women directors taking an action pertaining to a managerial issue, while a critical mass of men directors, and also one of women directors, catalyzes men directors to take an action pertaining to a supervisory issue.

Table B

**Descriptive Statistics on Activeness of Individual Directors**

This table reports summary statistics at the board-meeting-issue-director level for board meetings (top panel), and for board-committee meetings (lower panel). The columns report the frequency with which directors of each gender took an action, i.e., requested an update or took an initiative (Column 1), took a supervisory action as defined in Section 4vi (Column 2), or took a managerial action as defined in Section 4vi (Column 3). Column 1 is equal to the sum of Columns 2 and 3. Column 4 reports the corresponding number of observations for each gender at the board-meeting-issue-director level. Column 5 reports, conditional on an action being taken, the average percentage of cases in which each gender took a supervisory action (as opposed to a managerial one), of all actions taken. Column 5 is equal to Column 2/Column 1.

	Total percent of cases in which action is taken (1)	Percent of cases in which supervisory action taken (2)	Percent of cases in which managerial action taken (3)	N (4)	Average percentage of supervisory actions of all actions taken (5)
<u>Board meetings</u>					
Women directors	0.80%	0.65%	0.16%	3,865	80.6%
Men directors	0.92%	0.60%	0.32%	6,723	61.7%
<u>Committee Meetings</u>					
Women directors	4.56%	4.07%	0.49%	2,038	89.2%
Men directors	4.05%	3.16%	0.90%	3,009	77.9%

Table C

**The Gender of Directors and the Type of Issues for which They Are Active**

This table examines, for the 11 GBCs studied, whether or not directors took a supervisory action, as opposed to a managerial action (as defined in Section 4vi) at the board-meeting-issue-director level. The observations included are conditional on an action being taken, and therefore include only the cases in which a director took an action. The dependent binary variable equals one if the action taken by a director pertained to a supervisory issue as opposed to a managerial issue. The primary independent variables are a dummy that equals one in cases in which the director taking the action was a woman, the fraction of all women directors in attendance and its square, a dummy that equals one if at least three women directors were in attendance, and a dummy that equals one if at least three men directors were in attendance. In addition, the regressions control for the fraction of outside directors, the number of directors in attendance, the number of years of executive experience of the director taking the action, whether the director taking the action had an MA or an MBA (using a dummy that equals one if this is the case), whether the company was in the process of replacing the CEO at the time the issue was discussed (using a dummy that equals one if this is the case). For each variable, the first line reports the coefficient in Regressions 1 and 3–5, and the odds ratio in Regression 2. For all variables, the second line reports (in parentheses) errors clustered at the director level. \*\*\*, \*\*, and \* indicate significance at the 0.01, 0.05, and 0.10 levels, respectively.

	Action taken on a supervisory issue				
	(1)	(2)	(3)	(4)	(5)
Woman director took action	0.320*** (.101)	1.712*** (.535)	0.110*** (.027)		
Fraction of women directors in attendance	1.064 (.994)	5.139 (4.076)	-0.453 (.602)		
Square of fraction of women	-1.317 (1.295)	-6.53 (5.603)	0.495 (.531)		
Three or more women directors in attendance				-0.308* (.155)	0.361** (.144)
Three or more men directors in attendance				-0.14 (.189)	1.034*** (.199)
Fraction of outside directors	0.074 (.262)	0.478 (1.524)	0.051 (.135)	0.325 (.479)	0.384 (.240)
Number of directors in attendance	-0.041** (.017)	-0.213** (.093)	0.040* (.018)	0.016 (.033)	-0.103*** (.019)
Does director have an MA/MBA	-0.121 (.101)	-0.645 (.495)	-0.044 (.063)	-0.214** (.072)	-0.132 (.120)
Number of years of executive experience	-0.006 (.006)	-0.023 (.031)	-0.012** (.005)	0.008 (.005)	-0.022** (.009)
Between-CEO period	-0.154 (.086)	-0.770* (.436)	-0.08 (.099)	0.132 (.222)	-0.196 (.108)
Meetings examined	Boards	Boards	Committees	Boards	Boards
Genders included	Both	Both	Both	Women	Men
Type of regression	OLS	Logit	OLS	OLS	OLS
R <sup>2</sup>	0.052		0.091	0.119	0.174
N	101	101	225	33	68