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ABSTRACT

We analyze a unique database from a sample of real-world boardrooms – minutes of board meetings and board-committee meetings of eleven business companies for which the Israeli government holds a substantial equity interest. We use these data to evaluate the underlying assumptions and predictions of models of boards of directors. These models generally fall into two categories: “managerial models” assume boards play a direct role in managing the firm, and “supervisory models” assume that boards’ monitor top management but do not make business decisions themselves. Consistent with the supervisory models, our minutes-based data suggest that boards spend most of their time monitoring management: 67% of the issues they discussed were of a supervisory nature, they were presented with only a single option in 99% of the issues discussed, and they disagreed with the CEO only 3.3% of the time. In addition, managerial models describe boards at times as well: Boards requested to receive further information or an update for 8% of the issues discussed, and they took an initiative with respect to 8.1% of them. In 63% of the meetings, boards took at least one of these actions or did not vote in line with the CEO.

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1. Introduction

Given their central role in corporate governance, boards of directors have become a popular topic of research. Indeed, a recent search of ssrn.com for “board of directors” yielded a total of 2009 research papers on the topic.² A major difficulty in designing research about boards of directors is that the day-to-day workings of a boardroom are private, so that to understand the roles of boards, researchers must draw (possibly incorrect) inferences about their decision-making process from publicly observable data. The most common empirical research strategy on boards is to gather data on the structure of boards and to draw inferences about what boards do from the way in which this structure affects observable variables about the firm. Theoretical research generally starts from premises about what kinds of decisions boards make (managerial or supervisory) and the process by which these decisions are made. The uncertainty about the extent to which the empirical inferences are correct, and to which the underlying assumptions of the theoretical models characterize real-world boards limits the applicability of this research.

In this paper, we supplement existing research, which is primarily based on publicly available data, with private data on the detailed minutes of board meetings. These minutes document the details of board and board committee meetings, including all the statements made by every participant in each meeting.³ We obtain minutes for eleven Israeli business companies in which the government has a substantial equity interest (GBCs), each covering a year of meetings within the 2007-2009 period. We transform the minutes into a quantitative database that characterizes the board meetings, allowing us to assess the way in which the boards work and interact with management. For each issue discussed, we document what was discussed, whether an update was delivered or alternatively a decision was made by the board, whether there was any dissention at the voting phase, whether the decision followed the CEO’s recommendation, whether the board took an initiative to modify or define more broadly the actions to be taken, whether the board requested to receive further information or an update, and whether the board was

² The search was done on August 29, 2011.

³ These minutes are complete and were not censored for sensitive information.

presented with at least two proposals to consider. This database consists of the minutes from 155 board meetings and 247 board-committee meetings, in which 2459 decisions were made or updates were given (1422 decisions and 1037 updates).⁴

This paper is the first to analyze board minutes in a systematic fashion. Doing so has a number of advantages over traditional empirical work that employs publicly available or interview-based data. Outcome-based empirical work typically relates board composition to observables such as CEO turnover, a hostile takeover, or adoption of a poison pill.⁵ These events, albeit extremely important, are unusual and do not reflect the day-to-day functions of boards. In addition, there are a number of studies relying on interviews with CEOs and directors, with the goal of capturing the essence of the way in which they work together.⁶ Yet, these studies rely on directors' memories and willingness to disclose their own actions, and can therefore reflect inflated perceptions of directors regarding their own abilities and their contribution to the firm. The advantage of the minutes is that they record everything that happened at the meetings, and provide a clear picture of what boards actually do.

A fundamental problem in the literature on boards of directors is that it has not agreed on the process by which boards govern the firm. Some models, including Song and Thakor (2006), Adams and Ferreira (2007) and Harris and Raviv (2008), adopt a "managerial" approach to boards of directors, and presume that boards make managerial decisions such as which projects to take, which employees to hire, etc. An alternative, "supervisory" approach, adopted by models such as Hermalin and Weisbach (1998), Almazan and Suarez (2003), and Raheja (2005), starts from the assumption that the main function of boards is to monitor and assess the CEO, rather than to intervene in particular issues. The minutes data allows us to do the somewhat unorthodox testing of the basic assumptions made in each of the two approaches, in addition to testing their predictions.

⁴The minutes of meetings total 4,758 pages. The average number of pages of minutes per board meeting is 14.2; for board-committee meetings it is 10.5.

⁵ See Weisbach (1988), Shivdasani (1993) and Brickley, Coles and Terry (1994).

⁶ See Mace (1971), Lorsch and McIver (1989) and Adams (2009).

For the sample of GBCs we consider, boards appear to play in their supervisory role the majority of the time: 67% of the issues discussed by the boards in our sample we classified as supervisory. Also consistent with the supervisory approach is the fact that most of the time, boards go along with the CEO's wishes – at the voting phase, in only 2.5% of the cases did boards partially or completely disagree with the CEO. In addition, we find that in only one percent of the time was the board presented with more than one alternative to choose from.

However, we also document evidence suggesting that some of the time boards do play a managerial role. On average, in 8.1% of the issues discussed the board took an initiative on its own, implying that it actively participated in shaping the decision in these cases. In addition, in 8% of the issues the board requested to receive further information or an update. Since a number of issues are discussed at every meeting, boards played an active role on at least one issue in the majority of meetings. In 63% of the meetings, boards took at least one of the following actions: they did not vote in line with the CEO, they requested to receive further information or an update, or took an initiative as. These findings suggest that boards can be described as active monitors. Most commonly, they supervise and monitor management; however, on occasion they are called upon to make managerial decisions themselves.

We also examine the extent of dissension among directors. We find that at the firm level, in 3.3% of the cases boards did not vote unanimously. These findings suggest that modeling boards as a monolithic entity is a reasonable approach, and is also consistent with models that predict that boards will usually vote unanimously.

The minutes data allows us to draw some inferences that are impossible to make using publicly available data. For example, our sample suggests that prior work understates the fraction of CEO departures that are “forced”. While our sample is too small to draw reliable estimates of the understatement, there are at least two cases in our sample where the CEO was clearly coerced to leave by the board, yet there would be no way to know about this coercion using only publicly available data. The existence of these cases suggest that estimates of the fraction of CEO turnovers that are forced using

publicly-traded data will underestimate perhaps substantially, the fraction of turnovers that are initiated by the board.

A potential concern is the extent to which the boards of our sample of Israeli government-controlled companies reflect other companies. While it is impossible to know exactly how different our firms' governance is from that of privately held companies in both in Israel and the rest of the world, there are several relevant factors to consider. Because the GBCs are government-controlled, directors are appointed and not elected by shareholders, and therefore do not have direct pecuniary incentives to maximize their firms' values. However, the GBC boards we consider are of similar size and composition as boards of publicly traded companies around the world, especially those in Israel and Europe. In addition, like directors of privately-held companies, these directors still have a fiduciary responsibility to maximize their firm's profits, and our reading of the minutes suggests that they take this responsibility seriously. Furthermore, as we specify throughout the paper, the board dynamics we document are similar to those reported in interview-based studies, which are most often based on publicly-traded U.S. companies. For these reasons, we believe that the relationship between a CEO and a GBC board, and among the directors of GBCs, is likely to be similar to the corresponding relationships in other boardrooms.

To understand the role of boards of directors, we believe it is necessary to observe to the extent possible how they actually function. To do so requires the kind of data for which we have access for our sample, but is impossible to obtain for most firms. The fact that models of boards of directors proceed from such wildly different underlying assumptions suggests that this approach has value and can lead to improved modeling and interpretation of empirical results of other studies. Our hope is that by opening up the "black box" of the board for these companies, we can shed light on how boards function in other types of companies in which the basic structure of a board supervising a CEO is present.

2. Business Firms in which the Israeli Government Holds Shares

This study examines the minutes of board and board-committee meetings of eleven business companies in which the Israeli government holds shares; we refer to them as GBCs (government business companies). These eleven companies are taken from the thirty-four GBCs that operate in Israel in various fields, including infrastructure, military technology, construction/housing, and services. All GBCs are overseen by the Government Companies Authority, which represents the government in its role as a shareholder.

Table 1 presents 2007 key figures for the universe of the thirty-four GBCs. As this table indicates, the size of these companies varies greatly: some companies employ only tens of employees, whereas others employ more than ten thousand. The annual income of the smaller GBCs is just a few million USD, whereas the comparable figure for the larger firms is one to four billion USD. The latter firms are very large relative to other Israeli firms.⁷

Israel's 1999 "Corporation Law" which applies to all corporate companies in Israel (including government owned firms), and its 1975 "Government Companies Law" which applies only to government owned firms, detail the duties incumbent upon their boards. Both laws stress that the board must determine the company's policy. In addition, both laws stress that the board must monitor the CEO. Concerning "business companies", which are the firms examined in this study, the Government Companies Law explicitly requires that "the firm operate according to business considerations just as firms with no government shareholder do" (authors' translation).

Furthermore, the GCL specifies additional tasks the board must carry out which include determining the company's budget, discussing the financial reports, determining the long-term program, and choosing and appointing the CEO. The GCL also states that the CEO is not permitted to serve as the chairman of the board (and he is also not permitted to serve as a director of the firm of which he is the

⁷ The median income of 662 companies that were traded at the Tel-Aviv Stock Exchange in 2007, and for which data is available, was 36 million USD; the average figure was 265 million USD. In 2007, only six companies traded on the TASE had income that exceeded that of the Israel Electricity Company, the largest government company in Israel.

CEO). However, it is clear from the minutes that the CEO is present in virtually all meetings of the board and its committees.⁸

2.1. Boards of Directors of GBCs

All GBCs examined have one-tier boards. Usually the by-laws of each GBC require that the board be made up of six to twelve directors, with seven to ten being most common in practice. The by-laws of each of the companies 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 by-laws state that some of the directors must be employees of the ministries, and/or representatives of the company's employees, but in no case can more than two of the latter sit on a board. The 1975 "Government Companies Law" imposes restrictions on nominating politicians to GBC boards, and the nomination committee strictly enforces these restrictions. Hence, although the directors nominated must be somehow connected to the ministers, virtually no politicians were nominated to the firms examined.

Directors of GBCs are appointed by the government, and in practice, their re-nomination does not depend on their individual, or the firm's performance.⁹ The only compensation given to directors is a fixed compensation for each board or board-committee meeting they attend, a compensation which ranges between \$185 and \$350 per meeting,¹⁰ with the exact quantity a function of the company's size.¹¹

Summary statistics on the directors of the GBCs examined are presented in Table 2, alongside comparative data pertaining to boards of directors of publicly-traded firms from four different countries:

⁸ All GBCs have finance and audit board committees. In addition, most GBCs have approximately two to three additional board committees.

⁹ In addition, The Government Companies Law requires that in companies in which the government holds more than half the votes in the general stockholders' meetings, directors must be at least twenty-five years old, be residents of Israel, and either have degrees in 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 regarding the chairman are even stricter.

¹⁰ Although this financial compensation is not high, there are always candidates interested in being directors of GBCs, since such positions provide status, the expansion of one's professional network, and also enable the development of an expertise in demand in the better-paying private sector.

¹¹ In small and medium companies, the chairman is not employed on a full-time basis, and his compensation is based on the number of meetings he actually attends. In large companies, the chairman is employed on a full-time basis, and accordingly receives (only) a monthly salary. State employees or company employees receive no additional remuneration for serving as directors.

Israel, Norway, Switzerland, and the U.S. Table 2 documents that publicly-traded firms from different countries tend to have directors with somewhat different backgrounds from one another, but that GBC boards do not differ dramatically from those of publicly-traded companies. More specifically, the GBC directors are only a few years younger than their counterparts serving on the other companies' boards, and they are more likely to have a BA, but less likely to have an MA/ MBA. The percentage of GBC directors with executive experience is similar to that of their Norwegian and American counterparts.

3. Data and Methods

Minutes of board-meetings and board-committee meetings of eleven GBCs were coded for a period of one calendar year for each company. The year studied was between the years 2007 and 2009 (2008 for 8 of 11 companies). These minutes document the occurrences of these meeting, including what each of the attendees said at the meetings. Nine of the eleven companies examined provided minutes of both board meetings and board-committees, while the other two supplied only minutes from their board meetings.

Confidentiality agreements preclude identification of the specific firms in the sample. However, all eleven firms are among those listed in Table 1. They are of different size, as measured by annual income, with a tendency toward the larger GBCs, and tend to reflect the different fields in which the GBCs operate. Of the eleven firms, nine were completely owned by the Israeli government, the other two only partially (approximately 50% of the shares were held by the government).

An important limitation of these data is that they do not contain information on what occurs between the CEO and the directors *outside* the boardroom. Undoubtedly, important interactions take place outside the boardroom, but unless they are mentioned in the minutes, it is not possible for us to be aware of them. Nevertheless, although there are discussions and interactions outside the boardroom, the bulk of board activity – including the decision-making process – takes place in the boardroom and so is reflected in the minutes.

The data was coded according to content-analysis methodology (Krippendorff, 2004; Lieblich et al., 1998). The 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). This methodology involves constructing a quantitative database by categorizing or coding different aspects of a qualitative data set. We did all coding manually, because the coding guidelines we define require a comprehensive understanding of the content of the meetings. The essentials of the coding guidelines are as follows (for a more detailed discussion, see the appendix):

- i. **General information.** For each update or decision, we recorded the name of the company, date of meeting, number of pages and type of meeting (board/committee), and whether the issue was merely presented as an update or, alternatively, culminated in a decision made by the board.
- ii. **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.
- iii. **Topic-subjects.** The five aggregate topic-subjects were further broken down to twenty-three topic-subjects, as presented in Table 8.
- iv. **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/ management’s proposal.
- v. **Further updates.** Cases in which the board requested to receive further information or an update on the subject discussed.
- vi. **Taking an initiative.** When a board actively did something that was meant to improve the company, according to its own understanding, this was coded either as a “minor initiative” or as a “major initiative.” “Minor initiative” indicates that the board slightly modified the original proposal. For example: The board approved a lease it was asked to approve, yet decided to introduce a few revisions of details. “Major initiative”, indicates that the board took an active part in defining the steps/ actions that should be taken. For example: The board was either presented an issue and delved into it or actively requested an issue be discussed, discussed it quite thoroughly, and finally, formulated and adopted a new alternative policy.
- vii. **Presentation of alternatives.** Cases in which the board was presented with at least two alternatives.

- viii. **Dissension.** Cases in which a decision was made, and one or more of the directors did not vote as the others (either opposing them or abstaining).
- ix. **Supervision.** All topic-subjects were divided according to whether they were of supervisory nature or not. Supervisory topic-subjects were defined as: appointment of members, approving minutes of earlier meetings, audit, choosing a chairman for the meeting, contracting/ purchases, financial reports, formal issues, legal, personnel and benefits, ratification of audit committee, ratification of human resources committee, ratification of operational committee, ratification of financial committee, and regulation and government. Non-supervisory topic-subjects were defined as: appointing/ firing an executive, budget, business issue, business project, cross-firm issues, investment/ finance, ongoing general issues, organizational change, and strategic issues.
- x. **Consistency.** All coding was done by one of the authors: Miriam Schwartz-Ziv. To assure consistent standards, she reviewed all coding at least twice.

4. What Can We Learn from Board Minutes about Theories of Boards?

Most empirical research on boards of directors relies on publicly observable outcomes, such as CEO turnover, firm performance, adoption of a poison pill, etc.¹² In contrast, minutes of board meetings tell us what actually is discussed on boardrooms. As such, relying on minutes has a number of advantages over traditional research on boards. In particular, this approach allows us to observe the involvement of boards and the extent they are active, and consequently to understand which underlying assumptions and predictions concerning boards are most realistic. Perhaps because the underlying process by which boards actually make decisions is unknown, the literature has adopted a number of alternative underlying assumptions when modeling boards.

Table 3 maps assumptions and predictions made in some of the more central models concerning boards. This table indicates that there are two main approaches to studying board dynamics. The first,

¹² See Hermalin and Weisbach (2003) or Adams, Hermalin and Weisbach (2010) for surveys with detail on the individual studies.

which we call the “managerial” approach, starts from the presumption that boards make managerial decisions. In these models, boards typically choose among a number of potential projects that the firm can undertake. For example, in Adams and Ferreira (2007) the board is presented with alternative potential projects, from which it chooses one, in Baranchuk and Dybvig (2009) the board chooses an optimal action from a set of possible actions, while in Harris and Raviv (2008), the board chooses the optimal scale of an investment. Because in these models, the CEO and the directors have different utility functions, in equilibrium there is generally disagreement between the CEO and the directors. Panel 1 of Table 3 provides further information on the settings and predictions of these and other models that utilize the managerial approach.

In contrast to the managerial approach, the “supervisory” approach presumes that the board’s role is to evaluate management rather than to make decisions themselves. The general setup of these models consists of the CEO proposing a project, the board observing the earnings derived from it, assessing the CEO’s performance and deciding whether to retain him. These models assume that the board’s work consists of supervising the CEO and evaluating his performance on a regular basis, and potentially replacing him, rather than being involved in the day-to-day decisions of the firm. In the supervisory-approach models, apart from acquiring signals pertaining to the quality of the CEO, evaluating management is typically the only action the board takes. Hermalin and Weisbach (1998), Almazan and Suarez (2003), Graziano and Luporini (2003), Raheja (2005), Dominguez-Martinez et al. (2008), and Chemmanur and Fedaseyeu (2011) all adopt variants of this supervisory approach. Panel 2 of Table 3 characterizes these and other models based on the supervisory approach. We use the minutes at our disposal to assess the extent to which the assumptions and predictions made in each of the two approaches characterize real-world boardrooms.

5. The Supervisory Approach to Boards of Directors

In this section we present the evidence evaluating whether boards of directors’ activities are characterized by the supervisory approach. In particular, to what extent does the board’s work consists of supervising

the CEO and evaluating his performance, and potentially replacing him, as opposed to being involved in the day-to-day decisions of the firm?

5.1. *What Kind of Issues do Boards Discuss?*

We classify each of the 23 topic-subjects as either supervisory or managerial. Managerial issues include the type of issues for which boards are expected (by law, for example) to be active. Therefore, managerial issues include the topic-subjects that pertain to business issues and firing and hiring the CEO. In contrast, the supervisory issues include the issues boards are expected to supervise, but generally, not do to do the actual work. For example, approving a financial report is classified as supervisory because the board's role with regard to these reports is mainly verifying that they are properly conducted, rather than creating these reports.¹³

Table 4 indicates that, weighted by firm, on average 67% of the issues discussed by the boards were classified as supervisory, and Table 5 documents that weighted by issue discussed, the corresponding ratio equals 69%. For board-committee meetings, this figure increases to 79%. These figures indicate that the majority of time spent at board and board committee meetings is dedicated to discussing supervisory issues.¹⁴

In addition, a large part of board meetings is devoted to updates, which include discussions that do not involve a decision being made. Table 4 indicates that weighting by firm, 61% of the issues boards discussed were updates that did not involve making a decision. Table 6 presents a breakdown of the aggregate number of decisions made and updates supplied on a topic-subject level. This panel reemphasizes that receiving updates was more common than making decisions: the boards examined received, aggregately, 1422 updates, while they made only 1037 decisions (i.e., 58% versus 42%

¹³ Supervisory topic-subjects were defined as: appointment of members, approving minutes of earlier meeting, audit, choosing a chairman for the meeting, contracting/ purchases, financial reports, formal issues, legal, 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/ firing an executive, budget, business issue, business project, cross-firm issues, investment/ finance, ongoing general issues, organizational change, and strategic issues.

¹⁴ It is not the case, however, that all issues are equally important, so it is possible that even though they spend more time on supervisory issues, the managerial ones could conceivably be more important.

respectively). The relative high frequency of updates probably allowed boards to stay abreast of the firm's affairs, i.e., to monitor and supervise.

These findings suggest that a majority of the time, boards mostly discuss supervisory issues and receive frequent updates are consistent with interview-based studies such as Mace (1971), Lorsch and MacIver (1989) and Carter and Lorsch (2003). Relatedly, Adams (2003) examines the portion of compensation paid to boards of Fortune 500 companies is linked to each of the committees. She finds that most of the compensation boards receive that can be linked to a specific committee is for monitoring tasks. Adams interprets this finding similarly to the way we do, that boards devote effort primarily to monitoring. Taken together, our findings provide support that the most common task of the boards is monitoring of management as is presumed by the supervisory approach.

In addition to monitoring, boards also potentially play a managerial role in firms by being involved in the actual business, as implied by the managerial approach. We consider the extent to which they do so in our sample.¹⁵ Table 6 indicates that they do perform a managerial role, but it is clearly a minority of their time; on the aggregate topic-subject level, only 24% of the discussions pertained to business issues. Furthermore, only 1% of the issues discussed pertained to issues of strategy (not reported in Table 6). These findings stress that the boards rarely had formal and structured discussions of the firm's overall strategy, or even of the firm's strategy regarding a specific major issue/field. Furthermore, as Table 6 indicates, on the aggregate topic-subject level, in 67% of the cases in which boards discussed business issues they were provided with updates; only in the remaining 33% did they make decisions on these issues.¹⁶

The following example from the minutes illustrates a typical case boards involvement in a major business decision. A firm encountered a situation in which it was forced to stop working with one

¹⁵ The GBCs we examine were obligated to verify the financial reports, handle personnel issues, handle audit issues, and like US firms at that time, were taking initial steps to comply with the Sarbanes-Oxley Law (SOX). The GBCs were required by the GCA to comply with SOX; however executives of GBCs did not face the severe penalties their American counterparts faced if they did comply with SOX as required.

¹⁶ We emphasize that we cannot tell from the minutes value of the time spent on different issue and it is possible that the time spent on managerial issues could be more important to the firm than the time spent on supervisory ones.

of its major strategic partners, and was compelled to find a new strategic partner. The CEO of this firm regularly updated the board on the different strategic partners he was negotiating with. When the time came to choose the new strategic partner, the CEO made the decision. He explained to the board why he chose to collaborate with the chosen strategic partner, i.e., his decision was delivered to the board as an update, and was not even formally approved by the board. The only decision the board was requested to make in this case was to approve the legal papers, which were presented to the board two meetings after the CEO announced his decision.

5.2. Are Boards given an Opportunity to Choose among Options?

Some of the managerial models assume that the boards choose one of several proposed alternatives. For example, in Adams and Ferreira (2007) the board chooses an optimal project out of two or more alternatives and in Baranchuk and Dybvig (2009) the board chooses to take an action from a set of possible actions. In contrast, the supervisory models do not assume that boards are presented with alternatives. For example, Chakraborty and Yilmaz (2010) assume that the most boards can do is to approve or to reject a specific proposal made by the management. Because most other supervisory models surveyed in Panel 2 of Table 3 do not allow boards to make decisions concerning the firm's operations (apart from choosing and firing the CEO), these models do not consider the possibility that boards are presented with alternatives. We examine the different assumptions made in each of the approaches, i.e., whether CEOs tend to present to their boards two or more alternatives.

Table 4 indicates that, at the firm level, in only 1% of the cases in which decisions were made was the board presented with more than one option, with firm-specific averages ranging from 0%-4.55%. Almost always, boards could only accept or reject a single proposal.

Although the minutes document explicit requests of directors that they be presented with alternatives, the same directors making these requests usually wanted the alternatives to be presented with a clear recommendation as to which alternative the CEO/ management preferred. One relatively rare case in which the board was asked to choose between specific alternatives concerned specific assumptions that had to be made in the firm's financial reports. These assumptions impacted the financial reports

dramatically. Different parties involved (internal and external to the firm) disagreed upon the correct set of assumptions and, consequently, the board was requested to approve one of two different sets of assumptions presented to them. The directors refused to make a decision, instead demanding that the parties involved agree upon one set of assumptions – which would thereafter be presented to the board for approval. Only after this dispute continued for several months, and the board was left with no choice but to take a stand, did it eventually take one.

5.3. Disagreement between the Board and the CEO

Managerial-approach models typically suggest that boards may select projects that may well not be in line with the CEO's wishes. Thus, for example, in Adams and Ferreira (2007) the board and the manager have different utility functions, implying that the boards' preferred project could be different than that of the CEO. Adams and Ferreira consider monitoring to be successful if the board can impose its preferred project. Similarly, Harris and Raviv (2008) model the way in which the board determines the optimal scale of the investment for a project, which can differ from the scale of the original proposal. Hence, both Adams and Ferreira (2007) and Harris and Raviv (2008) predict that the board will, in practice, make decisions that are not in line with the original proposals made by the CEO.

In contrast, the supervisory-approach models do not predict that disagreement will be common. For example, Warther (1998), who takes in account the costly outcomes that dissension may have for directors who deviate from their colleagues' vote, predicts that in most cases the board will vote in favor of management. In monitoring models such as Hermalin and Weisbach (1998), Graziano and Luporini (2003), Dominguez-Martinez et al. (2008), and Chemmanur and Fedaseyeu (2011), the board is not involved in any managerial decisions. Rather, its activity is limited to choosing between retaining the CEO and firing the CEO. Because the board does not interfere in running the business, disagreement between the board and the CEO is not expected to occur.

In our sample, consistent with the supervisory models, boards almost always approved what they were asked to approve. In only 0.9% of the cases did the boards vote against the CEO/management's view, and in only an additional 1.5% of the cases was their vote only partially in line with the CEO's/

management's view. Thus, as Table 4 and Table 7 document, only in one of forty cases (2.5%) did boards refuse, completely or partially, to ratify the CEO's proposal.¹⁷ Moreover, as Table 7 indicates, the percentage of cases in which boards totally or partially rejected the CEO's proposal with regard to business issues equaled only 1% (as opposed, for example, to personnel and benefits issues, for which the rejection rate equaled 4.5%); In other words, rejection rates for business issues are even lower than the average rejection rate of all cases examined.

The following example from our sample demonstrates how "seeds of disagreement" may or may not evolve to a vote which is not in line with the CEO's initial proposal: In two different boardrooms the CEO requested that the board approve the annual budget he proposed. In both cases the board was of the opinion that the budget should be cut substantially. In the first firm, the board demanded that the CEO put together a different budget in which large cuts be made, some of which were specifically discussed in the boardroom. In this case the board did not vote in line with the CEO's proposal. In contrast, in the second firm, the CEO responded to the demand that he cut the proposed budget by stating that he viewed the board's intervention in the annual budget as verging upon a vote of no confidence in him. This tactic worked for this CEO, and the meeting commenced with the board approving the budget he proposed. This example also demonstrates that boards may disagree with the CEO during the pre-voting phase, however, at the voting phase, which is the phase the coding pertaining to the board's votes captures, the board may nevertheless vote in line with the CEO.

The low frequency of disagreement documented in this study highlights that, at latest, by the voting phase boards will prefer to resolve their disagreements with the CEO. The findings also imply that the prediction made in Song and Thakor (2006), Adams and Ferreira (2007) and Harris and Raviv (2008) – that boards will in practice vote against the CEO's proposal – occurs only to a limited extent. Our results are consistent with Warther's (1998) prediction that boards will usually vote in favor of management's proposal. This low frequency of disagreement suggests that proceeding from the

¹⁷ In GBCs the CEO may not be nominated to the board of the company of which he is a CEO. Hence, the CEO does not vote, and the disagreement ratios mentioned include only the votes of the directors.

assumption that the CEO will be the one making decisions in practice is a reasonable approach (see Hermalin and Weisbach, 1998; Graziano and Luporini, 2003; and Dominguez-Martinez et al., 2008). It appears that once the board has chosen a CEO – and *that* is indeed a major decision entrusted to the board – the CEO will be the one making the firm’s major decisions.

In addition, these findings are in line with prior interview-based studies on large publicly-traded corporations: Mace (1971) concludes that boards do not usually ask discerning questions, or in the terms of Patton and Baker (1987), that they “refuse to rock the boat”. Similarly, Lipton and Lorsch (1992) report that in their sample, directors almost always attempt to avoid confrontation with the CEO. The similarity between these findings from publicly-traded companies with ours suggests the description of board behavior from these GBC Israeli companies is not specific to government-run companies, but instead characterizes board behavior more generally.

5.4. Firings of Top Management

According to most of the models we categorized under the supervisory approach, the goal of monitoring management is to evaluate the CEO, and if warranted, replace him. The data on board minutes is different from the typical study of CEO turnover in that there are many fewer turnovers in this sample than in a large sample of firms over a number of years. Since we examine only eleven firms (each for one year), and the median CEO turnover rate for all GBCs is 3.14 years,¹⁸ the expected number of turnovers for the eleven firms examined is approximately four. Indeed, four of the firms examined, replaced, or were in the process of replacing their CEO during the year for which the minutes were examined.

The advantage of having the data on board minutes is that, unlike with large samples that are based only on public information, in our case it is possible to know with certainty whether a CEO was fired or left voluntarily, and details of the process by which he left. Knowing such details potentially sheds light on the way in which boards monitor, and highlights, once again, the advantage of the data we have. To further highlight this point, consider the following CEO forced turnover rates reported in prior

¹⁸ Figure calculated by the authors based on data pertaining to all GBCs, for the years 1997-2007, taken from an internal database of the Government Companies Authority.

reports/ studies: Spencer Stuart (2004), reports this rate equals 4% for S&P 500 firms based on the press releases of the company from which the CEO departed; Huson et al. (2004) report a 16% rate for large public firms based on data from the Wall Street Journal; and Taylor (2010) reports an observed forced CEO turnover rate equal to 17% using a similar approach to Huson et al. (2004).¹⁹

In our sample, at least two of four departures may have appeared to be voluntary, but in fact were coerced.²⁰ Consider the following example: A young CEO was very successful in launching new projects and finding funding for them, but less successful in managing the daily operation of the firm and in maintaining employee relations. The operational indicators, which were reported to the board on an ongoing basis, deteriorated to such an extent that the CEO stopped reporting them to the board. After many months, the board agreed (among themselves) that the serving CEO was not the optimal one. Some of the directors communicated this conclusion to the CEO on several occasions. The CEO, realizing he was no longer welcome, sought and found a rewarding executive position in a different firm. The only information that surfaced to the media was a standard announcement to the effect that the CEO has decided to accept a new position, and that the firm thanks him for his significant contribution. This issue highlights that there are important gaps between what one can infer from publicly available information and the way in which things actually occur. The existence of coerced departures such as this one suggests that prior studies potentially undercount the fraction of CEO departures for which the board takes an active role in removing the CEO.

6. The Managerial Approach to Boards of Directors

In contrast to the supervisory view of boards, the managerial approach predicts that boards will be active decision-makers. In this section we present the evidence from our sample that supports the managerial approach.

¹⁹In contrast, Cornelli et al. (2010) examine mostly private equity backed firms, categorize forced turnover based on information obtained from private equity partners, rather than the media. They document a forced CEO turnover rate of 94% (11/181). However, private-equity backed firms are substantially different from other firms in that many private equity partnerships purchase firms with the explicit intention of replacing the CEO.

²⁰The descriptions of these examples are based on short interviews with directors at the firms involved.

6.1. *Active Decision-Making*

The managerial approach presumes the board plays an active role in the firm that goes beyond simply monitoring managers. In particular, it can affect the projects the firm undertakes (e.g., Song and Thakor, 2006) or the scale of investments it chooses (Harris and Raviv, 2008). As Adams and Ferreira (2007) and Malenko (2011) stress, ongoing communication between the board and the CEO allows the board to monitor on the one hand, and make optimal decisions on the other. This approach assumes boards are active decision-makers, and that monitoring is part of the decision-making process. Accordingly, the managerial approach typically views decision-making and monitoring as complementary activities.

In contrast, most of the supervisory-approach models examine how the intensity with which a board monitors the CEO impacts upon the board's decision to retain or fire him (Hermalin and Weisbach, 1998; Almazan and Suarez, 2003; Graziano and Luporini, 2003; Hermalin, 2005; Dominguez-Martinez et al., 2008; Laux, 2008). According to this approach, as Dominguez-Martinez et al. (2008) emphasize, the board will not limit the CEO's actions, since allowing the CEO free rein will enable the board to acquire a signal as to whether the CEO is a good or a bad type. Hence, according to the supervisory approach the board observes the CEO's actions, and its main function is to evaluate the CEO based on these actions.

We examine whether requests were made to receive further information or an update, because such a request is a good indicator of whether the board is an active monitor (as suggested by the managerial approach) or a passive one (as implied by the supervisory approach). As detailed in Table 4, on firm level, boards of a given firm requested to receive further information or an update in 8% of the cases. The spread across firms was rather large, ranging from 1% to 21%. Panel 1 of Table 8, which aggregates all cases, indicates that on average boards requested to receive further information or an update in 11% of the cases. However, it should be noted that not all information requested by directors was necessarily provided to them. It is not possible to know exactly how often the directors received the information they requested, since such information is often provided outside the boardroom.

The following example demonstrates how a board can monitor actively by requesting further information. In two large firms the board was requested to approve an early retirement plan pertaining to a substantial number of employees. The plan entailed heavy costs for both firms. In the first firm, the CEO reminded the board that it had discussed the issue two years earlier and, at that time, had approved the early retirement of a large number of employees (yet, many directors had changed since the discussion the CEO was referring to had taken place). The CEO explained that the current request was within the framework of what had been discussed and approved by the board at that time. A director asked what where the costs of hiring new employees compared to the existing alternative. The CEO replied that the new employees will cost less than the current ones, and reported a figure that summarized the costs entailed by the plan. However, he did not explain what assumptions were made when calculating this figure, and which costs were included and which were left out. Nevertheless, the information provided by the CEO was sufficient for the board to approve the CEO's request rather immediately.

In the second firm in which the CEO requested that the board approve a similar request, the directors also asked what costs the early retirement program entails. The CEO provided the board with detailed figures regarding the different costs associated with the program, including direct and indirect costs. Nevertheless, the board wanted to receive additional information regarding the specific criteria, which would be used to determine which employees would be entitled to retire early, and from which specific professions the company was planning to hire new employees in place of those that would retire. Only after the board received this information at the following meeting, and discussed the information provided, did it approve the CEO's request.

6.2. Taking an Initiative

A basic difference between the managerial and the supervisory approach concerns the activity of the board, and the way in which they take initiative to perform tasks they are not specifically requested to do. The managerial approach views boards as active decision makers, suggesting that they take initiatives to help them make decisions better. In contrast, the supervisory approach predicts that boards only passively

observe the decisions made by the CEO, and that they are not actively involved in making these decisions.

To study the tendency of boards to make their own active contribution, we examine how often initiatives were taken by the boards in our sample. We break down these initiatives into “minor initiatives” which are situations in which the board slightly modified the CEO’s original proposal, and “major initiatives” in which the board took an active part in defining the steps/ actions that should be taken.

To illustrate the kind of activity that we classified as a major initiative consider the following example: One of the companies examined provided a substantial number of cars to their employees (as part of the compensation the employees received). The board was requested to approve the firm’s policy as to which employees were eligible to receive a car. One director encouraged the board to thoroughly examine this issue: during two meetings the board examined carefully who was entitled to receive a vehicle, which type of vehicle employees of different rank were entitled to receive and how the firm’s policy compared to that of other companies. Following this examination, the board formulated and approved a new policy on this issue, which was implemented by the firm.

As presented in Table 4, on firm level, boards took a minor initiative or a major initiative in 4.7% and 3.4% of the cases, respectively. Panel 2 of Table 8, which presents the aggregate number of cases in which boards took an initiative, indicates that the boards examined took a minor or a major initiative in 5.1% and 4.2% of the topic-subjects discussed, respectively, indicating that in 9.3% of the cases boards took some kind of an initiative.

Furthermore, we examine as an indication of the activeness of the board, the percentage of cases in which the board *either* did not vote in line with the CEO, requested to receive further information or an update, or took an initiative (a minor or a major one). This percentage equals 19.2% of all issues in the sample. Moreover, given that there are a number of issues discussed in each meeting, in 252 or the 402 meetings (63%), at least one of the three above-mentioned actions were taken. This calculation suggests that when boards meet, they usually take some kind of action at some point during the meeting.

We also find that different kinds of actions tend to occur at the same time, suggesting that boards are more likely to take them when there is a particular issue the board is concerned with. As is evident from Table 8, for the type of topic-subjects for which boards requested to receive further information or an update, they also tended to take a minor or a major initiative. On the topic-subject level, the Pearson correlation between the percentage of cases boards requested to receive further information or an update, and those for which they took an initiative equaled 0.46 ($p < 0.05$, $n = 23$). This high correlation indicates that with respect to the issues for which boards were active, their activeness was likely to come in more than one form.

In addition, Table 8 documents that the most common topic-subjects for which requests for further information or an update were made and initiatives taken are audit, contracting/purchase, and personnel and benefits. Examples of cases that were categorized under these topic-subjects include a board that was requested to approve that the firm hire a specific professional consulting company (contracting/ purchase), or that the firm hire a specific deputy recommended by the CEO (personnel and benefits). This pattern implies that the boards in our sample tended to exert effort with respect to the supervisory issues rather than the managerial ones. The fact that their activeness was focused on supervisory issues provides further evidence for the supervisory approach. Nevertheless, the activeness and initiation of boards also demonstrates that boards are not passive observers as the supervisory approach suggests, rather, they are active, as implied by the managerial approach.

7. The Dynamics Among Directors

7.1. Dissension

Merchant and Pick (2010), Leblanc and Gillies (2005), and many practitioners argue that an effective board meeting should involve disagreement among the directors, at least when an issue is initially brought up for discussion, because this encourages critical thinking. A board in which matters are routinely approved without discussion is thought not to be providing much value to the firm. Nevertheless, Leblanc

and Gillies (2005) argue that it is desirable that at the voting phase the board reach a consensus, i.e., it votes unanimously.

Many of the models examining the work of boards (both from the managerial and the supervisory approach) do not emphasize dynamics within the boardroom, instead assuming the board is monolithic and makes a group decision around a set of “board preferences” (e.g., Hermalin and Weisbach, 1998; Song and Thakor, 2006; Harris and Raviv, 2008; Laux and Laux, 2008; Levit, 2011). Evaluation of the extent to which this assumption is accurate, or whether models focusing on interactions between directors are more appropriate, requires knowledge of what goes on inside the boardroom, stressing the importance of the use of data such as we have here.

Other models, including Warther (1998), Chemmanur and Fedaseyeu (2010) and Malenko (2011), focus on the interactions between directors who have differing opinions or information. The Warther (1998) model suggests that if a director creates dissension by indicating that the CEO is of low quality or the project he proposes is of low quality, he can be ejected from the board or “punished”. In equilibrium directors attempt to avoid dissension and to vote unanimously. In Chemmanur and Fedaseyeu (2010), dissension and coordination costs can lead boards not to vote for the optimal option. Malenko (2011) stresses that to avoid dissension, directors will make an effort to communicate with one another at the pre-voting phase. Consequently, similarly to Warther (1998), the model implies that votes will mostly be unanimous.

In our sample, Table 4 documents that weighted by firm, the board did not vote unanimously in only 3.3% of the cases. If we instead count each meeting equally in our weighting, the numbers are similar; Panel 2 of Table 7 documents that in only 2.5% of the 1422 cases in which decisions were made by the board, the votes were not unanimous. As in the Malenko (2011) model, the minutes document that dissension was common at the pre-voting phase. However, at the voting phase, even if the minutes made clear that the discussion did not conclude with directors completely agreeing with each other, in many cases the directors with the minority opinion voted with the majority anyway.

From Table 7 it is evident that on relatively controversial subjects (e.g., personnel and benefits, as opposed to business issues) on which boards did not vote in line with the CEO, they were also likely to disagree with each other. The Pearson correlation between the aggregate topic-subjects on which boards did not vote in line with the CEO on the hand, and those in which they did not vote unanimously equals 0.89 ($p < 0.05$, $n = 5$), and on the topic subject level 0.571 ($p < .001$, $n = 23$). This pattern indicates that disagreement (between the board and the CEO) and dissension (among directors) are likely to occur or not to occur depending on the type of issue that is discussed.

In sum, the low rates of dissension indicate that at least at the voting phase, directors tend not to dissent from their peers' opinions. This pattern is consistent with models in which the board is an entity with a single opinion, and also with models such as Warther (1998), Chemmanur and Fedaseyeu (2010) and Malenko (2011), in which in equilibrium votes will be unanimous.

7.2. The Impact of Board Size on Actions Boards Take

Harris and Raviv (2008) and Chemmanur and Fedaseyeu (2011) both argue that larger boards have both costs and benefits; while larger boards have cumulatively more knowledge and expertise, each of the directors is likely to exert less effort because of free riding among directors. In Table 9 we estimate the way in which the number of directors in attendance at a particular meeting affects the directors' actions at that meeting. We estimate models predicting the actions of the board that we can observe: whether they took an initiative (e.g., proposed which action should be taken), requested to receive further information or an update, did not vote in line with the CEO, or did not vote unanimously. Because these dependent variables are all binary, we estimate our equations using logistic specifications.

In these equations, we include the number of directors attending the particular meeting as our primary independent variable. In addition, we include into the equation the proportion/number of attending women directors, the proportion/number of attending outside directors, and the average number of years of executive experience of the attending directors, the proportion of attending directors with an MA/MBA, whether the firm had a serving CEO at the time the issue was discussed, and whether the issue was discussed at a board meeting, as opposed to a board meeting.

Table 9 presents estimates of these equations. The results indicate that larger boards are generally associated with more cumulative effort. However, these boards are also likely to encounter different types of disagreement. More specifically, larger boards are more likely to request an update, but also likely to disagree with the CEO, and also with each other. The estimates imply that an additional attending director increased the likelihood that disagreement or dissension occur by 20% and 28%, respectively. These findings suggest that larger boards monitor, cumulatively, more intensively (in line with the analysis of Harris and Raviv, 2008, and Chemmanur and Fedaseyeu, 2011), but that coordination becomes more difficult as board size increases, consistent with Raheja (2005), Malenko (2011), and Chemmanur and Fedaseyeu (2011). Larger boards can induce more effort, however, their efforts do not necessarily lead to more productive outcomes.

8. Summary and Conclusions

Boards of directors play a central role in corporate governance. Yet, the way in which they make decisions is a mystery. Their discussions are conducted behind closed doors, and records of who said what, or even the general tenor of the meeting, is generally not publicly available. Empirical studies of governance generally draw inferences about the roles of the board from publicly available data, and it is often difficult to know whether these inferences are correct. Because of the uncertainty about how boards actually operate, scholars have used wildly different assumptions when modeling boards of directors.

In this paper, we construct a database consisting of the actual board minutes of a sample of eleven Israeli, government-controlled companies for one year per company. These minutes contain details of who said what at board meetings and board committee meetings, the actions taken by the directors, and whether dissent among directors and disagreement between the directors and the CEO occurred. We characterize the interaction among directors and between them and the CEO, and illustrate the way in which directors make decisions. Our goal is to evaluate to understand the extent to which models of boards of directors correspond to real-world practice.

The results suggest that most of the time, boards play a supervisory role. In our sample, boards usually discussed issues we classify as supervisory, were more likely to receive updates than make decision, were not presented with alternatives, and almost always voted in line with the CEO. However, we also find evidence suggesting that some of the time they play a managerial role as well. In 63% of the meetings, boards took some kind of action; on firm level, they actively requested further information on 8% of the issues discussed; and they took initiatives on their own in 8.1% of the issues. However, most of the board's activeness was directed to supervisory issues. Taken together, our findings suggest that boards could be characterized as "active monitors" – boards are active, but their focus is on supervising management rather than dictating the specifics of how the company should be run.

We emphasize that there are important limitations of this study. The sample consists of only eleven companies, from one small country, for only one year per company. Equally important, most of them are government-controlled companies rather than privately-held ones. Consequently, directors are appointed rather than elected, and their pecuniary incentives are typically smaller than in privately-held companies. It is possible that these factors lead the interactions we observe in our sample of companies to be different from those in companies that are more representative of the population of worldwide corporations. In particular, we would expect that the existence of monetary incentives as directors receive in most privately-held companies are likely to lead boards to more active than we observe in our sample.

These potential differences between our sample firms and other firms notwithstanding, we believe this analysis constitutes an important step in our understanding of boards of directors. A key step to understanding corporate governance is to observe exactly what goes on in boardrooms. This paper is the first to document in any systematic fashion what boards actually do. The extent to which the sample of Israeli, government-controlled companies' boards is reflective of boards of non-Israeli, non-government-controlled companies is unclear. Hopefully future research will be able to perform similar analyses for other samples of companies, and determine the extent to which boardroom dynamics differ across different types of companies, or follow a more or less universal pattern.

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Table 1

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

This table presents 2007 figures for all firms engaged in business activities in which the Israeli government held shares that year. The data were taken from annual reports of the GCA.

	name of company	annual revenue in thousands of USD in 2007	number of employees in 2007	field	percentage held by the govern- ment in 2007
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	NA	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	Matz - 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.	NA	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%

Table 2

Summary Statistics on Boards Examined and Other Boards

This table presents summary statistics on the background of the directors serving on the boards of the eleven GBCs for which minutes were examined, and for several other types of boards. "NA" indicates that data is not available.

	GBCs	Israeli listed companies	Norwegian listed companies	Swiss listed companies	American S&P 500
age	50.0	57.6	52.3	56.5	62.1
have bachelor degree	96%	87%	50%	87%	NA
have an MBA/MA degree	48%	79%	52%	85%	NA
percent with executive experience*	58%	91%	50%	18%	62%
served or are serving on other boards	44%	NA	NA	NA	NA
of these: non gvt./non-NGO boards	21%	NA	NA	NA	NA
currently serving on a board of a listed firm	NA	18%	19%	31%	21%**
average number of directors	8.4	NA	5.3	8.0	10.7
median number of annual board meetings	12.0	NA	NA	NA	8.0
year examined	2008	2009	2009	2003	2010
number of companies examined	11	100	113	269	500
source (unless specified otherwise)	GCA database	Israeli Stock Exchange Authority, 2010	Ahern and Dittmar, 2011	Ruigrok et al., 2007	Spencer Stuart US Board Index, 2010

* As a rule, in most studies executive experience was defined as one of the following positions: CEO, an executive position in an organization - e.g., head of a functional unit, partner/principal, or vice president. However definitions vary across studies, and therefore this variable is informative only to a limited extent.

** Figure from Peterson and Philpot (2007), pertains to Fortune 500 boards from 2002.

Table 3

Comparison of Models Examining the Working of Boards

Panel 1 – **Managerial-approach models**. This panel presents the managerial models, which generally assume that boards make decisions concerning the actual business of the firm.

	Song and Thakor (2006)	Adams and Ferreira (2007)	Harris and Raviv (2008)	Baranchuk and Dybvig (2009)	Levit (2011)	Malenko (2011)
1. Managerial or supervisory approach	managerial	managerial	managerial	managerial	managerial	managerial
2. Is monitoring the boards' main role?	yes	no	no	no	no	no
3. Is disagreement between the board and the CEO expected?	possible	yes, frequently	yes, frequently	yes	yes	yes
4. Is the board monolithic?	yes	yes	yes	no	yes	no
5. Do boards make business decisions?	mostly	yes	yes	yes	very likely	very likely
6. Do boards choose from several options?	only one at a time	yes	yes, the scale of an investments	yes, an optimal action	possibly	possibly
7. In what way is the board active?	screening projects	interfering in the project selection	acquiring information at cost, choosing scale of investment	choosing an optimal action	choosing an optimal project	communicating at cost, make a decision
8. Main focus of model	career concerns	advising versus monitoring/decision making	insiders versus outsiders	how a group of directors reach consensus	disclosure, expert boards, and reputation	communication among directors

Panel 2 – **Supervisory-approach models.** The supervisory approach generally presumes that the board’s role is assessing the CEO’s performance and deciding whether to retain him.

	Hermalin and Weisbach (1998)	Warther (1998)	Almazan and Suarez (2003)	Graziano and Luporini (2004)	Raheja (2005)	Dominguez-Martinez et al. (2008)	Laux and Laux (2008)	Chakraborty and Yilmaz (2010)	Chemmanur and Fedaseyeu (2011)
1. Managerial or supervisory approach	supervisory	supervisory	supervisory	supervisory	mostly supervisory	super-vised	supervisory	mostly supervisory	mostly supervisory
2. Is monitoring the boards’ main role?	yes	yes	yes	yes	yes	yes	yes	yes	yes
3. Is disagreement between the board and the CEO expected?	no	no	no	no	yes, if the CEO proposes an inferior project	no	no	yes, in one scenario	no
4. Is the board monolithic?	yes	no	yes	yes	yes	yes	yes	yes	no
5. Do boards make business decisions?	no	no	no	no	they monitor these decisions	no	no	not regularly, at most they reject the CEOs proposal	not in the basic model
6. Do boards choose from several options?	no	no	no	no	no	no	no	no	no
7. In what way is the board active?	retaining/ firing the CEO	retaining/ firing the CEO	replacing the CEO when severance pay exists	select and fire the CEO	approving/ rejecting a project, replacing the CEO	disciplining and firing the CEO	setting CEO pay and overseeing financial reporting	possibly rejecting the CEO’s proposal	replacing the CEO
8. Main focus of model	replacement of CEO by endogenously chosen directors	dissension, CEO succession	replacement of CEO, severance pay	replacement of CEO by boards that chose a “bad” CEO	optimal board size and board composition	replacement of CEO	conflicting tasks via committees	optimal information sharing	CEO succession, dissension

Table 4

Summary Statistics on Board Dynamics

This table presents firm-level statistics for the variables that document the board dynamics at board meetings and board-committee meetings for the eleven GBCs examined. In each column, N is the cumulative number of all cases examined, which aggregate to 2459 decisions and updates, or to 1422 decisions, depending on the variable. The variables in this table are calculated by first computing the average of the relevant variable for each firm, and then computing the equally-weighted average across the 11 firms. The variables, presented in the top row, present the percentage of cases in which the board (from left to right): discussed a supervisory issue as opposed to a managerial one; received an update as opposed to making a decision; was presented with at least two alternatives; requested to receive further information or an update; did not vote in line or voted only partially in line with the CEO's proposal; did not vote unanimously; took a minor initiative (the board slightly modified the original proposal); or took a major initiative (the board took an active part in defining the steps/actions that should be taken by the firm).

	discussion of a supervisory issue	received an update	two alternatives	information/ update requested	not/ partially in line	not unanimous	minor initiative	major initiative
average	66.9%	60.8%	1.0%	8.0%	2.5%	3.3%	4.7%	3.4%
median	69.9%	57.0%	0.0%	5.4%	2.6%	1.2%	4.5%	3.0%
minimum	44.7%	42.1%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%
maximum	88.1%	76.8%	4.6%	21.1%	7.9%	18.8%	10.9%	7.7%
S.D.	11.9%	12.9%	1.4%	6.7%	2.2%	5.4%	3.2%	2.5%
N	2459	2459	1422	2459	1422	1422	2459	2459

Table 5

Supervisory versus Managerial issues Discussed by the Boards

This table categorizes the 2459 topic-subjects discussed at board meetings and board-committee meetings of the eleven GBCs examined, broken down 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, choosing a chairman for the meeting, contracting/purchases, financial reports, formal issues, legal, 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/firing an executive, budget, business issue, business project, cross-firm issues, investment/finance, ongoing general issues, organizational change, and strategic issues.

At what kind of meeting was the topic-subject discussed?	supervisory	managerial	total percentage	number of cases
Board	60%	40%	100%	1,313
board-committee	79%	21%	100%	1,146
total number of cases examined	1,696	763		2459
percentage of total	69%	31%	100%	

Table 6

Issues Discussed by the Board

This table presents the percentage of cases in which each aggregate topic-subject was discussed, out of the 2459 cases in which the boards of the eleven GBCs examined received an update or made a decision at a board meeting or a board-committee meeting. The table also provides a breakdown of the percentage of updates given versus the percentage of decisions made, on a topic-subject level; That is, for each topic-subject the percentage of cases in which the board was provided with an update, as opposed to the percentage of the cases in which the board made a decision.

aggregate topic-subject	total number of decisions and updates	percent of all topic-subjects discussed	percent of topic-subject delivered as an update	percent of topic-subject for which decision was made
audit and contracting	685	28%	48%	52%
business issue	587	24%	67%	33%
financial issues	363	15%	39%	61%
formal issues	361	15%	4%	96%
personnel and benefits	463	19%	33%	67%
Percent		100%	58%	42%
number of cases	2459		1422	1037

Table 7

Boards' Votes

This table reports the 1422 cases in which the boards of the eleven GBCs examined made a decision in a board meeting or a board-committee meeting, broken down on the aggregate topic-subject level. The table reports whether the decision made by the board was either not in line or only partially in line with the CEO's initial proposal, and the percentage of cases in which boards voted unanimously. Cases in which one or more director did not vote as the others, whether opposing the opinion of the other directors or abstaining, were regarded as non-unanimous votes.

aggregate topic-subject	percent of cases vote not in line or partially in line with CEO	percent of cases vote not unanimous	number of cases
audit and contracting	2.0%	2.3%	354
business issue	1.0%	2.6%	192
financial issues	4.5%	4.1%	221
formal issues	0.6%	0.3%	347
personnel and benefits	4.5%	4.2%	308
Total	2.5%	2.5%	1422

Table 8

The Extent Boards were Active

This table reports the 2459 cases in which the boards of the eleven GBCs examined received an update or made a decision in a board meeting or a board-committee meeting, broken down by the topic-subject discussed. Panel 1 reports the percentage of cases in which boards requested to receive further information or an update. Panel 2 reports whether the boards took no initiative, a minor initiative, or a major initiative. "Minor initiative" is defined as a case in which the board slightly modified the original proposal. "Major initiative" is defined as a case in which the board took an active part in defining the steps/actions that should be taken. "No initiative" refers to all cases in which neither a minor initiative nor a major one was taken.

		Panel 1		Panel 2			
aggregate topic-subject	topic-subject	percent board requested further information/update	number further information/update	minor initiative	major initiative	number minor or major initiative taken	Total number of cases
audit and contracting	Audit	26%	71	8%	9%	45	273
	contracting/purchases	14%	45	7%	2%	28	319
	Legal	9%	8	7%	2%	8	85
	ratification audit committee	0%	0	0%	0%	0	8
audit and contracting total		18%	123	7%	5%	81	685
business issue	business issue	4%	2	0%	2%	1	50
	business project	14%	24	7%	2%	15	174
	cross-firm issues	21%	16	7%	10%	13	77
	ongoing general issues	5%	7	0%	0%	0	135
	ratification operational committee	0%	0	11%	0%	1	9
	regulation and government	9%	11	4%	3%	9	127
	strategic issues	27%	4	13%	7%	3	15
business issue total		11%	65	4%	3%	42	587
financial issues	budget	17%	18	6%	4%	10	106
	financial reports	16%	20	9%	6%	19	128
	investment/finance	8%	9	8%	0%	9	118
	ratification of financial committee	0%	0	0%	0%	0	11
financial issues total		13%	47	7%	3%	38	363
formal issues	approving past minutes	0%	0	0%	0%	0	191
	choosing chairman for meeting	0%	0	0%	0%	0	38
	formal issues	0%	0	0%	1%	1	70
	appointment of members	0%	0	2%	5%	4	62
formal issues total		0%	0	0%	1%	5	361
personnel and benefits	appointing/firing executive	0%	0	9%	28%	25	68
	organizational change	5%	1	0%	10%	2	20
	personnel and benefits	11%	38	5%	5%	36	345
	ratification of HR committee	0%	0	0%	0%	0	30
personnel and benefits total		9%	42	5%	8%	63	463
Total		11.0%	270	5%	4%	228	2459

Table 9

Size of Board and Actions Boards Take

This table presents logistic regressions analyzing the likelihood that the boards of the eleven GBCs examined take an initiative (e.g., suggested which action should be taken), request to receive further information or an update, completely or partially not vote in line with the CEO's proposal, and not vote unanimously. For each variable, the first line presents coefficients, and the second line presents robust clustered errors on firm level (in parentheses). ***, **, *, indicate significance at the 0.01, 0.05, and the 0.10 level, respectively.

	taking an initiative	taking an initiative	information/ update requested	information/ update requested	not/ partially in line	not/ partially in line	not unanimous	not unanimous
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
number of directors in attendance	-.016 (.030)	.050 (.032)	.052 (.035)	.181*** (.065)	.164*** (.025)	.248*** (.091)	.271*** (.052)	.087 (.134)
proportion of women directors	.329 (.465)		.706 (.437)		.216 (.397)		.115 1.459	
proportion of outside directors	-.958*** (.314)		-1.477*** (.466)		-1.157** (.500)		1.229 (.752)	
number of women directors		.094 (.094)		.117 (.093)		.018 (.105)		.016 (.212)
number of outside directors		-.1507*** (.050)		-.255*** (.080)		-.122 (.106)		.274 (.183)
average proportion executive experience	.050** (.021)	.033* (.018)	0.082*** (.024)	.063** (.025)	.100*** (.033)	.080** (.038)	-.039 (.057)	-.039 (.057)
average proportion MA	.154 (.212)	.152 (.270)	.315 (.525)	.378 (.590)	.325 (.842)	.544 (.861)	1.934** (.912)	2.451* (1.257)
no serving CEO	.670*** (.191)	.638*** (.209)	.131 (.363)	.084 (.392)	-.430 (.350)	-.490 (.373)	-.599 (.445)	-.562 (.472)
was board meeting	-.555* (.324)	-.563* (.321)	-1.259*** (.269)	-1.307*** (.276)	-1.463*** (.300)	-1.486*** (.299)	.015 (.461)	.022 (.417)
decisions and updates	yes	yes	yes	yes	only decisions	only decisions	only decisions	only decisions
number of observations	2,459	2,459	2,459	2,459	1,422	1,422	1,422	1,422
pseudo R 2	.031	.029	.0726	.069	.102	.0977	.122	.128
significance	.000	.000	.000	.000	.000	.000	.000	.000

Appendix: Complete Coding Guidelines

The data was coded according to the content-analysis methodology (Krippendorff, 2004; Lieblich et al., 1998), which allows the transformation of qualitative data into quantitative figures. The following principles were applied in coding the data:

- xi. **General information.** For each issue discussed, the coding included the name of the company, date of meeting, number of pages of minutes, type of meeting (board/ committee), and whether the issue was merely presented as an update or, alternatively, culminated in a decision made by the board. Board committees were further categorized as either: finance, human resource, audit, operational, regulation or contracting committee. In certain cases, a company had two or more different committees categorized under the same board-committee category.
- xii. **Topic-subjects.** Each topic discussed or decision made in a board or board-committee meeting, was coded under one of the following twenty-three topic-subjects:
 - i. *Appointing/ firing an executive* – executives include the CEO, his deputies, and the 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 are included under this category.
 - vi. *Business issue* – a standard business issue. For instance, in the case of a bank, waiving part of a problematic debt would be coded under this category.
 - vii. *Business project* – data regarding a specific project the firm or a subsidiary had undertaken or considered to undertake.

- viii. *Choosing a chairman for the meeting* – companies which do not have a permanent chairman, elect a chairman for each board meeting.
- ix. *Contracting/ purchases* – contracts regarding purchasing raw materials, supplies, real estate, or services, including those of advisors and external accountants. This category includes problems that may arise within contractual relationships.
- x. *Cross-firm issues* – an issue with across-the-firm implications (for example: proposed changes in the customer service, or moving the offices to a new location), or the plans of a specific unit that have ramifications and implications for the firm at large.
- xi. *Financial reports* – discussions regarding the financial reports and the assumptions upon which they rely.
- 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/ finance* – issues regarding money invested, borrowed from banks or the government, or raised from institutional investors or the stock market, and also issues regarding the firm's floating stock.
- xiv. *Legal* – legal issues, including insurance.
- xv. *Ongoing general issues* – ongoing continuing issues in the life of the firm, including brief anecdotal updates on issues previously discussed by the board. Note that most board meetings commenced with such brief updates presented by the CEO/ chairman. When, however, distinct issues were discussed in detail, each was coded separately.
- xvi. *Organizational change* – structural changes in the firm.
- xvii. *Personnel and compensation* – 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 board-members.

- xviii. *Ratification of audit committee* – In cases in which an issue discussed previously by a board committee was discussed again by the board, the discussion on the board was coded under the relevant topic-subject. In cases in which the decision made by the board committee was only briefly presented, so as to allow the board to ratify the decision, the decision was coded under the relevant ratification topic-subject. “Ratification of audit committee” refers to ratification of decisions made by the audit board-committee.
- xix. *Ratification of financial committee* – according to the rationale presented in paragraph xi, this pertains to ratifications of decisions made by the financial board-committee.
- xx. *Ratification of human resources committee* – according to the rationale presented in paragraph xi, this pertains to ratifications of decisions made by the human resources board-committee.
- xxi. *Ratification of operational committee* – according to the rationale presented in paragraph x., this pertains to ratifications of decisions made by the operational board-committee.
- xxii. *Regulation and government* – all aspects regarding the relationship with the government, whether as regulator, shareholder, or otherwise. Examples of issues included are fees determined by the regulator, dividends requested by the government, and privatization.
- xxiii. *Strategic issues* – discussion regarding the strategic business plan of the firm, or at least of a major activity of the firm, for the following years.
- xiii. **Aggregate topic-subjects.** In order to allow a simple and meaningful analysis, the 23 topic-subjects described above were divided into five aggregate topic-subjects as follows:
- i. *Audit and contracting* – includes the topic-subjects: audit, contracting/ purchases, legal, and ratification of audit committee.
 - ii. *Business issues* – includes the topic-subjects: business issues, business projects, cross-firm issues, ongoing general issues, ratification of operational committee, regulation and government, and strategic issues.

- iii. *Financial issues* – includes the topic-subjects: budget, financial reports, investment/finance, and ratification of financial committee.
 - iv. *Formal issues* – includes the topic-subjects: appointments of members, approving past minutes of meetings, choosing a chairman for the meeting, and formal issues.
 - v. *Personnel and benefits* – includes the topic-subjects: appointing/ firing an executive, organizational change, personnel and benefits, and ratification of human resources committee.
- xiv. **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/ management's proposal.²¹ In cases in which the CEO's/ management's view was not presented, its view was coded as "neutral."
- xv. **Further updates.** Cases in which the board requested to receive further information or an update on the subject discussed. In cases in which concerning a single topic discussed, more than one update or further information was requested it was, nevertheless, coded as one request.
- xvi. **Taking action.** When a board actively did something that was meant 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 the original proposal. The following three examples illustrate which cases were coded under this category: (i) The board approved a lease it was asked to approve, yet decided to introduce a few revisions of details; (ii) 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; (iii) The board decided to form a committee to handle a certain issue, or to appoint someone to take care of it, but at the point of time this decision

²¹In cases in which the chairman received a monthly salary, and accordingly dedicated most of his time to the firm, it is generally evident from the minutes that, in the boardroom, his views were fully 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 only compensated on a base of board/ committee meetings he attended, his views were not always coordinated and aligned with those of the CEO, and therefore, he was regarded as a board member, and his views were coded accordingly as views of the board.

was made it is, of course, impossible to know whether the committee or the individual appointed actually took any action.²²

The second code, “major initiative”, indicates that the board took an active part in defining the steps/ actions that should be taken. The following two examples illustrate which cases were coded under this category: (i) A board delved into an issue presented to it, or into an issue it actively asked to discuss. For instance, if a board requested to examine the company’s policy concerning perks (including, for example, which employees were eligible to be driven to work, at what times and under what circumstances), then discussed the policy concerning that perk quite thoroughly, and finally, formulated and adopted a new alternative policy, that would be coded as “major initiative”; (ii) A board actively sought, both within the boardroom and elsewhere, to change the regulation imposed on the firm.²³

- xvii. **Interregnum.** Cases in which the firm had no CEO at the time the board or board-committee meeting was held.
- xviii. **Presentation of alternatives.** Cases in which the board was presented with at least two alternatives, including cases in which the CEO/ management made its own preference clear.
- xix. **Dissension.** Cases in which a decision was made, and one or more of the board-members did not vote as the others (either opposing them or abstaining).
- xx. **Supervision.** All topic-subjects were divided according to whether they were of supervisory nature or not. Supervisory topic-subjects were defined as: appointment of members, approving minutes of earlier meetings, audit, choosing a chairman for the meeting, contracting/ purchases, financial reports, formal issues, legal, personnel and benefits, ratification of audit committee, ratification of human resources committee, ratification of operational committee, ratification of financial committee, and

²² If the minutes of subsequent meetings documented that they did take a major initiative, it was categorized accordingly for that subsequent meeting.

²³ One may argue that this specific coding category is one with a “soft” definition. Accordingly, great care was taken to assure that the coding be conducted according to consistent standards: after the coding was completed, apart from the general rechecking of all of the coding, the coding of this specific category was carefully re-examined throughout all minutes examined.

regulation and government. Non-supervisory topic-subjects were defined as: appointing/ firing an executive, budget, business issue, business project, cross-firm issues, investment/ finance, ongoing general issues, organizational change, and strategic issues.

- xxi. **Size of board and board composition.** For each meeting, the total number of attending board-members was coded, along with the number of attending women directors, minority (Arabs) directors, and inside directors.²⁴
- xxii. **Consistency.** General note: To assure consistent standards all coding was executed by a single person – the author,²⁵ and was reviewed by the author at least twice.

²⁴ As mentioned, inside directors were defined as government employees and firm employees. The GCA board-representative was considered a government employee.

²⁵ This was also due to the confidentiality of the minutes, which were made available to the authors with the proviso that only she and her doctoral advisors would be allowed access to them.