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What do boards really do? Evidence from minutes of board meetings[☆]



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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” that assume boards play a direct role in managing the firm, and “supervisory models” that 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: approximately two-thirds of the issues boards 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 2.5% of the time. Nevertheless, at times boards do play a managerial role: 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. Taken together our results suggest that boards can be characterized as active monitors.

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1. Introduction

Given their central role in corporate governance, boards of directors have become a popular topic of research. A recent search of Social Science Research Network for “board of directors” yielded more than two thousand research papers on the topic.¹ 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 their structure 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 a premise about what kinds of decisions boards make (managerial or supervisory), as well as 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 for 11 Israeli business companies in which the government has a substantial equity interest (government business companies, or GBCs). Each set of minutes covers a year of meetings within the 2007–2009 period. These minutes show the details of board and board-committee meetings, including all the statements made by every participant in each meeting.² As such, they are significantly more detailed than minutes of American companies, which are usually thoroughly scrutinized by legal experts and describe board meetings only roughly. 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 describe what was discussed, whether an update was delivered or a decision was made by the board, whether there were any dissenting votes, whether the decision followed the recommendation of the chief executive officer (CEO), whether the board took an initiative to modify, define more specifically, or propose an alternative action to be taken, whether the board requested to receive further information or an update, and whether the board was 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 2,459 decisions were made or updates were given (1,422 decisions and 1,037 updates).³

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.⁴ These events, albeit extremely important, are unusual and do not reflect the day-to-day functions of boards. In addition, a number of studies rely on questionnaires or interviews with CEOs and directors, with the goal of capturing the essence of the way in which they work together.⁵ Yet, these studies rely on directors' memories and willingness to disclose their own actions, and they can, therefore, reflect inflated perceptions of directors regarding their own abilities and their contribution to the firm. The advantage of the minutes we analyze 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. Because of the complexity of the decision-making process inside firms, formal models of boards have generally focused their analysis on one particular role boards play. Some, including Song and Thakor (2006), Adams and Ferreira (2007), and Harris and Raviv (2008), adopt a “managerial” approach to boards of directors that presumes boards make managerial decisions such as which projects to undertake, and which employees to hire. These models emphasize the board's role with respect to what Fama and Jensen (1983) define as the “Decision Management” component of the decision process (i.e., the ratification and monitoring of decisions).

Alternatively, the “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. This approach models the board's role in what Fama and Jensen (1983) refer to as the “Decision Control” part of the decision process (i.e., the initiation and implementation steps). The minutes data allow us to do the somewhat unorthodox testing of the underlying assumptions made in each of the two approaches, in addition to testing their predictions.

Consistent with the supervisory approach, for the sample of GBCs we consider, boards discuss issues we classified as supervisory approximately two-thirds of the time. In addition, most of the time boards go along with the CEO's wishes: in only 2.5% of the cases did boards partially or completely vote against the CEO. Finally, we find that only 1% of the time was the board presented with more than one alternative to choose from.

However, we also find evidence suggesting that some of the time boards do play a managerial role. On average,

¹ The search was done on April 4, 2012.

² These minutes are complete and were not censored for sensitive information. In addition, the directors did not know the minutes would be used for an academic study. Perhaps a more accurate description than “minutes” would be “transcripts”, but we use “minutes” throughout the paper because that is what they are referred to in practice.

³ The 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.

⁴ See Weisbach (1988), Shivdasani (1993), and Brickley, Coles and Terry (1994).

⁵ See, for example, Mace (1971), Lorsch and MacIver (1989) or Adams (2009).

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. Because 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 they took an initiative of some kind. Taken together, these findings suggest that boards can be characterized as active monitors. Most commonly, they supervise and monitor management. However, on occasion they actively make managerial decisions themselves.

The minutes data allow 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, in at least two cases in our sample the CEO was clearly coerced to leave by the board, yet there would be no way to know the departure was not voluntary using only publicly available data. The existence of these cases suggests that estimates of the fraction of forced CEO turnovers that are based on publicly available data underestimate, perhaps substantially, the fraction of turnovers that are initiated by the board.

Overall, the results suggest that boards of directors play both supervisory and managerial roles. While boards spend more time on supervisory issues, managerial concerns also take up a non-negligible portion of their time. Consequently, supervisory and managerial models of boards of directors each capture some of what boards actually do, albeit incompletely.

A potential concern with this analysis 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 Israel and the rest of the world, several relevant factors should be considered. 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. The directors of GBCs have the same fiduciary responsibilities as directors of private and public Israeli firms, which are very similar to those of American directors. In addition, the GBC directors are explicitly required 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 find are similar to those reported in interview-based studies, which are most often based on publicly traded U.S. companies. For these reasons, the relationship between a CEO of a GBC and his 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 formal models of boards of directors are based on 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 is based on the minutes of board and board-committee meetings of 11 GBCs. These 11 companies are taken from the 34 GBCs that operate in Israel in various fields, including infrastructure, military technology, construction and housing, and services. All GBCs are overseen by the Government Companies Authority (GCA), which represents the government in its role as a shareholder.

Table 1 presents statistics on the universe of the 34 GBCs for 2007. 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 US dollars, whereas the comparable figure for the larger firms is \$1 billion to \$4 billion USD. The latter firms are very large relative to other Israeli firms.⁶

Israel's 1999 "Corporation Law", which applies to all corporations in Israel (including government-owned firms), and its 1975 "Government Companies Law" (GCL), 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 and 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" (our translation).

Furthermore, the GCL specifies additional tasks for which the board is responsible, including determining the company's budget, discussing the financial reports, determining the long-term strategic plan, and choosing, appointing, and monitoring the CEO. The GCL also states that the CEO is not permitted to serve as the chairman or as a director of the firm of which he is the CEO. However, in our sample the CEO is present in virtually all meetings of the board and its committees.⁷

⁶ The median income of 662 companies that were traded on the Tel Aviv Stock Exchange in 2007, and for which data are available, was \$36 million and the average was \$265 million. In 2007, only six companies traded on the TASE had an income higher than the Israel Electricity Company, the largest government company in Israel.

⁷ All GBCs have finance and audit board committees. In addition, most GBCs have approximately two to three additional board committees.

Table 1

Business companies in which the Israeli government holds shares.

This table presents 2007 figures for all 34 firms engaged in business activities in which the Israeli government held shares that year. The data were taken from annual reports of the Government Companies Authority.

Name of company	Annual revenue in thousands of US dollars	Number of employees	Field	Percentage held by the government
A.T. Communication Channels	940	8	Transportation and communication	100
Agrexco Agricultural Export Co. Ltd.	868,460	365	Agriculture	50
Arim Urban Development Ltd.	13,040	28	Building, housing and development	100
Ashdod Port Company Ltd.	263,670	1,275	Transportation and communication	100
Ashot-Ashkelon Industries Ltd.	56,120	399	Defense	88
Ashra the Israel Export Insurance Corporation	12,440	18	Industry and commerce	100
Atarim Tourist Development Corp. Tel Aviv Jaffa Ltd.	6,140	23	Industry and commerce	50
E.M.S. Ltd.	83,130	NA	Electricity and water	100
Eilat Port Company Ltd.	27,380	112	Transportation and communication	100
Elta Systems Ltd.	918,750	3,407	Defense	100
Haifa Port Company Ltd.	210,950	1,064	Transportation and communication	100
Industrial Development Bank of Israel Ltd.	26,580	43	Industry and commerce	49
Insurance Fund for Natural Risks in Agriculture Ltd.	46,000	69	Agriculture	50
Isorad Ltd.	12,250	20	Industry and commerce	100
Israel Aircraft Industries	3,292,110	12,939	Defense	100
Israel Bank of Agriculture	9,780	25	Agriculture	92
Israel Government Coins and Medals Corporation Ltd.	4,560	39	Industry and commerce	100
Israel Military Industries Ltd.	571,440	2,966	Defense	100
Israel Natural Gas Lines Company Ltd.	7,970	69	Energy and petroleum	100
Israel Ports Development and Assets Company Ltd.	172,030	105	Transportation and communication	100
Israel Postal Company Ltd.	421,930	4,860	Transportation and communication	100
Israel Railways Ltd.	222,770	2,107	Transportation and communication	100
Life Science Research Israel Ltd.	4,820	47	Industry and commerce	100
Matz - The Israel National Roads Company Ltd.	606,470	296	Industry and commerce	100
Mekorot Water Co. Ltd.	708,070	2,211	Electricity and water	100
Oil Products Pipeline Ltd.	20,050	0	Energy and petroleum	100
Petroleum and Energy Infrastructures Ltd.	75,750	383	Energy and petroleum	100
Pi-Glioth Petroleum Terminals and Pipelines Ltd.	9,990	76	Energy and petroleum	50
Postal Bank Company Ltd.	NA	0	Transportation and communication	100
Rafael Advanced Defense Systems	1,286,160	5,213	Defense	100
Rotem Industries Ltd.	14,890	95	Industry and commerce	100
The Israel Electric Corporation Ltd.	4,689,390	12,212	Electricity and water	100
The Marine Trust Ltd.	6,240	8	Building, housing and development	50
The National Coal Supply Corporation Ltd.	1,069,140	26	Electricity and water	99

2.1. Boards of directors of GBCs

The bylaws of each GBC generally require that the board be made up of eight to 12 directors, with seven to ten serving directors being most common. In our sample, an average of 8.1 directors attended board meetings and 4.3 attended board-committee meetings. The bylaws of each of the companies also specify which ministers appoint the directors of the company, in most cases the minister of finance and one additional relevant minister.⁸ In certain cases, the bylaws state that some of the directors must be employees of the ministries 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.

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, 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 Officer's Liability Insurance, which provides them similar coverage to that provided to directors of comparable Israeli nongovernmental firms.

Directors of GBCs are appointed by the government, and in practice, their renomination does not depend on their individual, or the firm's performance. The only compensation given to GBC directors is a fixed compensation for each board or board-committee meeting they

⁸ The GCL requires that in companies in which the government holds more than half the votes in the general stockholders' meetings, directors must be at least 25 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, and have at least 5 years of relevant experience or experience in a senior management position. The requirements regarding the chairman are even stricter.

Table 2

Representativeness of sample.

This table presents summary statistics on the background of the directors serving on the boards of the 11 government business companies (GBCs) for which minutes were examined, and for several other types of boards. "NA" indicates data are not available.

	GBCs	Israeli listed companies	Norwegian listed companies	Swiss listed companies	American Standard & Poor's 500
Age	50.7	57.6	52.3	56.5	62.1
Have bachelor degree	96%	87%	29%	87%	NA
Have an MBA or MA degree	48%	79%	22%	85%	NA
Percent with executive experience ^a	58%	91%	50%	18%	62%
Served or are serving on other boards	44%	NA	NA	NA	NA
Of these: non government or NGO boards	21%	NA	NA	NA	NA
Currently serving on a board of a listed firm	NA	18%	19%	31%	21% ^b
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	Government Companies Authority database	Israeli Stock Exchange Authority (2010)	Ahern and Dittmar (2012)	Ruigrok, Peck, and Tacheva (2007)	Spencer Stuart (2010)

^a As a rule, in most studies executive experience was defined as one of the following positions: chief executive officer, 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.

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

attend, which ranges between \$185 and \$350 per meeting, with the exact amount a function of the company's size.⁹

Summary statistics on the directors of the GBCs examined are presented in Table 2, along with comparative data on boards of directors of publicly traded firms from four different countries: Israel, Norway, Switzerland, and the US. Table 2 shows that firms from different countries have boards with somewhat different backgrounds from one another, but that GBC boards do not differ dramatically from those of publicly traded companies in Israel and in other countries. More specifically, the GBC directors are only a few years younger than their counterparts serving on the boards included in Table 2, and have a reasonably similar education as their counterparts. GBC directors are more likely to have a BA, but less likely to have an MA or an MBA. Furthermore, the percentage of GBC directors with executive experience is similar to that of Norwegian and American directors.

3. Data and methods

We coded minutes of board meetings and board-committee meetings of 11 GBCs for a period of one calendar year for each company. The year for which we have minutes data was between the years 2007 and 2009 (2008 for eight

of 11 companies). These minutes document all that happened during these meetings, including what each of the attendees said. Nine of the 11 companies examined provided minutes of both board meetings and board-committees, while the other two supplied only minutes from their board meetings.¹⁰ Confidentiality agreements preclude identification of the specific firms in the sample. However, all 11 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 they reflect the different fields in which the GBCs operate. Of the 11 firms, nine were completely owned by the Israeli government, and the other two only partially (approximately 50% of the shares were held by the government).

An important limitation of the minutes 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 these interactions are mentioned in the minutes, we are not aware of them. If directors wished that certain conversations not be documented (i.e., not appear in the minutes), the directors could have intentionally held them outside the boardroom. In this case, the minutes would not document important board activity. However, the minutes make clear that directors generally do speak their opinions, even when they differ from those of other directors or the CEO. In addition, the bulk of GBC board activity, including the decision-making process, takes place

⁹ Although this financial compensation is not high, many candidates are interested in being directors of GBCs, because such positions provide status, the expansion of one's professional network, and enable the development of an expertise in demand in the better-paying private sector. In small and medium GBCs, the chairman is not employed on a full-time basis, and his compensation is based on the number of meetings he attends. In large GBCs, 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.

¹⁰ The firms were initially requested (in 2008 and, again, in 2009) to provide minutes for the preceding calendar year. This request required the consent of the legal department of each of the companies examined. Because the length of this approval process varied substantially from one firm to another (from several weeks to more than one year), ultimately, minutes for different years were obtained from different companies. The directors themselves were not involved in this process.

in the boardroom and so is reflected in the minutes. Furthermore, in contrast to boards of American firms, which often hold dinner the evening before a board meeting, allowing directors to have informal discussions prior to the formal board meeting, GBCs do not typically have such gatherings. The infrequency of informal board gatherings outside the boardroom further suggests that the majority of relevant discussions are likely to be documented in the minutes.

The data were coded according to the content analysis methodology (Krippendorff, 2004; Lieblich, Tuval-Mashiach, and Zilber, 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 description see the Appendix):

1. *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 or committee), and whether the issue was merely presented as an update or, alternatively, culminated in a decision made by the board.
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.
3. *Topic-subjects*: The five aggregate topic-subjects were further broken down to 23 topic-subjects which are listed in paragraph 9 of this section, and are defined in the Appendix.
4. *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.
5. *Further updates*: The board requested to receive further information or an update on the issue discussed.
6. *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. An example of a minor initiative occurred when a board approved a lease it was asked to approve, yet decided to introduce a few revisions to the details of the lease agreement. “Major initiative” indicates that the board took an active part in defining the steps or actions that should be taken. An example of a major initiative occurred when the board requested that a specific issue be discussed, discussed it quite thoroughly, and finally, formulated and adopted a new alternative policy.

7. *Presentation of alternatives*: The board was presented with at least two alternatives.
8. *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).
9. *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 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.
10. *Consistency*: To assure consistent standards all coding was executed by a single person (one of us), who reviewed the coding several times.

4. What can be learned from board minutes about theories of boards?

To understand the role of boards of directors of corporations, it is useful to break down the decision making process into four steps, as suggested by Fama and Jensen (1983): (1) “Initiation,” (2) “Ratification,” (3) “Implementation,” and (4) “Monitoring”. These authors refer to the Initiation and Implementation steps as “Decision Management” and the Ratification and Monitoring steps as “Decision Control”. They argue that unless the firm is tightly held, an important element of corporate governance is a separation between Decision Management and Decision Control. Fama and Jensen (1983) attribute boards of directors to being part of the Decision Control process. Documenting this attribution, however, is a difficult assumption to test given the private nature of board meetings.

Perhaps because the underlying process by which boards make decisions is unknown, the literature has adopted a number of alternative assumptions when modeling boards formally. In reality, consistent with the evidence we present below, boards in some circumstances play both Decision Management and Decision Control roles. However, given the complexity of formal modeling, authors have concentrated on one role or the other in their characterizations of boards of directors.

This dichotomy can be seen in Table 3, which characterizes the assumptions and predictions made in some of the leading formal models of boards of directors. This table indicates that there are two main approaches, which we refer to as managerial and supervisory models. The managerial models focus on the role of boards of directors in Decision Management, while the supervisory models on their role in Decision Control. Each approach, of course, is merely a device for understanding some aspect of board

Table 3

Comparison of models examining the working of boards.

Panel A presents the managerial approach models, which generally assume that the board makes decisions concerning the actual business of the firm. Panel B presents the supervisory approach models which generally presume that the board's role is assessing the performance of the chief executive officer, and deciding whether to retain or fire him.

Panel A: Managerial approach models									
	Song and Thakor (2006)	Adams and Ferreira (2007)	Harris and Raviv (2008)	Baranchuk and Dybvig (2009)	Levit (2011)	Malenko (2011)	Horstmeyer and Zhu (2011)		
Managerial or supervisory approach?	Managerial	Managerial	Managerial	Managerial	Managerial	Managerial	Managerial	Managerial	Managerial
Is monitoring the board's main role?	No	No	No	No	No	No	No	No	No
Is disagreement between the board and the CEO expected?	Possibly	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Possibly
Is the board monolithic?	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Does the board make business decisions?	Mostly	Yes	Yes	Yes	Yes	Very likely	Very likely	Yes	Yes
Does the board choose from several options?	Only one at a time	Yes	Yes, the scale of an investment	Yes, an optimal action	Possibly	Possibly	Possibly	Only one at a time	
In what way is the board active?	Screening projects	Interfering in the project selection	Acquiring information, choosing scale of investment	Choosing an optimal action	Choosing an optimal project	Choosing an optimal project	Communicating and making a decision	Screening projects	
Main focus of model?	Career concerns	Advising and monitoring the CEO	Insiders versus outsiders	How a group of directors reach consensus	Disclosure of information, expert boards	Communication among directors	Board composition, career concerns		
Panel B: Supervisory-approach models									
	Hermalin and Weisbach (1998)	Warther (1998)	Almazan and Suarez (2003)	Graziano and Luporini (2003)	Raheja (2005)	Dominguez-Martinez, Swank, and Visser (2008)	Laux and Laux (2008)	Chakraborty and Yilmaz (2010)	Chemmanur and Fedaseyev (2011)
Managerial or supervisory approach?	Supervisory	Supervisory	Supervisory	Supervisory	Mostly supervisory	Supervisory	Supervisory	Mostly supervisory	Mostly supervisory
Is monitoring the board's main role?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is disagreement between the board and the CEO expected?	No	No	No	No	Yes, if the CEO proposes an inferior project	No	No	In one of the scenarios	No
Is the board monolithic?	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Does the board make business decisions?	No	No	No	No	Monitors these decisions	No	No	Not regularly, at most reject the CEO's proposal	Not in the basic model
Does the board choose from several options?	No	No	No	No	No	No	No	No	No
In what way is the board active?	Retaining or firing the CEO	Retaining or firing the CEO	Replacing the CEO when severance pay exists	Selecting and firing the CEO	Approving or 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
Main focus of model?	Replacement of CEO by endogenously chosen directors	Dissension, CEO succession	Replacement of CEO, severance pay	Replacement of CEO by a board that chose a "bad" CEO	Optimal board size and board composition	Replacement of CEO	Conducting conflicting tasks via committees	Optimal information sharing	Dissension, CEO succession,

behavior, and none is meant to characterize boards completely. Consequently, these models are meant to complement one another and should not be thought of as mutually exclusive.

In managerial models, boards typically choose a project from a number of potential projects 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, and 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 A of Table 3 provides further information on the structure and predictions of these and other models based on the managerial approach.

In contrast to the managerial approach, the supervisory approach assumes that the board's role is to evaluate management, not 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 or to fire him. These models assume that the board's work consists of supervising the CEO, evaluating his performance on a regular basis, and potentially replacing him. In these models, the board is not 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, Swank, and Visser (2008), and Chemmanur and Fedaseyeu (2011) all adopt variants of this supervisory approach. Panel B of Table 3 provides a description of these and other models based on the supervisory approach.

Distinguishing the relative importance of the supervisory and managerial roles of boards has been difficult. Most previous work tries to relate factors associated with board structure to publicly observable outcomes, such as CEO turnover, firm performance, or adoption of a poison pill.¹¹ In contrast, the minutes of board meetings document what is actually discussed in boardrooms. Relying on minutes has a number of advantages over traditional research on boards. The minutes allow us to observe the details of the involvement of boards and the extent they are active and, consequently, to understand which underlying assumptions and predictions concerning boards are most realistic.

5. The supervisory approach to boards of directors

In this section we present the evidence that supports the supervisory approach. In particular, we examine the

extent to which the board's work consists of supervising and monitoring the CEO, and potentially replacing him.

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 play a management role. Therefore, managerial issues include, for example, 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 oversee top management, but not to make the managerial decisions themselves. 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, not creating these reports themselves.¹²

Table 4 and Column 2 of Table 5 indicate that, weighted by firm, on average 67% of the issues discussed by the entire boards were classified as supervisory. In board-committees, this percentage is even higher, with 80% of the issues discussed classified as supervisory. In Columns 4 and 5 of Table 5 we estimate the percentage of time boards discuss supervisory and managerial issues, estimated using the number of lines in the minutes that document discussions of each type of issue, assuming that a constant amount of time is spent on each line of the minutes. The proportion of estimated time spend on each issue is similar to that on the number of issues spent on each topic: 57% of the time spent at board meetings, and 74% of those discussed at board-committee meetings, were on issues categorized as supervisory.

The fact that the majority of the time boards discuss supervisory issues has also been shown in interview-based studies such as Mace (1971), Lorsch and MacIver (1989) and Carter and Lorsh (2003). Relatedly, Adams (2003) examines the portion of compensation paid to boards of Fortune 500 companies linked to each of the committees. She finds that most of the compensation boards receive that can be linked to a specific committee is given for monitoring tasks. Adams interprets this finding similarly to the way we interpret our findings, 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.

In addition to monitoring, boards potentially play a managerial role in firms by being involved in the actual business. We consider the extent to which they do so in our sample. Column 3 of Table 6 indicates that GBC boards do sometimes perform a managerial role, but it does not take up a majority 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

¹¹ See Hermalin and Weisbach (2003) and Adams, Hermalin, and Weisbach (2010) for surveys with detail on the individual studies.

¹² The way in which we classify issues is presented in Section 3, no 9. If we change the classification scheme so that hiring and firing executives is considered supervisory, the numbers reported below change only slightly, with the fraction of issues and time spent on supervisory issues increasing by 2–3 percentage points.

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 policy about a specific major issue or field. Furthermore, as Columns 4 and 5 of Table 6 indicate, 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.

The following example from the minutes illustrates how boards can be involved in a major business decision, without making the decision. A firm encountered a situation in which it was forced to stop working with one 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 with which he was negotiating. 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. As Brickley, Smith, and Zimmerman (2004) stress, an employee can be empowered by granting her decision-making authority, while the board maintains the overall control. This example demonstrates how the CEO can be empowered by the board to carry out Decisions Management steps, while the board carried out Decision Control steps.

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, because most other supervisory models surveyed in Panel B 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. For example, Chakraborty and Yilmaz (2010) assume that the most boards can do is to approve or reject a specific proposal made by the management. Therefore, data on the extent to which boards are presented with options in practice, provide a way to evaluate the extent to which each of the two modeling approaches provide a realistic characterization of boards.

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% to 4.55%. These figures imply that, as a rule, boards were not presented with information concerning alternatives and, accordingly, in practice could only accept or reject a single proposal. These findings are consistent with the notion that most of the

time the CEO has the specific knowledge about the particular details of the proposals, and he also has the decision rights about its implementation (see Brickley, Smith, and Zimmerman, 2004, Chapter 18). 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 and management preferred.

One relatively rare case in which the board was asked to choose between alternatives concerned specific assumptions that had to be made in the firm's financial reports that impacted these 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 models typically suggest that boards sometime select projects that are not in line with the CEO's wishes. For example, in Adams and Ferreira (2007), the board and the manager have different utility functions, implying that the boards' preferred project will in general be different from that of the CEO. 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, and in Horstmeyer and Zhu (2011), the key issue is whether the board chooses to vote for the project proposed by the CEO. Hence, Adams and Ferreira (2007), Harris and Raviv (2008), and Horstmeyer and Zhu (2011) all predict that the board will make decisions that are not in line with the original proposals made by the CEO.

In contrast, models based on the supervisory approach do not predict that disagreement will be common between management and the board. For example, Warther (1998) predicts that board will in most cases vote in favor of management because dissension can be costly to directors who deviate from their colleagues' votes. In monitoring models such as Hermalin and Weisbach (1998), Graziano and Luporini (2003), Dominguez-Martinez, Swank, and Visser (2008), and Chemmanur and Fedaseyev (2011), the board is not involved in any managerial decisions. Instead, its activity is limited to choosing between retaining the CEO and firing him. Because the board does not interfere in running the business, no disagreement exists between the board and the CEO about managerial decisions.¹³

¹³ However, some disagreement exists between the board and CEO in these models. For example, in Hermalin and Weisbach (1998), boards and CEOs disagree and negotiate over the choice of future directors.

Table 4

Summary statistics on the work of boards.

This table presents summary statistics on firm level for the variables that document the work of boards and their dynamics at board meetings and board-committee meetings for the 11 Israeli government business companies examined. In each column, *n* is the cumulative number of all cases examined, which aggregate to 2,459 decisions and updates or to 1,422 decisions, depending on the variable. Each variable is calculated by first computing an average figure for each firm, and then computing the equally weighted average across the 11 firms. The variables present the percentage of cases boards discussed a supervisory issue as opposed to a managerial one; *time* boards discussed supervisory issues as opposed to a managerial ones (estimated based on the number of lines in the minutes that document discussions of supervisory versus managerial issues); cases they made a decision as opposed to received an update; cases they were presented with at least two alternatives; cases they requested to receive further information or an update; cases they did not vote in line or voted only partially in line with the chief executive officer's proposal; cases they did not vote unanimously; cases they took a minor initiative (the board slightly modified the original proposal); and cases they took a major initiative (the board took an active part in defining the steps or actions that should be taken by the firm).

	Percent cases supervisory issues discussed	Percent time supervisory issues discussed	Decision made	Two alternatives	Information or update requested	Not or partially in line	Not unanimous	Minor initiative	Major initiative
Average	66.9%	71.8%	60.8%	1.0%	8.0%	2.5%	3.3%	4.7%	3.4%
Median	69.9%	73.0%	57.0%	0.0%	5.4%	2.6%	1.2%	4.5%	3.0%
Minimum	44.7%	55.3%	42.1%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%
Maximum	88.1%	90.8%	76.8%	4.6%	21.1%	7.9%	18.8%	10.9%	7.7%
Standard deviation	11.9%	10.6%	12.9%	1.4%	6.7%	2.2%	5.4%	3.2%	2.5%
<i>n</i>	2,459	2,459	2,459	1,422	2,459	1,422	1,422	2,459	2,459

Table 5

Supervisory versus managerial issues discussed by boards.

This table categorizes the 2,459 topic-subjects discussed at board meetings and board-committee meetings of the GBCs examined, broken down according to whether they were of supervisory or managerial nature. For board meetings minutes of 11 Israeli government business companies are examined, and for board-committee meetings minutes of nine GBCs were examined. Each variable is calculated by first computing an average figure for each firm, and then computing the equally weighted average across all firms examined. Supervisory topic-subjects are 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 are 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. Columns 2 and 3 show the percentage of cases in which boards discussed supervisory issues as opposed to managerial ones; Columns 4 and 5 document the percentage of *time* boards discussed supervisory issues as opposed to managerial ones. The figures reported in Columns 3 and 4 are estimated based on the number of lines in the minutes that document discussions of supervisory issues as opposed to those documenting managerial ones.

Type of meeting at which topic-subject is discussed (1)	Supervisory cases (2)	Managerial cases (3)	Supervisory time (4)	Managerial time (5)	Number of cases (6)	Number of companies (7)
Board	67%	33%	57%	43%	1,313	11
Board-committee	80%	20%	74%	26%	1,146	9
Board and committees	72%	38%	65%	34%	2,310	9
Total number of cases examined	1,696	763	1,696	763	2,459	11

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's view, and in only an additional 1.5% of the cases was their vote only partially in line with the CEO's. Thus, as Tables 4 and 7 show, only in one of 40 cases (2.5%) did boards refuse, completely or partially, to ratify the CEO's proposal.¹⁴ 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 can lead to a vote that 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

¹⁴ In GBCs, the CEO is not permitted to 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.

Table 6

Issues discussed by the boards.

Columns 3 presents the percentage of cases in which each aggregate topic-subject was discussed, out of the 2,459 cases in which the boards of the 11 Israeli government business companies examined received an update or made a decision at a board meeting or a board-committee meeting. Columns 4 and 5 provide 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 (1)	Total number of decisions and updates (2)	Percent of all topic-subjects discussed (3)	Percent of topic-subject delivered as an update (4)	Percent of topic-subject for which decision was made (5)
Audit and contracting	685	28%	48%	52%
Business issues	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%	42%	58%
Number of cases	2,459		1,037	1,422

of no confidence in him. This tactic worked for this CEO, and the meeting concluded with the board approving the budget he proposed. This example also illustrates how directors can disagree with the CEO prior to voting, however, when they vote, they often nonetheless vote in line with the CEO's wishes.

The low frequency of disagreement highlights that by the time of voting, boards usually prefer to have their disagreements with the CEO resolved. 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 vote against the CEO's proposal – occurs in practice only to a very limited extent. In contrast, the results are consistent with the Warther (1998) prediction that boards usually vote in favor of management's proposal. Moreover, the low frequency of disagreement suggests that proceeding from the 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; Dominguez-Martinez, Swank, and Visser, 2008). It appears that once the board has chosen a CEO, which is indeed a major decision entrusted to the board, the CEO is usually the one making the firm's major decisions.

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

Table 7

Boards' votes.

This table reports the 1,422 cases in which the boards of the 11 Israeli government business companies 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 chief executive officer'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	Cases vote not in line or partially in line with CEO	Cases vote not unanimous	Number of cases
Audit and contracting	2.0%	2.3%	354
Business issues	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%	1,422

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

In most of the supervisory models, the goal of monitoring management is to evaluate the CEO and, if warranted, replace him. The data on board minutes are 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. Because we examine only 11 firms, each for one year, and the median CEO turnover rate for all GBCs is 3.14 years, the expected number of turnovers for the 11 firms in our sample is approximately four.¹⁵ Coincidentally, four of the sample firms replaced, or were in the process of replacing their CEO during the year for which we have the minutes data.

As Weisbach (1988), Cornelli, Kominek, and Ljungqvist (2012) and others argue, in empirical research on CEO turnover based on public information, it is difficult to determine whether the CEO retired voluntarily or if the departure was actually forced. One advantage of having the data on board minutes is that, unlike with large samples constructed based on only publicly available information, we know with certainty whether a CEO was fired or left voluntarily, as well as 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 using minutes data. To emphasize this point further, consider the following estimates of the fraction of CEO turnovers that are forced. Spencer Stuart (2004) reports this fraction equals 4% for Standard & Poor's 500 firms based on the press releases of the company from which the CEO departed;

¹⁵ The calculation for median CEO turnover rate is based on data on all GBCs, for the years 1997–2007. This data was taken from an internal database of the Government Companies Authority.

Huson, Malatesta, and Parrino (2004) report a 16% fraction for large public firms based on data from the Wall Street Journal; and Taylor (2010) reports this figure equals 17% using a similar approach to Huson, Malatesta, and Parrino (2004).

In our sample, at least two of the four departures would have appeared to be voluntary based on all publicly available information but, in fact, were coerced.¹⁶ Consider the following case: 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 directors agreed among themselves that this 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 large public firm. The only information that surfaced to the media was a standard announcement to the effect that the CEO decided to accept a new position and that the firm thanked him for his significant contribution.

This issue highlights that substantial gaps exist 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 based on publicly available information are probably not able to capture more subtle actions boards take and therefore, are also likely to 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 evidence from our sample that supports the managerial approach.

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 both to monitor and to assist the CEO in making optimal decisions. The key underlying assumption in this approach is that boards are active decision makers and that monitoring is part of the decision-making process. Accordingly, the managerial approach typically views making decisions and monitoring as complementary activities.

In contrast, most of the supervisory-based models examine the way in which the board's monitoring intensity affects the board's decision to retain or fire the CEO (Hermalin and Weisbach, 1998; Almazan and Suarez, 2003; Graziano and Luporini, 2003; Hermalin, 2005; Dominguez-Martinez, Swank, and Visser, 2008; Laux, 2008). Usually in these models, the board will not limit the CEO's actions, since allowing the CEO free rein enables the board to acquire a signal about the CEO's quality. Hence, in supervisory-based models, the board observes the CEO's actions, and its main function is to evaluate the CEO based on these actions.

A first measure of the importance of the managerial models is the extent to which boards make managerial decisions. In fact, in our sample, boards received formal opportunities to make decisions quite frequently. Table 4 indicates that weighting by firm, in 61% of the cases boards made a decision, as opposed to only receiving an update. Columns 4 and 5 of Table 6 break down the aggregate number of decisions made and updates supplied on the topic-subject level. Decisions are most common for the formal issues aggregate topic-subjects category, in which 96% of issues were voted on. They are least common for the business issues aggregate topic-subjects category, for which in two-thirds of the cases the board received an update instead of making a decision.

We next consider whether directors made requests to receive further information or an update. Such requests can indicate whether the board is an active monitor (as suggested by the managerial approach) or a passive one (as implied by the supervisory approach). Table 4 shows that, on firm level, boards of a given firm requested to receive further information or an update in 8% of the cases. The difference across firms was large, ranging from 1% of the cases for one firm to 21% for another firm. Columns 3 and 4 of Table 8, which aggregate all 2,459 cases, indicate that on average boards requested to receive further information or an update in 11% of the cases. However, 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, because such information is often provided outside the boardroom.

The following example illustrates a typical situation in which a board can monitor actively by requesting further information. In each of 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 each firm. In the first firm, the CEO reminded the board that it had discussed the issue 2 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 the costs of hiring new employees were compared with 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

¹⁶ This discussion is based on short interviews with directors of the firm involved.

Table 8

Board activity.

This table reports the 2,459 cases in which the boards of the 11 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. Column 3 reports the percentage of cases in which boards requested to receive further information or an update. Columns 5 and 6 report on the topic-subject level whether the boards took a minor initiative or a major initiative, respectively. "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 or actions that should be taken.

Aggregate topic-subject (1)	Topic-subject (2)	Board requested further information or update (3)	Number of further information or update (4)	Minor initiative (5)	Major initiative (6)	Number of minor or major initiative taken (7)	Total number of cases (8)
Audit and contracting	Audit	26%	71	8%	9%	45	273
	Contracting or 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 issues	Business issues	4%	2	0%	2%	1	50
	Business projects	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 or 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 or 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	5.1%	4.2%	228	2,459

what assumptions were made when calculating this figure, 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.

In the second firm, the directors also asked about the cost of the early retirement program. The CEO of this firm 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 that would be used to determine which employees would be entitled to retire early. In addition, it requested to know the specific professions from which the company was planning to hire new employees in place of those who 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 it takes initiative to perform tasks it

not specifically requested to do. The managerial approach views boards as active decision makers, suggesting that they take initiatives to help them make better decisions. 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 or 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 examine this issue in more detail. 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 with that of other companies. Following this discussion, the board formulated and approved a new policy on this issue, which was implemented by the firm.

Table 4 shows that, averaging by firm, boards took a minor initiative or a major initiative in 4.7% and 3.4% of the cases, respectively. Columns 5 through 7 of Table 8 present comparable numbers, weighting each of the 2,459 issues equally. These columns indicate that the boards examined took a minor or a major initiative in 5.1% and 4.2% of the topic-subjects discussed, respectively. Therefore, in 9.3% of the cases, boards took some kind of an initiative.

Furthermore, an indication of the activeness of the board is the percentage of cases in which the board took some kind of action: either did not vote in line with the CEO, requested further information or an update, or took an initiative of some type. At least one of these actions occurred in 19.2% of all cases in the sample. Moreover, given that a number of cases (issues) are discussed in each meeting, in 252 of the 402 meetings (63% of the meetings) at least one of the three actions was taken. This figure implies that when boards meet, the majority of the time they take some kind of action.

6.3. Which directors were active?

One advantage of having data on board meeting minutes is that it is possible to know exactly which particular directors took actions at each meeting. Of the 128 individuals serving as directors during the period for which minutes were examined, we are able to link at least one action (the director requested further information or an update, took an initiative, or did not vote as all the other directors voted) to 55 directors. Of these 55 directors, 23 took at least five actions. We refer to these 23 directors as "active directors" and to the other 105 serving directors as "reserved directors". It seems evident that there is wide variation in activity across directors, and also across boards, because the 23 active directors serve on just seven of the 11 boards in the sample.¹⁷

In Table 9 we compare the active directors to the reserved ones. As this table indicates, the active directors were relatively older and more experienced than the reserved directors. The active directors average 57.2 years old, while the reserved directors were on average 49.8 years old. In addition, the active directors possessed more executive experience, with an average of 12.6 years of executive experience compared with an average of 6.8 years for the reserved ones. Finally, Table 9 indicates that the educational background of the active directors is not noticeably different from that of the reserved directors.

6.4. On which issues did boards take action?

Column 4 of Table 8 documents that the most common topic-subjects for which requests for further information

¹⁷ This conclusion is limited by the extent to which it is possible to gauge a director's activity in one year's worth of observation. It is likely that some directors are usually relatively quiet except in particular circumstances in which they are able to provide their unique expertise.

Table 9

Active directors.

This table reports information on the background of the active directors serving on the boards of the 11 Israeli government business companies for which minutes were examined. An active director is defined as a director who has taken five or more actions during the year examined. An action is defined as a case in which a single director can be identified from the minutes as the director who requests to receive further information or an update, takes an initiative, or does not vote as the other directors. Directors for which only zero to four actions are documented in the minutes are classified as reserved directors. The table reports for both active directors and reserved directors the average years of experience, average years of executive experience, percentage with an MA or MBA, average age, and percentage of women, as well as the number of directors included in each category.

	Years of experience	Years of executive experience	MA or MBA	Age	Women	n
Active directors	29.4	12.6	48%	57.2	39%	23
Reserved directors	22.5	6.8	44%	49.8	35%	105
All directors	23.8	7.9	45%	51.2	36%	128

or an update were made and initiatives were taken are audit issues, contracting or purchase, and personnel and benefits, all of which we classify as supervisory issues. Examples of cases that were categorized under these topic-subjects include a board that was requested to approve that the firm hire a specific consulting company (contracting or purchase), or that the firm hire a specific deputy recommended by the CEO (personnel and benefits). The finding that boards requested to receive further information or an update on these types of issues 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 directors' activity was focused on supervisory issues provides further evidence for the supervisory approach. Nevertheless, the activeness and initiation of boards also implies that boards are not passive observers as suggested by the supervisory approach. Instead, they are active, as implied by the managerial approach.

6.5. Dissension

Leblanc and Gillies (2005), Merchant and Pick (2010), 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. The idea is that disagreement encourages critical thinking by directors. 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 by the time of voting, the board is able to reach a consensus and vote 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, highlighting the importance of the use of data such as we rely on here.

Other models, including Warther (1998), Chemmanur and Fedaseyev (2011) 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, that director can be ejected from the board or punished. In equilibrium directors attempt to avoid dissension and to vote unanimously. Continuing this logic, in Chemmanur and Fedaseyev (2011), 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 before voting takes place. Consequently, similarly to Warther (1998), the model implies that votes will mostly be unanimous.

In our sample, weighted by firm, the board did not vote unanimously in only 3.3% of the cases (see Table 4); and weighting all issues equally, in 2.5% of the cases (Table 7). The minutes, however, make clear that active disagreement was common prior to voting. Nonetheless, as Malenko (2011) predicts, once voting began, even if the discussion did not conclude with directors completely agreeing with each other, the directors with the minority opinion usually 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. On the aggregate topic-subjects level, the Pearson correlation between boards not voting in line with the CEO and boards not voting unanimously equals 0.89 ($p < 0.05$, $n=5$), and on the topic subject level this association equals 0.571 ($p < 0.001$, $n=23$). This pattern indicates that both the likelihood that disagreement between the board and the CEO occur, and that dissension among directors occur, depends on the type of issue being discussed.

In sum, the low rates of dissension indicate that at least when directors vote, they 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 Fedaseyev (2011) and Malenko (2011), in which in equilibrium votes will be unanimous despite ex ante disagreements. These models, as well as the minutes data presented here, emphasize that dynamics among directors are a major factor in the decision making process of boards, even if boards do end up voting unanimously.

7. 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, are generally not publicly available.

Empirical studies of governance generally draw inferences about the roles of the board from publicly available data, and knowing whether these inferences are correct is often difficult. Because of the uncertainty about how boards function in practice, scholars have used wildly different assumptions when constructing formal models of boards of directors. Our knowledge of boards of directors is substantially limited by the private way in which they usually operate.

In this paper, we construct a database consisting of the actual board minutes of a sample of 11 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. Our analysis characterizes the interaction among directors and between them and the CEO, and it illustrates the way in which directors make decisions. Our goal is to evaluate 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 decisions, 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.

Taken together, our findings suggest that boards can be characterized as active monitors. Boards are active, but their main focus tends to be on supervising management rather than dictating the specifics of how the company should be run. This picture of boards, taken from the minutes of their meetings, complements much previous research. Theoretical work has helped to explain how self-interested directors can play an important role in their firms, while empirical work has documented much about the way that they do so. Our findings suggest that incorporating both supervisory and managerial roles simultaneously into future discussions of board behavior is a potentially fruitful research direction. Theoretically, models in which boards can both supervise managers and sometimes take over managerial tasks themselves are likely to be more realistic than those currently in the literature. And empirically, documenting the relative importance of managerial and supervisory roles, as well as the circumstances under which the board fills each one, would be extremely valuable.

We emphasize that there are important limitations of this study. The sample consists of only 11 companies, from one small country, for only one year per company. Equally important, most of these companies are government-controlled, not privately held. Consequently, directors are appointed instead of 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 be more active than we observe in our sample. 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. Future research should attempt to perform similar analyses for other samples of companies, to determine the extent to which boardroom dynamics differ across different types of companies, or follow a more or less universal pattern.

These potential differences between our sample firms and other firms notwithstanding, we believe this analysis constitutes an important step in understanding boards of directors. A key limitation to prior research on corporate governance is that in most cases it is impossible to observe exactly what goes on in boardrooms. Minutes data provide a window into how boards actually operate, and as such, highlight and quantify characteristics that allow a relatively thorough understanding of the nature of the work of boards of directors.

Appendix A

A.1. Complete coding guidelines

The following coding 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 a 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 A.2 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 concerning a single topic-subject the board requested more than one update or further information, this was coded as one request.
6. *Taking an initiative*: 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. 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.¹⁸ 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 requested 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.¹⁹

¹⁸ If the minutes of subsequent meetings documented that the board did take a major initiative, it was categorized accordingly for that subsequent meeting.

¹⁹ One could argue that this specific coding category is one with a soft definition. For this reason, great care was taken to assure that the

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.²⁰
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 them 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 women directors, directors from ethnic minority members (Arabs), and outside directors.²¹
10. *No serving CEO*: 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 a single person (one of us),²² who reviewed the coding several times.

A.2. 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.

1. *Appointing or firing an executive*: Executives include the CEO, his deputies, and the auditor.
2. *Appointment of members*: To board-committees or boards of subsidiary firms.
3. *Approving minutes of past meetings*: Formal approval of the minutes by the board.
4. *Audit*: Audit reports and audit issues regarding the firm.
5. *Budget*: Updates, suggested changes, and projected budget.
6. *Business issues*: A standard business issue. For instance, in the case of a bank, waiving part of a problematic debt.
7. *Business project*: Data regarding a specific project the firm or a subsidiary had undertaken or ad considered undertaking.
8. *Choosing a chairman for the meeting*: For companies that do not have a permanent chairman and elect one for each board meeting.
9. *Contracting or purchases*: Contracts regarding purchasing raw materials, supplies, real estate, or services, for example, from advisers and external accountants. This category also includes problems that could arise within contractual relation.
10. *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.
11. *Financial reports*: Discussions regarding the financial reports and the assumptions upon which they rely.
12. *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.
13. *Investment or 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.
14. *Legal*: Legal issues, including insurance.
15. *Ongoing general issues*: Ongoing continuing issues in the life 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 was coded separately.
16. *Organizational change*: Structural changes in the firm.
17. *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.
18. *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.
19. *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.
20. *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.
21. *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.
22. *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.
23. *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.

(footnote continued)

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 reexamined throughout all minutes examined.

²⁰ In 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 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 a base of board and 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.

²¹ Inside directors were defined as government employees and firm employees.

²² This was also due to the confidentiality of the minutes, which were made available to the authors with the proviso that virtually only they be allowed access to them.

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