THE JOURNAL OF FINANCE • VOL. LVII, NO. 1 • FEB. 2002

The Cadbury Committee, Corporate Performance, and Top Management Turnover

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ABSTRACT

In 1992, the Cadbury Committee issued the *Code of Best Practice* which recommends that boards of U.K. corporations include at least three outside directors and that the positions of chairman and CEO be held by different individuals. The underlying presumption was that these recommendations would lead to improved board oversight. We empirically analyze the relationship between CEO turnover and corporate performance. CEO turnover increased following issuance of the *Code*; the negative relationship between CEO turnover and performance became stronger following the *Code*'s issuance; and the increase in sensitivity of turnover to performance was concentrated among firms that adopted the *Code*.

THE CADBURY COMMITTEE WAS APPOINTED by the Conservative Government of the United Kingdom in May 1991 with a broad mandate to " . . . address the financial aspects of corporate governance" (*Report of the Committee on the Financial Aspects of Corporate Governance*, 1992, Section 1.8). The Committee was chaired by Sir Adrian Cadbury, CEO of the Cadbury confectionery empire, and included other senior industry executives, finance specialists, and academics. In December 1992, the Committee issued its report, the cornerstone of which was *The Code of Best Practice*, which presents the Committee's recommendations on the structure and responsibilities of corporate boards of directors. The two key recommendations of the *Code* are that boards of publicly traded companies include at least three nonexecutive (i.e., outside) directors and that the positions of chief executive officer (CEO) and chairman of the board (COB) of these companies be held by two different

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individuals.[1] The apparent reasoning underlying the Committee's recommendations is that greater independence of a corporate board improves the quality of board oversight.

As of 2001, the *Code* has not been enshrined into U.K. law and compliance with its key provisions is entirely voluntary. Nevertheless, the *Code* is not without "teeth." First, the Cadbury Committee's report explicitly recognizes that legislation would very likely follow if companies did not comply with the guidelines of the *Code* (*Report of the Committee on the Financial Aspects of Corporate Governance*, 1992, Section 1.1). Second, the report has been given further bite by the London Stock Exchange (LSE), which, since June 1993, has required a statement from each listed company that spells out whether the company is in compliance with the *Code* and, if not, requires an explanation as to why the company is not in compliance.

To appreciate the significance of the Cadbury Committee and its recommendations, it is important to appreciate the environment surrounding the establishment of the Committee. First, the Committee was appointed in the aftermath of the "scandalous" collapse of several prominent U.K. companies during the later 1980s and early 1990s, including Ferranti, Colorol Group, Pollypeck, Bank of Credit and Commerce International, and Maxwell Communication. The broadsheet press popularly attributed these failures and others to weak governance systems, lax board oversight, and the vesting of control in the hands of a single top executive.

> The Cadbury Committee was set up in response to a number of corporate scandals that cast doubt on the systems for controlling the ways companies are run. The downfall of powerful figures such as Asil Nadir or the late Robert Maxwell, whose personal control over their companies was complete, raised fears about the concentration of power. (Self-regulation seen as the way forward, 1992)

Second, historically, executive (i.e., inside) directors have heavily dominated U.K. boards. For example, during 1988, for only 21 companies of the *Financial Times* (FT) 500 did outside directors comprise a majority of the board and, when boards are ranked according to the fraction of outside board members, outsiders comprised only 27 percent of the median board's membership (The Corporate Register, 1989). In comparison, outsiders comprised a majority of the board for 387 of the Fortune 500 companies. Furthermore, for the median board of the Fortune 500 companies, outside directors comprised 81 percent of the membership (Annual Corporate Proxy Statements). With

[1] The report also recommended: (a) full disclosure of the pay of the chairman and the highest paid director; (b) shareholders' approval on executive directors contracts exceeding three years; (c) executive directors pay be set by a board subcommittee composed primarily of outsiders; and (d) directors establish a subcommittee of the board, comprised mainly of outside directors, to report on the effectiveness of the company's system of internal control.

respect to the joint position of CEO and COB, the United Kingdom and United States historically are similar. For example, during 1988, a single individual jointly held the positions of CEO and COB for 349 of the Fortune 500 and for 328 of the FT 500.

At its issuance, the Cadbury Report was greeted with skepticism both by those who felt that it went too far and by those who felt that it did not go far enough. The general unease of those who felt it went too far can be summarized as a concern that the delicate balance between shareholders and managers is better left to the forces of competition. A less generous interpretation of this perspective, which was most frequently espoused by corporate managers, might be characterized as "leave us alone—we know best."

> There is danger in an over emphasis on monitoring; on non-executive directors independence . . . [and] on controls over decision making activities of companies. (Green, 1994)

The general concern of those who thought that the report did not go far enough centered on the "voluntary" nature of the Report's recommendations.

> The Committee's recommendations are steps in the right direction. But . . . [s]hareholders, investors and creditors will have been disappointed that just when the corporate failures of recent years cried out for bold and imaginative legal reform, the body from which so much had been expected came up with a little tinkering and a voluntary code (Cadbury Committee Draft Orders Mixed News for Shareholders, 1992).

Against this background, this study empirically investigates the impact of the key Cadbury recommendations on the quality of board oversight in U.K. firms over the period 1989 through 1996.

We begin our investigation with the presumption that an important oversight role of boards of directors is the hiring and firing of top corporate management. We further presume that one indicator of effective board oversight is that the board replaces ineffective or poorly performing top management. Finally, we presume that corporate performance is a reliable proxy for the effectiveness of top management. With those presumptions in place, we empirically investigate the relationship between top management turnover and corporate performance before and after the Cadbury Committee issued its recommendations.

We assemble a sample of 460 U.K. industrial companies listed on the LSE as of December 1988. For each company, we collect data on management turnover, board composition, and corporate performance for up to seven years before and four years after the issuance of the Cadbury Report. With these data, we determine that the relationship between top management turnover and corporate performance is statistically significant both before and after adoption of the Cadbury Committee's recommendations, that is, poorer per-

formance is associated with higher turnover. Importantly, for our purposes, this relationship is significantly stronger following adoption of the Committee's recommendations. Upon further exploration, the increased sensitivity of turnover to performance is due to an increase in outside board members among firms that complied with the key provisions of the *Code*.

The next section describes our sample selection procedure. Section II presents descriptive statistics for the sample. Section III presents the results of our empirical analysis. We reserve our literature review until Section IV, in which we present our conclusions in the context of prior related empirical studies.

I. Sample Selection

Our investigation focuses on top management turnover during the eight-year interval surrounding publication of the Cadbury Report in December 1992 (i.e., December 1988 through December 1996). To begin, we randomly selected 650 out of a total of 1,828 industrial firms on the *Official List* of the LSE as of year-end 1988 (Stock Exchange Yearbook, 1988–1996). For each of the 650 firms for which data are available in the *Corporate Register* for 1988, we determine the names of board members, the outside directors, the total shares held by the board, the total shares held by institutions, and the number of block shareholders, where a block shareholder is defined as any shareholder owning greater than three percent of the company's stock. Such data are available for 548 of the firms in the initial sample. Stock price and accounting data are taken from Datastream for the years 1985 through 1988. If such data are not available for the years 1985 through 1988, the firm is dropped from the sample. Forty-seven of the 548 firms were dropped because of insufficient stock price data; 41 were dropped due to insufficient accounting data. The resulting sample contains 460 firms. These firms are then identified according to their Financial Times Industry Classification (FTIC). The sample includes at least one firm from each of the 33 FTIC categories.

To keep the sample at 460 firms at all times, when a firm ceases to be listed, we search chronologically among newly listed industrial firms until we identify the first firm with book value of assets within plus or minus 20 percent of the book value of assets of the firm that ceased to be listed. For this firm to be eligible for our sample, we require that data be available on management identity, board composition, share ownership, and financial performance. Finally, we require that if the existing firm was (was not) in compliance with the *Code*, the replacement firm must (must not) be in compliance. In this way, a replacement firm was identified for each firm that ceased to be listed within at most four months of delisting. We continue this procedure each year from December 1988 onward, replacing firms that are no longer listed on the LSE, through the end of 1996.

For each firm in the sample, for each year, we collect the names of board members, the number of outsiders, the number of shares held by the board

and by institutions, and the number of block holders from the *Corporate Register*. We take stock returns and accounting data from Datastream. For new firms, accounting data for three years prior to LSE listing are taken from filings with the LSE at the time of listing. The shares of some newly listed firms traded elsewhere prior to entering the LSE *Official List*. For these firms, stock price data are collected for up to three years preceding their listing dates. For other firms, we use price data beginning with their entry onto the *Official List*.

To determine top management turnover, we compare the names of top management from year to year over the time period December 1988 through December 1996. For each company, we identify the top executive as the individual with the title of CEO or Executive Chairman. In addition, we identify other board members as members of the top management team if the board member is an employee of the firm and holds the title of Chief of Operations or Managing Director. If the name of the top executive changes between successive years, we classify that as turnover in the top executive. For other members of the top management team, if a name disappears from the top management list, that event is deemed to be a turnover in the top management team excluding the top executive. If the top executive exits the list of top management and is replaced by another member of the top team, that event is considered turnover in the top executive position, but not turnover in the top management team. We do not count as turnover the event in which the position of Executive Chairman is split into the positions of CEO and COB. (Henceforth, we refer to the top executive position as the CEO.)

We further identify turnover as "forced" by examining articles in the *Extel Weekly News Summaries*, the *Financial Times*, and *McCarthy's News Information Service*. Turnover is labeled forced when (a) a news article states that the executive was "fired"; (b) an article states that the executive "resigned"; or (c) an article indicates that the company was experiencing poor performance. In addition, for criteria (b) and (c), the executive must be less than 60 years old and no other article can indicate that the executive took a position elsewhere or cite health or death as the reason for the executive's departure. All other turnover is labeled "normal."

In our tests, we employ both accounting earnings and stock returns to measure corporate performance. Specifically, as our measure of accounting earnings, we use three-year average industry-adjusted return on assets (IAROA). For each firm in the sample and for each year, we calculate return on assets (ROA) as earnings before depreciation, interest, and taxes (EBDIT) divided by beginning-of-the-year total assets. Then, for each firm with the same FTIC as the sample firm, we calculate ROA in the same way. Next, for each FTIC group for each year, we determine the median ROA. IAROA is calculated by subtracting the industry median ROA from the sample firm's ROA for each of the three years prior to a turnover event. The average of these three IAROAs is in our measure of accounting performance.

For measuring stock price performance, we use industry- and size-adjusted stock returns (ISARs), where ISARs are calculated by subtracting the daily stock returns of an industry- and size-matched portfolio from the return of the sample firm beginning 36 calendar months prior to, and ending 2 days prior to, the announcement of the management change. To construct the industry- and size-matched portfolio, for each sample firm, all other firms with the same FTIC code are ranked from largest to smallest according to their equity market values. The firms are then divided into four size portfolios. The differences between the return on the stock in our sample and the equal-weighted average return of the industry- and size-matched portfolio are calculated. The sum of these differences is the ISAR for that firm.

II. Characteristics of the Sample

To conduct our analysis, we split management turnover along two dimensions. First, we split turnover events into a pre-Cadbury time period (1989 through 1992) and a post-Cadbury time period (1993 through 1996). Descriptive data for these two samples are presented in the first set of columns in Table I.

Second, we classify the observations according to whether the firm that experienced the turnover was (or was not) in compliance with the two key provisions of the *Code*. This second classification scheme gives rise to three sets of firms. The first set includes 150 firms that were in compliance with the *Code* for each year that the firm is in our sample (hereafter, the "always-in-compliance" set). The second set includes 22 firms that were never in compliance with the *Code* during any year in which the firm is in our sample (hereafter, the "never-in-compliance" set). The third set includes those firms that came into compliance with the *Code* during a year in which the firm is in our sample (hereafter, the "adopted-Cadbury" set; 288 firms). Descriptive data for the first and second sets are split into pre- and post-Cadbury time periods. These data are presented in the second and third sets of columns in Table I. Descriptive data for the third set of firms (i.e., the adopted-Cadbury set) are split into pre- and post-Cadbury adoption time periods (i.e., $y - 4$ through $y - 1$ and $y + 1$ through $y + 4$, where y equals the year in which the firm came into compliance with the *Code*). These data are presented in the fourth set of columns in Table I.

The descriptive data include the mean and median of book value of assets, share ownership by the CEO, share ownership by the board, share ownership by institutions, number of block holders, board size, and number of outside directors. In terms of book value of assets, the three sets of firms are remarkably similar before and after Cadbury and to each other. (Other financial data [not shown] also exhibit little variation across the three sets of firms.)

In terms of share ownership, regardless of the category of investor, the fraction of shares held by that category is essentially unchanged from before to after Cadbury. Additionally, on this dimension, the always-in-compliance

Table I

Financial, Ownership, and Board Characteristics for 460 U.K. Industrial Firms over the Period 1989 through 1996

Descriptive statistics for a random sample of 460 publicly traded U.K. industrial firms over the period 1989 through 1996. The sample firms are classified into three sets based on whether they were (a) always in compliance with the Cadbury recommendations, (b) never in compliance with the Cadbury recommendations, or (c) adopted Cadbury recommendations. Sample firms in (a) and (b) are analyzed over two four-year periods, pre- and postpublication of the Cadbury Report (1989 through 1992 and 1993 through 1996). Sample firms in (c) are analyzed over two four-year periods, pre- and postadoption of the Cadbury recommendations ($y - 4$ through $y - 1$ and $y + 1$ through $y + 4$). The sample is taken from industrial companies included in the *Stock Exchange Yearbook*, the *Corporate Register*, and listed on the LSE. Firms that leave the sample between 1989 and 1996 are replaced by firms entering the LSE on the date closest to departure. Management and board characteristics are from the *Corporate Register*. Accounting information and share prices are from Datastream.

		Full Sample $N = 460$		Always in Compliance $N = 150$		Never in Compliance $N = 22$		Adopted Cadbury $N = 288$		
	Years	Mean	(Median)	Mean	(Median)	Mean	(Median)	Years	Mean	(Median)
Book value of assets	1989–1992	149.2*	(50.8)	148.8*	(48.8)	146.8	(45.3)	$y - 4$ to $y - 1$	150.1*	(50.7)
(£ million)	1993–1996	156.8	(56.7)	155.6	(53.2)	150.7	(49.2)	$y + 1$ to $y + 4$	158.6	(58.7)
Top executive ownership	1989–1992	2.23	(2.39)	2.22	(2.23)	9.93	(10.11)	$y - 4$ to $y - 1$	2.23	(2.44)
	1993–1996	2.24	(2.34)	2.09	(1.96)	8.34	(9.27)	$y + 1$ to $y + 4$	2.25	(2.43)
Board ownership	1989–1992	10.70	(10.96)	12.83	(12.60)	16.45	(15.93)	$y - 4$ to $y - 1$	9.79	(9.99)
	1993–1996	11.35	(10.83)	13.32	(13.01)	16.09	(15.99)	$y + 1$ to $y + 4$	11.09	(10.44)
Institutional ownership	1989–1992	21.39	(20.84)	22.55	(20.60)	16.37	(15.93)	$y - 4$ to $y - 1$	19.88	(19.82)
	1993–1996	20.04	(19.05)	22.09	(19.51)	16.29	(16.22)	$y + 1$ to $y + 4$	20.09	(20.44)
Number of block holders	1989–1992	2	(2)	3	(2.04)	1	(1)	$y - 4$ to $y - 1$	2*	(2)*
	1993–1996	3	(3)	3	(3.05)	1	(1)	$y + 1$ to $y + 4$	3	(3)
Board size	1989–1992	5.71	(5.00)*	6.69	(6.00)	4.53	(4.00)	$y - 4$ to $y - 1$	5.49*	(5.00)*
	1993–1996	7.29	(7.00)	7.41	(7.00)	5.02	(5.00)	$y + 1$ to $y + 4$	7.13	(7.00)
Percent outside directors	1989–1992	35.3**	(36.9)**	48.6	(43.4)	17.9	(15.4)	$y - 4$ to $y - 1$	26.1**	(25.7)**
	1993–1996	46.0	(43.1)	48.5	(45.8)	21.5	(20.9)	$y + 1$ to $y + 4$	46.6	(40.6)

** and * denote significance at the one and five percent levels, respectively, for both the t-statistic and Wilcoxon statistic. Tests are comparisons of before and after Cadbury values.

set and the adopted-Cadbury set are similar to the full sample and to each other. However, the never-in-compliance set has significantly more ownership by the CEO, significantly greater board ownership, significantly lower institutional ownership, and fewer outside block holders than the other two sets. Apparently, firms with greater "inside" ownership of shares are less likely to adopt the *Code*.

As regards board composition, for the full sample prior to Cadbury, 35.3 percent of directors are outsiders; after Cadbury, this figure is 46.0 percent. Almost all of this increase occurs in companies that came into compliance with the *Code*. For this set, the fraction of outsiders increases from 26.1 percent before adoption to 46.6 percent afterward. For the always-in-compliance set, the percentage of outside directors prior to Cadbury (48.6 percent) is nearly identical to the percentage afterward (48.5 percent). Finally, most of the increase in outside directors came about through an increase in board size as opposed to the replacement of inside directors with outside directors. The median board increases by two members, from five to seven for the full sample, and most of this increase occurs among the adopted-Cadbury set.

As regards the positions of CEO and COB (not shown), not surprisingly, there is considerable variation before and after Cadbury and across the various sets of firms. For the full sample prior to Cadbury, the CEO is also the COB in 36.5 percent of the companies; after Cadbury, that fraction drops to 15.4 percent. Of course, most of this change is due to the set of companies that became compliant with the *Code*. For this set, prior to Cadbury, a single individual held the position of CEO and COB in 39 percent of the firms; after adoption of Cadbury, in none of these companies did a single individual hold both positions.

A related question is when did firms become compliant with the key recommendations of the *Code*. At least some firms came into compliance every year throughout the interval 1989 through 1996, but the bulk of these firms, 202 out of 288, became compliant after 1992. Of these 202, 82 were in compliance with one or the other of the two key Cadbury provisions prior to becoming fully compliant. However, 160 were not in compliance with either recommendation prior to simultaneously adopting both provisions, and, again, most of these occurred after 1992.

III. Management Turnover

What our analysis shows thus far is that the informal arm-twisting associated with the Cadbury recommendations appears to have had considerable impact on the size and composition of boards of directors, and on the number of firms in which one individual holds the titles of CEO and COB. Indeed, as of 1998, 96 of the FT 100 and 90 percent of all LSE firms were Cadbury-compliant (The Corporate Register, 1998). The key questions to which we now turn are: What impact have these changes had on top management turnover and on the sensitivity of turnover to corporate performance?

A. Incidence and Rate of Top Management Turnover

Table II shows the incidence and rates of CEO turnover for the full sample and the three subsets. As in Table I, the data are arrayed into pre- and post-Cadbury time periods (1989 through 1992 and 1993 through 1996) and pre- and post-Cadbury adoption time periods ($y - 4$ through $y - 1$ and $y + 1$ through $y + 4$). The incidence of turnover is the number of instances in which we identify a change in the CEO. The rate of turnover is the annualized rate calculated as the incidence of turnover divided by 460 firms divided by four years. The first two rows present data on all CEO turnover and the second two rows present data on forced CEO turnover.

For the full sample, the incidence and rate of CEO turnover increase significantly from before to after issuance of the Cadbury Report. The increase in turnover is due to an increase in what we have classified as forced turnover. For example, for the full sample, the rate of all CEO turnover increased from 6.48 percent to 7.71 percent (p-value = 0.02), and the rate of forced CEO turnover increased from 3.10 percent to 4.30 percent (p-value = 0.04). Furthermore, the increase in CEO turnover is concentrated in the adopted-Cadbury set of firms. For this set of firms, the rate of all CEO turnover increased from 7.24 percent to 8.87 percent (p-value = 0.01), and the rate of forced CEO turnover nearly doubled, from 2.71 percent to 4.98 percent (p-value = 0.01). For the always-in-compliance set, the rate of CEO turnover is essentially unchanged from before to after Cadbury. For the never-in-compliance set, the rate of turnover declined modestly from before to after Cadbury, but, given the small sample size, we are inclined not to place much weight on this result. Thus, the increase in CEO turnover following Cadbury is primarily attributable to those firms that adopted the key provisions of the *Code of Best Practice*.

CEO turnover data are consistent with an argument that the Cadbury Committees' recommendations increased the quality of board oversight. That is, turnover, especially forced turnover, in the CEO position has increased and this increase is concentrated in the set of firms that adopted the key provisions of the *Code of Best Practice*. Of course, it could be that the increased management turnover that we document following Cadbury is random across firms. The pertinent issue for our purposes is whether turnover is correlated with corporate performance. That is, are the "right" managers being replaced? That is the key question to which we now turn.

B. Relationship between Top Management Turnover and Corporate Performance

Table III presents a preliminary look at the connection between forced CEO turnover and corporate performance, where performance is measured as three-year average IAROA as described in Section I. For each calendar year, firms are ranked from lowest to highest on the basis of their prior three-year average IAROA. For each year, observations are then sorted into

Table II

Incidence and Rates of CEO Turnover in 460 U.K. Industrial Firms, 1989 through 1996

CEO turnover for a random sample of 460 publicly traded U.K. industrial firms over the period 1989 through 1996. The sample firms are classified into three sets based on whether they were (a) always in compliance with the Cadbury recommendations, (b) never in compliance with the Cadbury recommendations, or (c) adopted Cadbury recommendations. Sample firms in (a) and (b) are analyzed over two four-year periods, pre- and postpublication of the Cadbury Report (1989 through 1992 and 1993 through 1996). Sample firms in (c) are analyzed over two four-year periods, pre- and postadoption of the Cadbury recommendations ($y - 4$ through $y - 1$ and $y + 1$ through $y + 4$). For each firm, the name of the CEO in the *Corporate Register* is compared from 1988 through 1996 to determine turnover. Turnover is classified as forced by examining news articles in the *Extel Weekly News Summaries*, the *Financial Times*, and *McCarthy's News Information Service*.

		Full Sample $N = 460$		Always in Compliance $N = 150$		Never in Compliance $N = 22$		Adopted Cadbury $N = 288$		
	Years	Incidence	Rate	Incidence	Rate	Incidence	Rate	Years	Incidence	Rate
All CEO Turnover	1989–1992	119*	6.48*	35	5.44	4	4.55	$y - 4$ to $y - 1$	80**	7.24**
	1993–1996	138	7.71	37	5.75	3	3.41	$y + 1$ to $y + 4$	98	8.87
Forced CEO Turnover	1989–1992	57*	3.10*	24	3.76	3	3.26	$y - 4$ to $y - 1$	30**	2.71**
	1993–1996	79	4.30	20	3.14	1	1.09	$y + 1$ to $y + 4$	58	4.98

** and * denote significance at the one and five percent levels, respectively, for both the *t*-statistic and Wilcoxon statistic. Tests are comparisons of before and after Cadbury values.

Table III

Forced CEO Turnover in 460 U.K. Industrial Firms Grouped by Quartiles of Performance, 1989 through 1996

Forced CEO turnover for a random sample of 460 publicly traded nonfinancial U.K. firms grouped into quartiles based on IAROA in the two four-year periods during the interval 1989 through 1996. IAROA is calculated as earnings before interest, taxes and depreciation divided by the total book value of assets less the median performance of firms in the same FTIC grouping. Three years of IAROA are averaged. Turnover is classified as forced by examining news articles in the *Extel Weekly News Summaries*, the *Financial Times*, and *McCarthy's News Information Service*. The sample firms are classified into three sets based on whether they were (a) always in compliance with the Cadbury recommendations, (b) never in compliance with the Cadbury recommendations, or (c) adopted Cadbury recommendations. Sample firms in (a) and (b) are analyzed over two four-year periods, pre- and postpublication of the Cadbury Report (1989 through 1992 and 1993 through 1996). Sample firms in (c) are analyzed over two four-year periods, pre- and postadoption of the Cadbury recommendations ($y - 4$ through $y - 1$ and $y + 1$ through $y + 4$).

		Interval							
		Quartile 1 (Lowest IAROA)		Quartile 2		Quartile 3		Quartile 4 (Highest IAROA)	
	Years	Incidence	Rate (%)	Incidence	Rate (%)	Incidence	Rate (%)	Incidence	Rate (%)
Full sample	1989–1992	33*	7.2*	15	3.3	9	2.0	0	0.0
	1993–1996	47	10.2	25	5.4	7	1.5	0	0.0
(a) Always in compliance	1989–1992	15	10.0	6	4.0	3	2.0	0	0.0
	1993–1996	15	10.0	5	3.3	0	0.0	0	0.0
(b) Never in compliance	1989–1992	2	9.1	1	4.5	0	0.0	0	0.0
	1993–1996	1	4.5	0	0.0	0	0.0	0	0.0
(c) Adopted Cadbury	$y - 4$ to $y - 1$	16**	5.5**	8	2.3*	6	2.1	0	0.0
	$y + 1$ to $y + 4$	31	10.8	20	6.9	7	2.8	0	0.0

** and * denote significance at the one and five percent levels, respectively, for both the *t*-statistic and Wilcoxon statistic. Tests are comparisons of before and after Cadbury values.

quartiles with quartile one containing the 115 firms with the lowest IAROA and quartile four containing the 115 firms with the highest IAROA.

For the full sample, both before and after Cadbury, the incidence and rate of forced CEO turnover increases as we move from the best to the poorest performing firms. Additionally, the data indicate that the increase in CEO turnover from before to after Cadbury that we document in Table III is due to an increase in turnover in the lowest two performance quartiles in the adopted-Cadbury set of firms. For example, for this set of firms, the rate of turnover in quartiles one and two increased by nearly 100 percent, from 5.5 percent to 10.8 percent (p-value = 0.01) and by almost 300 percent, from 2.3 percent to 6.9 percent (p-value = 0.04), respectively, from before to after adoption of Cadbury. In comparison, for the always-in-compliance set, in the same bottom two quartiles, the rate of turnover is essentially unchanged from before to after Cadbury.

The data in Table III are representative of the pattern of turnover (not shown) that emerges when we consider *all* CEO turnover and when we evaluate performance based on ISARs. That is, turnover is concentrated in the poorest performing quartiles of firms, and the increase in turnover is concentrated in the adopted-Cadbury set of firms.

C. Multivariate Analysis of the Relationship between Top Management Turnover and Corporate Performance

The final questions, to which we now turn, are whether the relationship between turnover and performance is statistically significant and whether the sensitivity of turnover to performance is greater following Cadbury. To answer those questions and to control for other factors that may influence managerial turnover, we estimate logit regressions with pooled time series, cross section data. Initially, we estimate regressions in which the dependent variable is 1 if a firm experiences CEO turnover during a calendar year and 0 otherwise. We estimate separate regressions for all turnover and for forced turnover. We estimate separate regressions using three-year prior IAROAs and three-year ISARs as our performance measures. We include yearly observations of four control variables: fraction of shares owned by directors, fraction of shares owned by institutions, number of block shareholders, and log of total assets.

The results of our regressions are presented in Tables IV and V. In Table IV, the performance variable is *logIAROA*. In Table V, performance is *logISAR*.[2] Panel A of each table presents regressions with all CEO turnover as the dependent variable and Panel B presents regressions with forced turnover as the dependent variable. In total, we have 20 regressions that have either *logIAROA* or *logISAR* as an independent performance variable. In each regression, the coefficient of the performance variable is negative and, with

[2] We also estimated the regressions with market model excess returns and CAPM excess returns as our measure of performance. The p-values of the coefficients are essentially unchanged.

two exceptions, each has a *p*-value of less than 0.05. Thus, CEO turnover is significantly negatively correlated with corporate performance: the poorer the firm's performance, the greater the likelihood that the CEO will depart his position. (We also estimate regressions separately for the pre- and post-Cadbury time periods [not shown]. In every regression, the coefficient of the performance variable is negative with a *p*-value less than 0.05. Thus, turnover is significantly negatively correlated with performance both before and after Cadbury.)

Of the four control variables, only the fraction of shares owned by directors regularly has a *p*-value less than 0.10. The coefficient of this variable is always negative, which indicates that, after controlling for performance, increased share ownership by the board reduces the likelihood that the CEO will depart his position.

We now turn to the effect of Cadbury on CEO turnover and the effect of Cadbury on the relationship between CEO turnover and corporate performance. The five regressions in each panel explore that question from different perspectives. The first regression in each panel is estimated for the full sample of firms and includes an indicator variable (*Dum for 1993–1996*) which takes a value of 0 for all observations before January 1993 (the pre-Cadbury period) and a value of 1 for all observations after that date (the post-Cadbury period) along with a performance variable, either *logIAROA* or *logISAR*, and the four control variables. In each panel, in the first regression, the coefficient of the indicator variable *Dum for 1993–1996* is positive with *p*-values ranging from 0.04 to 0.11. Thus, even after controlling for corporate performance, turnover is higher in the post-Cadbury period. However, as we observed in Table IV, increased turnover appears to be attributable to the set of firms that came into compliance with the Cadbury Committees' recommendations (the adopted-Cadbury set) as opposed to those firms that were always in compliance.

To determine whether the Cadbury/turnover relationship is due to a general phenomenon affecting all firms or whether it is due specifically to a change in board structures traceable to the Cadbury recommendations, we next estimate the regressions separately for the always-in-compliance set of firms and for the adopted-Cadbury set. The only difference in the regressions is that for the adopted-Cadbury set, the indicator variable (*Dum-for-Adopt*) takes on a value of 0 in all years prior to the year in which the firm came into compliance with the *Code* and a value of 1 for all subsequent years. These are the second and third regressions in each panel.

For the always-in-compliance set, the coefficient of the Cadbury dummy variable (*Dum for 1993–1996*) is always positive, but the *p*-values range from 0.79 to 0.92. Thus, publication of the Cadbury Report had a trivial impact, if any, on the rate of turnover among CEOs in firms that were already in compliance with the key provisions of the *Code*. For the adopted-Cadbury set, the coefficient of the indicator variable *Dum-for-Adopt* is always positive with *p*-values ranging from 0.06 to 0.08. Additionally, the magnitude of the coefficient is at least four times the magnitude of the coefficient of the

Table IV

Logit Regressions of CEO Turnover on IAROA and Status of Cadbury Compliance, 1989 through 1996

CEO turnover for a random sample of 460 publicly traded U.K. industrial firms in two four-year periods during the interval 1989 through 1996. IAROA is calculated as earnings before interest, taxes, and depreciation divided by the total book value of assets less the median performance of firms in the same FTIC grouping. Three years of IAROA are averaged. CEO turnover is classified as normal or forced by examining news articles in the *Extel Weekly News Summaries*, the *Financial Times*, and *McCarthy's News Information Service*. The sample firms are classified into three sets based on whether they were (a) always in compliance with the Cadbury recommendations, (b) never in compliance with the Cadbury recommendations, or (c) adopted Cadbury recommendations. Sample firms in (a) and (b) are analyzed over two four-year periods, pre- and postpublication of the Cadbury Report (1989 through 1992 and 1993 through 1996). Sample firms in (c) are analyzed over two four-year periods, pre- and postadoption of the Cadbury recommendations ($y - 4$ through $y - 1$ and $y + 1$ through $y + 4$). Accounting information and share prices are from Datastream. The dependent variable equals one when turnover occurs. *Dum for 1993–1996* equals one for the period 1993 through 1996. *Dum-for-adopt* equals one for the period following the adoption of the key recommendations of the Cadbury Report. The interactive dummy is *Dum-for-adopt* multiplied by logIAROA. *P*-values are in parentheses.

Variable	Total Sample $N = 460$	Always in Compliance $N = 150$	Adopted Cadbury $N = 288$	Adopted Cadbury $N = 288$	Adopted Cadbury $N = 288$
Panel A: Logit Regressions of All CEO Turnover on Log IAROA and Cadbury Status					
Intercept	−1.866 (0.08)	−1.849 (0.09)	−2.570 (0.00)	−2.799 (0.00)	−2.583 (0.00)
Performance variable					
Log IAROA	−2.034 (0.02)	−1.859 (0.10)	−3.180 (0.00)	−3.228 (0.00)	−3.019 (0.00)
Cadbury variable					
Dum for 1993–1996	0.457 (0.11)	0.055 (0.92)			
Dum-for-adopt			0.593 (0.06)	0.148 (0.66)	0.112 (0.72)
Dum-for-adopt × logIAROA				−0.739 (0.02)	0.038 (0.96)
Board variables					
Prop outsiders					0.331 (0.30)
Prop outsiders × logIAROA					−0.566 (0.08)
Dum for single CEO/COB					−0.062 (0.86)
Dum for single CEO/COB × logIAROA					−0.052 (0.89)
Board size					−0.039 (0.20)
Board size × logIAROA					−0.064 (0.08)

Control variables					
Board share ownership	−0.984 (0.04)	−1.092 (0.05)	−0.812 (0.08)	−0.844 (0.09)	−0.762 (0.12)
Institutional share ownership	1.294 (0.08)	1.027 (0.21)	0.985 (0.28)	1.032 (0.21)	0.597 (0.65)
Block holders	0.039 (0.60)	0.045 (0.48)	0.028 (0.72)	0.031 (0.68)	0.044 (0.46)
Log assets	−0.159 (0.02)	−0.122 (0.06)	−0.142 (0.05)	−0.139 (0.05)	−0.105 (0.12)
Observations	3,680	1,200	2,304	2,304	2,304
Log-likelihood	−572.89	−387.66	−454.11	−499.20	−501.58
Chi-square	86.45 (0.00)	37.10 (0.00)	60.84 (0.00)	70.36 (0.00)	70.93 (0.00)
Panel B: Logit Regressions of Forced CEO Turnover on Log IAROA and Cadbury Status					
Intercept	−1.745 (0.16)	−1.887 (0.10)	−2.995 (0.00)	−2.819 (0.00)	−2.493 (0.00)
Performance variable					
Log IAROA	−2.932 (0.00)	−2.293 (0.00)	−4.882 (0.00)	−4.659 (0.00)	−3.921 (0.00)
Cadbury variables					
Dum for 1993–1996	0.531 (0.08)	0.151 (0.79)			
Dum-for-adopt			0.631 (0.07)	0.164 (0.61)	0.132 (0.68)
Dum-for-adopt × logIAROA				−0.659 (0.06)	0.129 (0.68)
Board variables					
Prop outsiders					0.364 (0.30)
Prop outsiders × logIAROA					−0.618 (0.07)
Dum for single CEO/COB					−0.053 (0.87)
Dum for single CEO/COB × logIAROA					−0.103 (0.69)
Board size					−0.031 (0.25)
Board size × logIAROA					−0.058 (0.08)
Control variables:					
Board share ownership	−1.190 (0.01)	−1.114 (0.05)	−0.820 (0.10)	−0.854 (0.08)	−0.852 (0.08)
Institutional ownership	1.260 (0.10)	1.039 (0.22)	1.140 (0.15)	1.176 (0.15)	1.144 (0.15)
Block holders	0.051 (0.48)	0.076 (0.38)	0.044 (0.46)	0.049 (0.45)	0.043 (0.46)
Log assets	−0.131 (0.05)	−0.129 (0.06)	−0.166 (0.04)	−0.170 (0.04)	−0.189 (0.03)
Observations	3,680	1,200	2,304	2,304	2,304
Log-likelihood	−621.87	−485.07	−569.29	−588.65	−603.03
Chi-square	89.35 (0.00)	53.58 (0.00)	88.66 (0.00)	87.69 (0.00)	88.21 (0.00)

Table V

Logit Regressions of CEO Turnover on ISAR and Status of Cadbury Compliance, 1989 through 1996

CEO turnover for a random sample of 460 publicly traded U.K. industrial firms in the two four-year periods during the interval 1989 through 1996. ISARs are industry- and size-adjusted cumulative excess stock returns computed using daily stock returns beginning 36 calendar months prior to, and ending 2 days prior to the announcement of the top executive change. CEO turnover is classified as normal or forced by examining news articles in the *Extel Weekly News Summaries*, the *Financial Times*, and *McCarthy's News Information Service*. The sample firms are classified into three sets based on whether they were (a) always in compliance with the Cadbury recommendations, (b) never in compliance with the Cadbury recommendations, and (c) adopted Cadbury recommendations. Sample firms in (a) and (b) are analyzed over two four-year periods, pre- and postpublication of the Cadbury Report (1989 through 1992 and 1993 through 1996). Sample firms in (c) are analyzed over two four-year periods, pre- and postadoption of the Cadbury recommendations ($y - 4$ through $y - 1$ and $y + 1$ through $y + 4$). Accounting information and share prices come from Datastream. The dependent variable equals one when turnover occurs. *Dum for 1993–1996* equals one for the period 1993 through 1996. *Dum-for-adopt* equals one for the period following the adoption of the key recommendations of the Cadbury Report. The interactive dummy is *Dum-for-adopt* multiplied by logISAR. *P*-values are in parentheses.

Variable	Total Sample $N = 460$	Always in Compliance $N = 150$	Adopted Cadbury $N = 288$	Adopted Cadbury $N = 288$	Adopted Cadbury $N = 288$
Panel A: Logit Regressions of All CEO Turnover on Log ISAR and Cadbury Status					
Intercept	−3.194 (0.00)	−2.925 (0.00)	−2.639 (0.00)	−2.612 (0.00)	−2.495 (0.00)
Performance variable					
LogISAR	−0.019 (0.00)	−0.012 (0.03)	−0.022 (0.00)	−0.023 (0.00)	−0.019 (0.00)
Cadbury variables					
Dum for 1993–1996	0.519 (0.09)	0.066 (0.87)			
Dum-for-adopt			0.572 (0.08)	0.119 (0.77)	0.090 (0.85)
Dum-for-adopt × logISAR				−0.680 (0.05)	−0.144 (0.60)
Board variables					
Prop outsiders					0.262 (0.43)
Prop outsiders × logISAR					−0.573 (0.08)
Dum for single CEO/COB					−0.064 (0.82)
Dum for single CEO/COB × logISAR					−0.055 (0.85)
Board size					−0.037 (0.37)
Board size × logISAR					−0.050 (0.10)

Control variables					
Board share ownership	−0.930 (0.04)	−1.190 (0.02)	−0.804 (0.08)	−0.810 (0.08)	−0.850 (0.07)
Institutional share ownership	1.187 (0.13)	1.062 (0.16)	0.817 (0.40)	0.837 (0.34)	0.936 (0.22)
Block holders	0.059 (0.39)	0.072 (0.29)	0.039 (0.51)	0.031 (0.68)	0.039 (0.51)
Log assets	−0.087 (0.15)	−0.126 (0.04)	−0.077 (0.17)	−0.085 (0.16)	−0.087 (0.15)
Observations	3,680	1,200	2,304	2,304	2,304
Log-likelihood	−598.19	−491.39	−509.66	−584.02	−590.73
Chi-square	86.69 (0.00)	49.76 (0.00)	75.93 (0.00)	80.80 (0.00)	81.40 (0.00)
Panel B: Logit Regression of Forced CEO Turnover on Log ISAR and Cadbury Status					
Intercept	−4.892 (0.00)	−3.023 (0.00)	−4.538 (0.00)	−4.624 (0.00)	−4.291 (0.00)
Performance variable					
LogISAR	−0.030 (0.00)	−0.009 (0.07)	−0.049 (0.00)	−0.040 (0.00)	−0.039 (0.00)
Cadbury variables					
Dum for 1993–1996	0.598 (0.04)	0.050 (0.86)			
Dum-for-adopt			0.538 (0.08)	0.227 (0.60)	0.030 (0.92)
Dum-for-adopt × logISAR				−0.590 (0.07)	−0.134 (0.65)
Board variables					
Prop outsiders					0.272 (0.39)
Prop outsiders × logISAR					−0.564 (0.08)
Dum for single CEO/COB					−0.060 (0.83)
Dum for single CEO/COB × logISAR					−0.039 (0.93)
Board size					−0.042 (0.34)
Board size × logISAR					−0.045 (0.10)
Control variables					
Board share ownership	−0.921 (0.05)	−0.925 (0.05)	−0.807 (0.09)	−0.840 (0.07)	−0.763 (0.13)
Institutional share ownership	1.040 (0.21)	1.100 (0.19)	0.638 (0.58)	0.635 (0.58)	0.567 (0.67)
Block holders	0.078 (0.25)	0.101 (0.07)	0.044 (0.48)	0.048 (0.47)	0.043 (0.47)
Log assets	−0.119 (0.07)	−0.142 (0.03)	−0.066 (0.26)	−0.061 (0.27)	−0.049 (0.31)
Observations	3,680	1,200	2,304	2,304	2,304
Log-likelihood	−629.65	−555.36	−581.41	−584.07	−588.82
Chi-square	117.41 (0.00)	48.37 (0.00)	50.21 (0.00)	50.46 (0.00)	50.61 (0.00)

Cadbury dummy (*Dum for 1993–1996*) for the always-in-compliance set. Thus, publication of the *Code of Best Practice* did not have an impact, per se, on the rate of turnover among top U.K. executives; rather, the effect was concentrated among those firms that altered their board structures to comply with the *Code*. This is not to say that the rate of turnover among top executives in firms that were always-in-compliance was "too low" either before or after Cadbury. The data only show that the rate of turnover for these firms did not change between the pre- and post-Cadbury periods. In comparison, the rate of turnover increased significantly among firms that came into compliance with the Cadbury recommendations during the period of this study.

To determine whether the increase in turnover is correlated with performance, we estimate a regression with only the adopted-Cadbury set of firms that includes the adopted Cadbury dummy (*Dum-for-Adopt*) and the adopted Cadbury dummy interacted with our measures of performance (either *Dum-for-Adopt* × *logIAROA* or *Dum-for-Adopt* × *logISAR*) along with our measures of performance (either *logIAROA* or *logISAR*) and our four control variables. These are the key regressions of our analysis and are given as the fourth regression in each panel.

The coefficient of the interaction variable indicates whether the increase in turnover among firms that adopted Cadbury is randomly distributed across those firms or is concentrated among the poorest performing firms. In each regression, the coefficient of the interaction variable is negative with p-values ranging from 0.02 to 0.07. Additionally, the coefficient of the adopted Cadbury dummy (*Dum-for-Adopt*) is reduced by 60 percent and now has p-values ranging from 0.60 to 0.77. These results indicate that the increase in CEO turnover is not random; rather it is (inversely) correlated with performance: After controlling for performance, the likelihood that the CEO will depart his position is greater once a poorly performing firm comes into compliance with the key provisions of the *Code*. The answer to the question of whether the "right" managers are leaving the firms appears to be yes, assuming, of course, that our measures of performance properly identify the right managers.

Thus far, we have employed an indicator variable to capture the key provisions of the *Code of Best Practice*. A further question is: Which of the key provisions is responsible for the increased sensitivity of turnover to corporate performance? To address that question, we estimate a final regression with the adopted-Cadbury set of firms in which we include annual observations on the fraction of outside directors (*Prop Outsiders*), an interaction between the fraction of outsiders and our measures of corporate performance (either *Prop Outsiders* × *logIAROA* or *Prop Outsiders* × *logISAR*), an indicator variable to identify observations in which the positions of CEO and COB are held by a single individual (equal to 1) or by two individuals (equal to 0) and an interaction between this indicator variable and our measures of corporate performance (either *Dum for Single CEO/COB* × *logIAROA* or *Dum for Single CEO/COB* × *logISAR*). These variables are designed to capture the changes brought about by the *Code of Best Practice*. Because adoption of the *Code* led to a general increase in board size, we also include the

number of directors and an interaction between the number of directors and our measure of performance. These regressions, which also include a performance measure, *Dum-for-Adopt*, and the four control variables, are shown as the fifth regression in each panel.

According to the regressions, when the board composition and CEO/COB variables are included, the coefficients of the interaction of the *Dum-for-Adopt* and our measures of performance are not significant (p-values range from 0.60 to 0.96). Additionally, the coefficient of the fraction of outsiders on the board is positive, albeit not significant, in each regression (p-values range from 0.30 to 0.43). More interestingly, the coefficients of the interaction between the fraction of outsiders and our measures of performance are always negative, with p-values that range from 0.07 to 0.08. In contrast, in none of the regressions does the coefficient of the dummy for the CEO/COB or the coefficient of the interaction of this variable with our measures of performance begin to approach statistical significance (p-values range from 0.69 to 0.93).

Apparently, the increased sensitivity of turnover to corporate performance for the adopted-Cadbury set of firms (and the contemporaneous loss in significance of the interaction of *Dum-for-Adopt* with performance) is attributable to the increase in the fraction of outside directors. Splitting the responsibilities of the CEO and COB between two individuals appears to have had no effect on the rate of CEO turnover.

D. Spurious Correlation?

A question that may arise is whether the correlation between management turnover and corporate performance interacted with Cadbury compliance is spurious. More specifically, is it possible that both turnover and Cadbury compliance are caused by poor performance, perhaps because poorly performing firms adopt Cadbury to placate shareholders and, concurrently, dismiss top managers—a change in management that would have occurred even in the absence of Cadbury? Several analyses seem to indicate that this is not the case.

First, by construction, for the adopted-Cadbury set of firms, all postadoption CEO turnover follows compliance with the *Code*. This occurs because we use year-end data to determine whether a firm is in compliance. Only after the year-end in which the firm becomes compliant with the *Code* do we consider turnover to be postadoption. Thus, all post-Cadbury CEO turnover is postadoption. Related to this point, most postadoption turnover does not follow closely after Cadbury compliance. For example, for the 58 instances of postadoption *forced* CEO turnover, 18 occur within 12 months after the year-end of adoption, 23 occur in months 13 through 24, and 17 occur in months 25 through 36. Thus, forced CEO turnover is not clustered in the months immediately following adoption. The same is true for *all* CEO turnover. Second, corporate performance prior to adoption for those 288 firms that became Cadbury-compliant is not poor. For example, over the three

years prior to adoption, both the mean IAROA and the mean ISAR are positive: They are +0.057 and +0.039, respectively, but neither is statistically significantly different from zero (p-values = 0.24 and 0.40). Thus, it is not just poorly performing firms that adopt Cadbury. Third, even for the set of 57 firms that came into compliance and then experienced forced CEO turnover, the three-year preadoption mean IAROA and ISAR are positive (+0.027 and +0.014), but not significantly different from zero (p-values = 0.55 and 0.69).

In sum, adoption of Cadbury and CEO turnover are not simultaneous, adoption of Cadbury is not concentrated among poorly performing firms, and firms that adopt Cadbury and have CEO turnover are not performing poorly prior to adoption. These analyses argue against spurious correlation.

E. How Much Additional Turnover?

To give some indication of the economic significance of the statistical relationship we document, we use the last regression in Panel A and Panel B of Table V to calculate the implied increase in the instances of total CEO turnover and forced CEO turnover for the adopted-Cadbury set of firms during years $y - 4$ through $y - 1$. The predicted instances of total CEO turnover are 95 and the predicted instances of forced CEO turnover are 54. These compare with actual total turnover of 80 and actual forced turnover of 30. Thus, the regressions imply all CEO turnover would be 20 percent higher and forced turnover would be 80 percent higher had these firms been in compliance with the *Code* over the four years prior to adoption.[3]

F. Corporate Performance and Turnover in the Top Team

As noted at the outset, we focus our discussion on turnover in the CEO position. However, we also gathered turnover data for the entire top team of managers. For the top team of managers, excluding the CEO, we conduct each of the same analyses as undertaken for the CEO. In general, the results for the top team (excluding the CEO) are similar to, albeit weaker than, those for the CEO. For example, the regressions reported in Tables IV and V for CEO turnover are also estimated for turnover in the top management team (excluding the CEO). The signs of the coefficients for these regressions (not shown) are identical to those of Tables IV and V; however, the p-values of the variables are not significant at traditional levels. For example, the sign of the Cadbury 1993 through 1996 dummy variable is positive with p-values that range from 0.16 to 0.20. Similarly, the sign on the *Dum-for-Adopt* variable is also positive in each regression, but has p-values that range from 0.17 to 0.24. The coefficient for the interaction of *Dum-for-Adopt* and our measures of performance in the same regression is always negative

[3] As a benchmark, we calculated the implied instances of total CEO turnover during years $y + 1$ through $y + 4$ to be 96 versus actual turnover of 98 and forced turnover to be 56 versus actual forced turnover of 58.

with p-values that range from 0.15 to 0.26.[4] In short, the regressions for turnover in the top management team (excluding the CEO) are consistent with those of turnover in the CEO, but the levels of statistical significance are weaker.

IV. Commentary and Conclusions

We initiated this study with a degree of skepticism. Given the potential bite associated with the recommendations of the Cadbury Committee, we are not surprised to observe a significant increase in board sizes, a significant increase in the number and fraction of outside board members, and a significant reduction in the number and fraction of firms with a single individual as CEO and COB. Further, because of prior studies on the relationship between corporate performance and CEO turnover, we also are not surprised to find a significant (negative) correlation between corporate performance and top management turnover both before and after Cadbury (Coughlan and Schmidt (1985), Warner, Watts, and Wruck (1988), Weisbach (1988), Gilson (1989), Martin and McConnell (1991), Murphy and Zimmerman (1993), Kaplan (1994), Kang and Shivdasani (1995), Franks and Mayer (1996), Huson, Parrino, and Starks (1998), Mikkelson and Partch (1997), and Denis and Sarin (1999)). We were, however, skeptical as to whether the observed changes in board composition would lead to changes in corporate decision making or to a change in the relationship between corporate performance and top management turnover.

Part of our skepticism may stem from the mixed results of prior studies on board composition and management turnover. For example, for 367 publicly traded U.S. companies, Weisbach (1988) determines that CEO turnover is more highly negatively correlated with performance in firms with outsider-dominated boards. Contrarily, for 270 publicly traded Japanese companies, Kang and Shivdasani (1995) find that the sensitivity of CEO turnover to performance is unrelated to the fraction of outside directors. Finally, Franks, Mayer and Renneboog (2000) examine CEO turnover for a sample of poorly performing U.K. firms for the period 1988 through 1993. They are unable to draw definitive conclusions as to whether or not CEO turnover is more sensitive to performance when the board comprises more outside directors.

The other part of our skepticism largely stems from our general expectation that, prior to Cadbury, market forces were likely to have propelled boards toward efficient structures. Thus, we are surprised to observe a significant increase in management turnover following Cadbury adoption, to find an increase in the sensitivity of management turnover to corporate performance following Cadbury adoption, and, especially, to find that the increase in sensitivity of turnover to performance is due to an increase in outside board members. These results are consistent with, and support, the argu-

[4] The results of our analyses of the top team excluding the CEO are available from the authors.

ment that the Cadbury recommendations have improved the quality of board oversight in the United Kingdom. However, a caveat is in order: Increased management turnover and increased sensitivity of turnover to our measures of performance do not necessarily mean an improvement in corporate performance. As observed by Bhagat and Black (1999), prior research on board composition and corporate performance generally appears to show that board composition does affect the way in which boards accomplish discrete tasks, such as hiring and firing top management, responding to hostile takeovers, setting CEO compensation and so forth (Klein and Rosenfeld (1988), Kaplan and Reishus (1990), Rosenstein and Wyatt (1990), Byrd and Hickman (1992), Shivdasani (1993), Denis and Denis (1995), Kini, Kracaw, and Mian (1995), Agrawal and Knoeber (1996), Cotter, Shivdasani, and Zenner (1997), Hermalin and Weisbach (1998), and Bhagat and Black (2000)). However, such studies generally show less (or no) connection between board composition and corporate profitability. Our study analyzes the effect of the Cadbury recommendations on a discrete board task. In a subsequent study, we intend to investigate whether the Cadbury recommendations have influenced corporate performance more generally.

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