Research Note

# Audit committee activity and agency costs

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## Abstract

Menon and Williams indicate that many United States (US) over-the-counter (OTC) firms which form audit committees appear not to rely on them (cf. Menon, K., Williams, J.D. 1994. Journal of Accounting and Public Policy, 13(2), 121–139). Reliance on audit committees appears to depend upon board composition, while audit committee activity is associated with firm size. In this paper, we compare the US experience and evidence on audit committees and monitoring with the position in the United Kingdom (UK), where there has been a steady growth in the number of major companies voluntarily forming audit committees over the last 15 years (Collier, P.A. 1996. Accounting, Business and Financial History 6(2), 121–140). We contend that the dataset is best analyzed using the Heckman procedure (cf. Heckman, J.A. 1979. Econometrica 47(1), 153–161) which captures the two stages of the decision on audit committee activity.

Our results show little support from the UK data for the findings of Menon and Williams (cf. Menon and Williams, 1994. Journal of Accounting and Public Policy 13(2), 121–139). However, consistent with their agency theoretic perspective of monitoring, we found that high quality (Big Six) auditors, and to some degree leverage have a positive relationship with audit committee activity. Contrary to an agency theoretic expectation, we found that audit committee activity is reduced in firms that combine the role of chairman and chief executive. On the basis of this result we explored the impact of insiders (executive directors) and found that their presence on an audit committee had a significant negative impact on audit committee activity. This result suggests that the emphasis placed by the US Securities and Exchange Commission (SEC) (Staff Report on Corporate Accountability, US Government Printing Office, Washington, DC, 1980, p. 491) and the Cadbury Committee (Committee on the Financial Aspects of Corporate Governance. 1992. Report of the Committee on the Financial Aspects of

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Corporate Governance. Gee, London) on the independence of audit committee members may be well founded.

The reduction in audit committee activity that arises from the combination of the role of chairman and chief executive officer, and the presence of insiders on the audit committee, has important policy implications. Indeed, in the UK, both practices are the subject of recommendations in the Hampel Committee report Hampel Committee 1998. Committee on Corporate Governance. Gee, London. © 1999 Elsevier Science Inc. All rights reserved.

## 1. Introduction

Menon and Williams (1994, pp. 125–127) used an agency theoretic perspective to examine the argument that firms with high agency costs will attempt to mitigate these costs by undertaking increased monitoring activity through audit committees (ACs). The study followed on from a series of papers in this journal (Eichenseher and Shields, 1985; Pincus et al., 1989; Bradbury, 1990) which investigated the characteristics of firms that had formed ACs. The unique feature of the Menon and Williams (1994) paper was the extension of the analysis from the formation of an AC to AC monitoring activity.

In this paper, we investigate whether AC activity in major United Kingdom (UK) companies is affected by firm specific agency factors. The approach we take is similar to that adopted in Menon and Williams (1994) although we differ from their study in a number of important respects. First, we look at a more detailed measure of AC activity; whereas Menon and Williams (1994, p. 128) use the number of meetings held by the AC as the activity measure, we use data on both the number of meetings and the average duration of these meetings. Second, we include further agency variables that may reasonably be hypothesized to influence the activity of the AC. Third, the relatively recent adoption of ACs in the UK, in contrast to the United States (US) where ACs are well established, provides a setting where ACs are formed to assist the board with its monitoring activity rather than for purely cosmetic reasons. Fourth, because Menon and Williams (1994) needed a sample of firms where an AC had been formed on a voluntary basis the sample used was limited to over-the-counter (OTC) firms in the US, thereby excluding many of the largest firms. Our sample of major UK companies in the world's third largest stock market (Samuels et al., 1996, Table 12.1, p. 323) contrasts well in terms of size with the sample used by Menon and Williams (1994, pp. 129–131) and is an interesting environment in which to test theories related to AC activity.

Our results do not support any association between the agency costs of equity, proxied by the proportion of shares held by the directors and by shareholder diversity, and AC activity proxied by the total hours for which an AC met annually. Nor do the findings confirm the results of Menon and Williams

(1994, p. 133) who found that AC activity was positively associated with firm size and the proportion of outside directors. However, we do find that AC activity is positively associated with the employment by firms of high quality independent auditors, as measured by membership of the Big Six, and to some degree to the agency cost of debt as measured by leverage. The combination of the role of chairman and chief executive is also shown to be a significant variable but rather than leading, as hypothesized, to increased monitoring, the presence of a dominant chief executive reduces AC activity. Finally we show that the inclusion of insiders (executive directors) in the membership of the AC similarly reduces AC activity. We do not investigate (as did Menon and Williams (1994)) the formation of ACs, as this has been done for the UK in Collier (1993) which used mostly the same data that is used in this paper (see footnote 3).

## 2. Audit committees in the UK

AC developments in the UK reflect the impact of US experiences. However, the adoption of the practice in companies was slow. The Accountants International Study Group (AISG, 1977, p. 1) indicated that ACs were unusual but not unknown in the UK and that the concept of ACs had not been generally accepted. Collier (1996, p. 122) showed that up to the Cadbury Committee Report (1992) ACs had gradually become more widespread amongst the larger companies. The Cadbury Committee (1992, p. 28) recommended that all listed companies should establish an AC. Compliance is not mandatory but the London Stock Exchange (London Stock Exchange, 1993, p. 128) requires all listed companies to disclose their degree of compliance in the annual report and accounts, so that shareholders are aware of the situation. The involvement of the London Stock Exchange is limited to ensuring that the degree of compliance is stated and that reasons are given for any non-compliance (London Stock Exchange, 1993, p. 128). Since the Cadbury Committee Report (1992), the pressure to conform has increased and Collier (1997, p. 97) found that by 1994, 83.8% of UK listed companies had formed an AC.

## 3. Audit committee formation and agency variables

The agency theory framework has been used to analyze the reasons for forming ACs voluntarily in four major research studies. Two of the studies are based on US data. Pincus et al. (1989) used NASDAQ over-the-counter companies, while Menon and Williams (1994) drew their sample from OTC firms (which includes firms traded on the NASDAQ National Market System along with other OTC firms). The difficulty in studying the voluntary formation of ACs in large US companies is due to the 1977 New York Stock

Exchange requirement that each domestic company with common stock listed should have an AC (New York Stock Exchange, 1977, p. 3). This has been rectified by Bradbury (1990) who studied some firms with listings on the New Zealand Stock Exchange and Collier (1993) who examined 142 of the largest companies listed on the London Stock Exchange. The variables tested and the results are summarized in Table 1.

The four studies provide few examples of the voluntary creation of ACs being statistically related to agency cost of the equity (director control of voting stock and number of shareholders) and the agency cost of debt (leverage). The only consistently significant relation was between the voluntary formation of ACs and board structure (number/proportion of non-executive directors). In the studies, board structure variables proxied for director incentives to form ACs driven by the potential liability of directors and agency cost incentives to reduce information asymmetries between executive and non-executive directors. However, alternative explanations for this finding are possible. Bradbury (1990, p. 24) argued that it is the decision to form an AC

Table 1
Variables tested to explain the voluntary formation of audit committees in Pincus et al. (1989), Bradbury (1990), Collier (1993) and Menon and Williams (1994)

| Variable | Direction of Hypothesis | Hypothesis Supported? ($p = \pm 0.05$)[a] | | | |
|---|---|---|---|---|---|
| | | Pincus et al. (1989) | Bradbury (1990) | Collier (1993) | Menon and Williams (1994) |
| Size | + | YES | NO | MIXED[b] | NO |
| Leverage | + | MIXED[b] | NO | YES | NO |
| Directors control of voting stock | – | YES | NO[c] | YES | NO |
| Big 6/8 auditor | + | YES | NO | MIXED[b] | YES |
| No. of Directors | + | N/T[d] | YES | N/T[d] | NO |
| No. /Proportion of non-executive directors | + | YES | YES[e] | YES | YES |
| Participation in NMS[f] | + | YES | N/T[d] | N/T[d] | N/T[d] |
| No. of Stockholders | + | N/T[d] | NO | NO | N/T[d] |
| Assets in place | – | N/T[d] | NO | NO | N/T[d] |
| Dominant chief executive officer | – | N/T[d] | N/T[d] | NO | N/T[d] |

[a] Pincus et al. (1989, p. 257), Bradbury (1990, p. 31), and Collier (1993) use one-tailed tests. Menon and Williams (1994, p. 136) use two-tailed tests.
[b] Different univariate and multivariate results.
[c] Used by Bradbury (1990, p. 23) as a proxy for the number/proportion of non-executive directors.
[d] Not tested.
[e] Tested by Bradbury (1990, p. 23) using "director control of voting stock" and "intercorporate control" (major outside stockholders) as proxies.
[f] National Market System – the most actively traded stocks on *NASDAQ* are in the *NMS*.

which has increased the board size and the number/proportion of non-executive directors as such a committee requires at least two non-executive directors.

The differences between the impact of agency variables on AC formation in these studies may be explained by variation in the population in terms of size of the companies, their international diversity and the marketability of their shares. Insights into this variability may be obtained by comparing the results obtained from Menon and Williams (1994) who used OTC firms to test their hypotheses on AC activity with the outcome of a study on major UK listed companies.

## 4. Hypotheses

Menon and Williams (1994, pp. 125–128) tested the following hypotheses (which we have quoted and paraphased) which linked agency variables with AC activity:

H1: "AC activity" is a decreasing function of directors' shareholdings.

H2: "AC activity" is an increasing function "of leverage".

H3: "AC activity" is an increasing function of "firm size".

H4: "AC activity" is an increasing function of independent auditor quality.

H5: "AC activity" is an increasing function of "the proportion of outsiders on the board".

H6: "AC activity" is an increasing function of "board size".

As our first objective is to compare our data directly with Menon and Williams (1994), we adopt these hypotheses.

In addition to the relationships hypothesized above, we consider the impact of two further agency variables. First, we argue that a critical agency variable is likely to be the dominance of the chief executive officer. We focus here on whether the company has followed the advice of the Cadbury Committee (1992, p. 21) and separated the roles of chairman (company president) and managing director (chief executive officer). Any firm that has not done so is viewed as having a dominant executive. From an agency perspective, we argue that firms with these dominant figures are likely to be perceived as needing more stringent monitoring mechanisms in place because of their control over the board. We thus have a seventh hypothesis.

H7: AC activity is an increasing function of the degree of dominance of the chief executive.

However, it is possible that, a dominant chief executive may agree to the formation of an AC to give the appearance of monitoring, but actually limit its effective functioning.

Finally, following Bradbury (1990, p. 21), who hypothesized that "firms with a larger number of ... non-executive ... shareholders are more likely to" form ACs, we argue that the degree to which shareholders can directly observe

the activities of management is likely to influence investors' demand for monitoring. One proxy for this is shareholder diversity; *ceteris paribus*, the wider the shareholder base, the greater the degree of monitoring. This leads to our final hypothesis.

H8: AC activity is an increasing function of shareholder diversity.

Hypotheses H1–H8 were also put forward in Collier (1993, pp. 423–425). The difference between Collier, 1993 and this paper is that the hypotheses in this paper are specified in relation to AC activity defined in terms of the number or duration of AC meetings and not the existence of an AC as used by Collier (1993, pp. 423–425).

## 5. Research method

The hypotheses are tested using a sample of major UK companies listed on the London Stock Exchange. The sample was obtained from the results of a survey by Collier (1992, see especially pp. 39–48), who in January 1991 sent a questionnaire to companies in the top 250 of the Times 1000 for 1989–1990 (Allen, 1989). After elimination of companies which were not UK based and not listed on the London Stock Exchange there was a residual population of 167 companies from which 142 usable replies were received, an 85.0% response rate (also see Collier, 1993, p. 425). [1] Tests for non-response bias suggested that the respondents were representative of the population. [2] The questionnaire (Collier, 1992, pp. 187–198) provided the following information for the sample of 142 companies: whether or not the company had formed an AC at 1st January 1991; the number of shareholders; the number of regular AC meeting held per annum; the average duration in hours of regular AC meetings; and the membership of the AC. Additionally, to enable the hypotheses to be tested, information was collected from the annual report and accounts (financial statements) for the financial year ended in 1991 in respect of the following: the number of executive and non-executive directors on the board of the company; whether or not the roles of chairman and managing director were combined; the number of shares held by directors; the book values of debt, equity, total assets and liabilities; and whether or not the independent auditor was a Big Six firm. The market value of equity, used in the determination of firm size, is form

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[1] The high response rate is explained by the topicality of ACs in the period prior to the setting up of the Cadbury Committee in May 1991 (Collier, 1992, p.45).

[2] The validity of the questionnaires was also assessed by extensive pretesting and follow up interviews with 30 respondents (Collier, 1992, pp. 53–54).

the *London Business School Share Price Database*. [3] Of the 142 respondent companies, 89 (62.7%) had formed an AC. Problems of accounting data availability led to the exclusion of one firm, leaving a sample of 88 companies with ACs on which to test our hypotheses directly. However, we also perform tests with the inclusion of the full sample for which the required data is available (141 companies). [4]

Besides proxies for the various agency relationships we wished to test, we included control variables to proxy for factors that may have an impact on AC activity. Control variable data was collected from and the 1991, 1990 and 1989 annual report and accounts (financial statements). These accounts were used to gather information on sales growth, while all three years were checked to see whether or not the audit report was qualified.

Given that some of the recent literature suggests that book-to-market ratios (BMV) may have a role in explaining the cross-section of returns (Fama and French, 1992, pp. 451,452), [5] and in particular that BMV may be a proxy for financial distress (Fama and French, 1996, p. 60), our first control variable is BMV. The expectation is that firms with high BMV (distressed firms) will be those firms which need to undertake greater monitoring.

The rate of recent growth may have an important effect on the activities of the AC by focusing more attention on the accounting process. Although measures of earnings, such as earnings per share or profit before interest and taxation growth could be used here, the fact that these numbers were possibly subject to earnings management [6] leads us to prefer the growth in sales as the measure of short term growth for our second control variable.

The qualification of the accounts in the current or previous two years may well be associated with enhanced AC activity and a third control variable is included to take account of this.

Finally, a significant change in accounting policy may also be expected to have an impact on the time spent in AC meetings. [7] As a control for this, we defined a significant change in an accounting policy as one which would have given rise to a prior year adjustment in either of the current or last financial years. We used the Extel Company Analysis database to check for such prior

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[3] The data sources correspond with Collier (1993, p. 426) with the exception that, for consistency with the derivation of the book to market value control variable, the market value of equity is obtained from the London Business School Share Price Database. The market value of equity in Collier (1993, p. 425) was obtained from the London Business School (1991, pp. 23–31).

[4] As an anonymous referee has pointed out, zero activity is also an observation.

[5] Note, however, that the importance of BMV in the cross-section of returns is disputed by Kothari et al. (1995, pp. 186–188) and Jaganathan and Wang (1996, pp. 31–34).

[6] For a discussion of the management of earnings and balance sheet values in the UK, see, for example, Griffiths (1986) or Smith and Hannah (1991).

[7] We are grateful to an anonymous referee for drawing out attention to this point.

year adjustments, but found none of our sample companies experienced such an event in either financial years ended in 1990 or 1991.

To test the factors affecting the AC activity, we define two dependent variables: (i) REGM which is the annual frequency of regular meetings of the AC and (ii) TT which is the total annual time in hours that the AC met for. These variables are tested against the following agency and control variables: [8]

| | |
|---|---|
| *DSH* | the proportion of shares held by directors |
| *LEV* | the book value of long term debt to firm size (market value of equity and the book values of preference capital, debt and current liabilities) |
| *SIZE* | the natural logarithm of the sum of the market value of equity and the book values of preference capital, debt and current liabilities |
| *BIG6* | dummy variable = 1 if the company has a Big Six auditor |
| *NEX* | the proportion of non-executive directors on the board |
| *BDS* | the number of main board members |
| *DOMCE* | dummy variable = 1 if the role of chairman and managing director is combined |
| *NOSH* | the natural logarithm of the number of shareholders. |
| *BMV* | the ratio of book value to market value of equity |
| *GRSAL* | the growth in sales revenue over the past financial year |
| *QUAL* | dummy variable = 1 if the independent audit report was qualified in 1989, 1990 or 1991 |

The hypotheses concerning AC committee activity are examined in four distinct stages: (i) a replication of the Menon and Williams (1994) for

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[8] The definitions of the variables listed above correspond with previous studies of AC formation as follows: DSH is consistent with Collier (1993, p. 425) and Bradbury (1990, p. 25). Menon and Williams (1994, p. 129) used the percentage of stock owned by the managers of the firm and Pincus et al (1989, p. 250) employed the percentage of stock owned by officers and directors. LEV is consistent with Collier (1993, p. 425) and Pincus et al (1989, p. 250). Menon and Williams (1994, p. 129) used the debt-assets ratio and Bradbury (1990, p. 25) employed total liabilities to firm size. SIZE is consistent with Collier (1993, p. 425) and Pincus et al (1989, p. 251). Menon and Williams used total assets and Bradbury (1990, p. 25) employed the sum of the market value of ordinary share capital and the book value of preference shares and debt. BIG6 is consistent with Collier (1993, p. 425). The other studies mentioned in this footnote all used Big Eight. NEX is consistent with Menon and Williams (1994, p. 129) and Pincus et al (1989, p. 251). Collier (1993, p. 425) used the number of non-executive directors. BDS is consistent with Menon and Williams (1994, p. 129) and Bradbury (1990, p. 25). DOMCE is consistent with Collier (1993, p. 425). NOSH is consistent with Bradbury (1990, p. 25).

hypotheses H1–H6 using ordinary least-square (OLS) and Poisson regression techniques; (ii) the use of a more sophisticated measure of AC activity based on the number of hours for which the AC met per annum again using OLS regressions and testing hypotheses H1–H6; (iii) a repetition of (ii) with the addition of the variables related to hypothesis H7 and H8 and the control variables; (iv) tests of all the independent variables on the full dataset treating firms which had not formed an AC as zero activity.

The Menon and Williams (1994) dependent variable, number of annual meetings, can take on only non-negative integer values. An assumption of the OLS model is that the dependent variable is continuous. In the case of the dependent variable being the number of meetings per annum, the magnitude of the number likely to result may not meet this assumption. As Greene (1993, p. 676) indicates, in cases where the data are characterized by a preponderance of zeros and small discrete values, OLS models can be improved upon by using a model which takes account of these characteristics. Thus in addition to the OLS regression used by Menon and Williams (1994, pp. 134–135), we also analyze the dataset through Poisson regression, as this technique is more appropriate to the discrete nature of the dependent variable of the number of annual meetings (see Mak, 1996, p. 127).

The question of how to proceed in the analysis of the dataset in the last stage raises the issue of how to treat the zero observations. A frequently used approach for truncated data is the Tobit model (Tobin, 1958). However, Tobit has a difficulty noted by Maddala (1989, p. 286) because the model assumes the dependent variable can, in principle, take on negative values. [9] The zero observations here are not due to censoring, as implied by the Tobit model, but result from the choice of mangers not to establish an AC. As Maddala points out, the correct procedure in such cases is "to model the decisions which produce zero observations" (1989, p. 243). We deal with this problem of truncated data by using a modification of the Heckman (1979) two-stage procedure described in Greene (1993, pp. 706–714). This involves running a Probit model to obtain estimates of the parameters which determine the choice of whether to form an AC. For each observation (firm) the Inverse Mills Ratio, $(\lambda_i)$, an estimate of the expected error term given that all the observations are drawn from the truncated distribution (Maddala, 1991, p. 795), is then used in an OLS regression of AC activity on the agency and control variables described previously. The variable $\lambda_i$ is *LAMBDA* in the regression results reported below (Table 6 and 7). As noted by Greene (1981, pp. 795–798) the basic Heckman model (1979) gives incorrect estimates of the standard errors of the OLS estimates. However, these can be corrected using the method described in

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[9] Maddala (1991, p. 796) gives hours worked as a particular example of the inappropriate use of Tobit.

Greene (1981, pp. 797–798), and we do this by using the programming procedure in *SHAZAM* by Jaeger (White, 1993, p. 261). The Probit model initially incorporated all the agency variables described above. From this, we then estimated a reduced form of the Probit model which we used in the first stage of the estimation process. [10] The Heckman model (1979) is not without its difficulties. These are reviewed in Maddala (1991), where he notes (fn. 6, p. 800) that it is inappropriate to use the two-stage model where there is significant heteroskedasticity. Accordingly, we test for this in our analysis and found there was no significant heteroskedasticity at the 5% level (one-tailed) using any of the usual tests. Our conclusion was therefore that it is reasonable to use the Heckman model (1979) on our dataset.

## 6. Results

Summary statistics for the agency and control variables used in the regressions are given in Table 2. Panel A gives the statistics for the full sample of 141 companies, while Panel B gives the statistics only in respect of those 88 firms which have an AC. Table 3 presents the Pearson correlation coefficients between pairs of variables for the full sample. While in general there is little evidence of potential multi-collinearity present, there is a Pearson correlation of 0.77 between *SIZE* and *NOSH*, and 0.66 between *SIZE* and *BDS* (both correlations are significant at the 1% level, two-tailed). [11] As a check that this did not have material consequences for the regressions described below, we ran separate regressions with size-deflated variable, *NOSHSIZE* and *BDSIZE* substituted for *NOSH* and *BDS*, respectively. In no case did any significantly different results occur. Given the high correlation between *SIZE* and *NOSH*, we also ran all our reported regressions excluding first *NOSH* and then *SIZE*. Again, no significantly different results occur, although as we report below although *SIZE* is consistently insignificant, it can increase in significance when it alone is included.

The repetition of Menon and Williams (1994) tests the same dependent variable and the identical hypotheses using the UK data set. We repeated the Menon and Williams (1994, pp. 133–137) OLS regression, but additionally we ran a Poisson regression as discussed previously. The results are not reproduced here, but neither the OLS regression nor the Poisson regression was

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[10] Including the control variables in the initial Probit model has no material impact upon the final results obtained.

[11] Pearson correlation coefficients of dependent and independent variables for sample firms with audit committees were also obtained. The results (available from the authors on request) show little evidence of potentially multicollinearity, except for the relationships between *SIZE* and *NOSH*, and *SIZE* and *BDS* discussed above.

Table 2
Summary statistics for dependent and independent variables[a]

| Name | *n* | Mean | Std. dev. | Median | Minimum | Maximum |
|------|-----|------|-----------|--------|---------|---------|
| *Panel A: Full sample* | | | | | | |
| REGM | 141 | 1.6879 | 1.4547 | 2.0000 | 0.0000 | 4.0000 |
| TT | 141 | 3.766 | 3.4108 | 4.0 | 0.0 | 12.0 |
| DSHS | 141 | 0.0366 | 0.09887 | 0.002 | 0.0 | 0.671 |
| LEV | 141 | 0.1711 | 0.09887 | 0.1643 | 0.0 | 0.634 |
| SIZE | 141 | 7.5269 | 1.0514 | 7.3499 | 5.7652 | 10.536 |
| RAWSIZ | 141 | 3605.2 | 5863.6 | 1556.0 | 319.00 | 37628 |
| BIG6 | 141 | 0.90071 | 0.30012 | 1.0 | 0.0 | 1.0 |
| NEX | 141 | 0.39 | 0.13002 | 0.375 | 0.0 | 0.71429 |
| BDS | 141 | 10.879 | 3.0833 | 10.0 | 5.0 | 23.0 |
| DOMCE | 141 | 0.37589 | 0.48608 | 0.0 | 0.0 | 1.0 |
| NOSH | 141 | 10.113 | 1.4322 | 10.086 | 6.9078 | 14.724 |
| RAWNOSH | 141 | 87.206 | 265.76 | 24.000 | 1.0 | 2480.0 |
| QUAL | 141 | 0.01418 | 0.11867 | 0.0 | 0.0 | 1.0 |
| GRSAL | 141 | 0.55287 | 14.751 | 0.62984 | −64.387 | 58.593 |
| BMV | 141 | 0.74819 | 0.80115 | 0.69727 | −6.4211 | 4.3381 |
| *Panel B: Restricted sample* | | | | | | |
| REGM | 88 | 2.7045 | 0.79016 | 3.0000 | 1.0000 | 4.0000 |
| TT | 88 | 6.034 | 2.208 | 6.000 | 2.000 | 12.000 |
| DSHS | 88 | 0.016 | 0.051 | 0.001 | 0.000 | 0.382 |
| LEV | 88 | 0.187 | 0.995 | 0.1674 | 0.0167 | 0.634 |
| SIZE | 88 | 7.658 | 1.049 | 7.4018 | 6.019 | 10.536 |
| RAWSIZ | 88 | 4147.0 | 6758.8 | 1638.9 | 411.00 | 37628 |
| BIG6 | 88 | 0.9432 | 0.233 | 1.000 | 0.000 | 1.0 |
| NEX | 88 | 0.42867 | 0.10338 | 0.400 | 0.27273 | 0.66667 |
| BDS | 88 | 11.352 | 2.7419 | 11.000 | 6.000 | 23.00 |
| DOMCE | 88 | 0.364 | 0.484 | 0.000 | 0.000 | 1.0 |
| NOSH | 88 | 10.255 | 1.4903 | 10.127 | 6.9078 | 14.724 |
| RAWNOSH | 88 | 113.05 | 329.17 | 25.000 | 1.0000 | 2480.0 |
| QUAL | 88 | 0.023 | 0.150 | 0.000 | 0.000 | 1.000 |
| GRSAL | 88 | −1.066 | 14.852 | −1.243 | −64.387 | 36.553 |
| BMV | 88 | 0.837 | 0.586 | 0.738 | 0.013 | 4.338 |
| INSIDERS | 88 | 0.40909 | 0.49448 | 0.000 | 0.000 | 1.000 |

[a] The data in Panel A are for the entire sample of 141 companies, while the data in Panel B are for the sample of 88 companies which had an audit committee. *REGM* is the number of regular AC meetings per annum, *TT* is the total hours per annum spent on AC meetings, *DSH* is the proportion of shares held by the directors, *LEV* is the ratio of debt to firm size, *RAWSIZ* is the sum of the market value of equity plus the book values of preference capital, debt and current liabilities, *SIZE* is the natural logarithm of firm size, *BIG6* is a dummy variable with a value of 1 if the auditor is a Big Six accounting firm, *NEX* is the proportion of the board made up of non-executive directors, *BDS* is the size of the board, *DOMCE* is a dummy variable with a value of 1 if the roles of chairman (president) and managing director (chief executive officer) are combined, *RAWNOSH* and *NOSH* is the number of shareholders in thousands and the natural logarithm of the number of shareholders respectively, *QUAL* is a dummy variable with a value of 1 if the accounts were qualified in the last three years, *GRSAL* is the percentage growth in sales over the past year, *BMV* is the book to market ratio, and *INSIDERS* is a dummy variable with a value of 1 if insiders (executive directors) are present on the AC.

Table 3
Pearson correlation coefficients of dependent and independent variables for full sample of firms including those with no audit committee[a]

| | REGM | TT | DSHS | GEAR | RAWSIZ | SIZE | BIG6 | NEX | BDS | DOMCE | RAW-NOSH | NOSH-DR | QUAL | GRSAL | BMV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REGM | 1.00 | | | | | | | | | | | | | | |
| TT | 0.91$^b$ | 1.00 | | | | | | | | | | | | | |
| DSHS | -0.27$^b$ | -0.26$^b$ | 1.00 | | | | | | | | | | | | |
| LEV | 0.25$^b$ | 0.29$^b$ | -0.16 | 1.00 | | | | | | | | | | | |
| RAWSIZ | 0.17 | 0.22$^c$ | -0.13 | 0.30$^b$ | 1.00 | | | | | | | | | | |
| SIZE | 0.18$^c$ | 0.21$^b$ | -0.25$^b$ | 0.31$^b$ | 0.82$^b$ | 1.00 | | | | | | | | | |
| BIG6 | 0.14 | 0.25$^b$ | -0.24$^b$ | 0.22$^b$ | 0.10 | 0.14 | 1.00 | | | | | | | | |
| NEX | 0.31$^b$ | 0.31$^b$ | -0.28$^b$ | -0.05 | 0.07 | 0.03 | 0.11 | 1.00 | | | | | | | |
| BDS | 0.17 | 0.18$^c$ | -0.05 | 0.16 | 0.47$^b$ | 0.66$^b$ | 0.08 | 0.07 | 1.00 | | | | | | |
| DOMCE | 0.04 | -0.10 | 0.18$^c$ | 0.09 | 0.14 | 0.07 | -0.09 | -0.06 | 0.13 | 1.00 | | | | | |
| RAW-NOSH | 0.21$^c$ | 0.17 | -0.09 | 0.00 | 0.51$^b$ | 0.48$^b$ | 0.07 | 0.09 | 0.16 | 0.09 | 1.00 | | | | |
| NOSH-DR | 0.07 | 0.21$^c$ | -0.29$^b$ | 0.11 | 0.78$^b$ | 0.77$^b$ | 0.17 | -0.03 | 0.42$^b$ | -0.04 | 0.66$^b$ | 1.00 | | | |
| QUAL | 0.11 | 0.10 | -0.04 | -0.10 | -0.05 | -0.07 | 0.04 | 0.01 | -0.03 | -0.09 | -0.04 | -0.07 | 1.00 | | |
| GRSAL | -0.23$^b$ | -0.16 | 0.07 | -0.19$^c$ | 0.00 | 0.05 | -0.03 | 0.08 | 0.05 | -0.09 | -0.13 | 0.02 | -0.17 | 1.00 | |
| BMV | 0.12 | 0.09 | 0.07 | 0.20 | -0.05 | -0.03 | 0.04 | -0.07 | -0.03 | 0.12 | -0.04 | -0.09 | 0.01 | -0.26$^b$ | 1.00 |

[a] REGM is the number of regular AC meetings per annum, TT is the total hours per annum spent on AC meetings, DSH is the proportion of shares held by the directors, LEV is the ratio of debt to firm size, RAWSIZ is the sum of the market value of equity plus the book values of preference capital, debt and current liabilities, SIZE is the natural logarithm of firm size, BIG6 is a dummy variable with a value of 1 if the auditor is a Big Six accounting firm, NEX is the proportion of the board made up of non-executive directors, BDS is the size of the board, DOMCE is a dummy variable with a value of 1 if the roles of chairman (president) and managing director (chief executive officer) are combined, RAWNOSH and NOSH are the number of shareholders in thousands and the natural logarithm of the number of shareholders respectively, QUAL is a dummy variable with a value of 1 if the accounts were qualified in the last three years, GRSAL is the percentage growth in sales over the past year, and BMV is the book to market ratio.
[b] Significant at $p < 0.01$ (two-tailed).
[c] Significant at $p < 0.05$ (two-tailed).

significant. [12] The results do not support any of the hypotheses H1–H6. One major reason for this is that in our sample set, virtually every company met twice per annum to review interim and final financial statements. While some had additional meetings, there is insufficient cross-sectional activity to allow significant variables to be observed. To address this problem and to meet the concerns of Menon and Williams (1994, p. 124), who observe that the frequency of meetings is "a crude" proxy for activity, which "does not provide any indication of the work accomplished during these meetings", we move to a second stage which uses the data collected on the hours spent annually in AC meetings as an alternative dependent variable. We argue that hours spent in meetings, while not a measure of effectiveness, is likely to be a better approximation of work performed than the number of meetings and also exhibits greater cross-sectional variability [13] than is observed in the number of meetings. Table 4 shows the results of testing hypotheses H1–H6 against the dependent variable total hours spent in meetings. The *F*-ratio for the regression is significant at the 5% level, with an adjusted $R^2$ of 10.23%. Only the independent auditor quality variable (*BIG6*) is significant with the hypothesized sign at the 1% level in a single-tailed test. *DSHS*, *LEV* and *SIZE* all have the hypothesized signs, with *LEV* being significant at the 10% level in a one-tailed test. [14] Table 5 shows the results when the additional variables are included. Again, the *F*-ratio for the regression is significant at the 5% level with an adjusted $R^2$ of 13.96%. *DSHS*, *LEV*, *SIZE*, *BIG6* and *NOSH* have the hypothesized signs, with *LEV* and *BIG6* being significant at the 5% level in a one-tailed test. *DOMCE* is significant at the 10% level in a two-tailed test ($p = 0.066$), with a sign opposite to that hypothesized by an agency theoretic perspective. The control variable *BMV* has a sign opposite to that expected and is significant at the 10% level (two-tailed). However, the results in Tables 4 and 5 are presented mainly for comparison with Menon and Williams (1994).

Finally, we used the two stage Heckman model (1979) to correct for self-selection bias. We view this as the most appropriate approach for modeling truncated data of the type we have here and for recognizing the possibility that there are two separate decisions in the model. These two separate decisions are: (i) whether to form an AC and (ii) the level of monitoring activity which is to be undertaken, once an AC is formed.

We ran a Probit regression on the full set of agency and control variables. Only *DSHS*, *LEV*, *NEX* and *BDS* were significant at the 10% level or below in

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[12] A copy of these results is available from the authors on request.

[13] *REGM* has a mean of 2.7045 and standard deviation of 0.7902 with a maximum value of 4 and minimum value of 1; in comparison *TT* has a mean of 6.034 hours, a standard deviation of 2.208 hours with the numbers reported varying from 2 to 12 hours. Note that quarterly results are not normally released for UK listed companies.

[14] All *p*-values reported in the tables are for two-tailed *t*-tests throughout.

Table 4
Ordinary least-squares regression of dependent variable $TT$[a,b]

| Variable name | Hypothe-sized sign | Estimated coefficient | Standard error | *t*-ratio | *p*-value, two-tailed test | *p*-value, single-tailed test |
|---|---|---|---|---|---|---|
| *DSHS* | − | −4.2689 | 4.7250 | −0.9035 | 0.3689 | 0.1845 |
| *LEV* | + | 3.7745 | 2.4800 | 1.5220 | 0.1319 | 0.0660 |
| *SIZE* | + | 2.7614 | 2.2740 | 1.2140 | 0.2283 | 0.1142 |
| *BIG6* | + | 2.4664 | 1.0210 | 2.4150 | 0.0180 | 0.0090 |
| *NEX* | + | −0.8746 | 2.3080 | −0.3790 | 0.7057 | 0.3529 |
| *BDS* | + | −0.1002 | 0.1050 | −0.9542 | 0.3428 | 0.1714 |
| *CONSTANT* | | −39.1660 | 35.3200 | −1.1090 | 0.2707 | 0.1354 |

[a] *F*-Test 2.653 ($p = 0.021$) Adjusted $R^2$ 0.1023.
[b] *TT* is the total annual time in hours that the AC met for, *DSH* is the proportion of shares held by the directors, *LEV* is the ratio of debt to firm size (the sum of the market value of equity plus the book values of preference capital, debt and current liabilities), *SIZE* is the natural logarithm of firm size, *BIG6* is a dummy variable with a value of 1 if the auditor is a Big Six accounting firm, *NEX* is the proportion of the board made up of non-executive directors, and *BDS* is the size of the board.

Table 5
Ordinary least-squares regression of dependent variable $TT$[a,b]

| Variable name | Hypothe-sized sign | Estimated coefficient | Standard error | *t*-ratio | *p*-value, two-tailed test | *p*-value, single-tailed test |
|---|---|---|---|---|---|---|
| *DSHS* | − | −0.8708 | 4.8180 | −0.1807 | 0.8571 | 0.4286 |
| *LEV* | + | 4.8908 | 2.7480 | 1.7798 | 0.0791 | 0.0396 |
| *SIZE* | + | 2.6407 | 3.1670 | 0.8338 | 0.4070 | 0.2035 |
| *BIG6* | + | 2.4590 | 1.0640 | 2.3111 | 0.0235 | 0.0118 |
| *NEX* | + | −0.9646 | 2.3240 | −0.4151 | 0.6793 | 0.3397 |
| *BDS* | + | −0.0937 | 0.1035 | −0.9052 | 0.3682 | 0.1841 |
| *DOMCE* | + | −0.9029 | 0.4847 | −1.8629 | 0.0663 | 0.0332 |
| *NOSH* | + | 0.0544 | 0.2498 | 0.2179 | 0.8281 | 0.4141 |
| *QUAL* | + | 0.1404 | 1.5780 | 0.0890 | 0.9293 | 0.4647 |
| *GRSAL* | + | −0.02338 | 0.0173 | −1.3512 | 0.1807 | 0.0904 |
| *BMV* | + | −0.7463 | 0.4211 | −1.7723 | 0.0803 | 0.0402 |
| *CONSTANT* | | −37.1770 | 47.9000 | −0.7761 | 0.4401 | 0.2201 |

[a] *F*-Test 2.284 (p = 0.0210) Adjusted $R^2$ 0.1396.
[b] *TT* is the total annual time in hours that the AC met for, *DSH* is the proportion of shares held by the directors, *LEV* is the ratio of debt to firm size (the sum of the market value of equity plus the book values of preference capital, debt and current liabilities), *SIZE* is the natural logarithm of firm size, *BIG6* is a dummy variable with a value of 1 if the auditor is a Big Six accounting firm, *NEX* is the proportion of the board made up of non-executive directors, and *BDS* is the size of the board, *DOMCE* is a dummy variable with a value of 1 if the roles of chairman (president) and managing director (chief executive officer) are combined, *NOSH* is the natural logarithm of the number of shareholders, *QUAL* is a dummy variable with a value of 1 if the accounts were qualified in the last three years, *GRSAL* is the percentage growth in sales over the past year, and *BMV* is the book to market ratio.

one-tailed tests. We then used these variables in a reduced form Probit model reported in Panel A of Table 6. The model is highly significant (chi-square 38.37 with four degrees of freedom) and has reasonable explanatory power with a Maddala $R^2$ of 0.2382. This model forms the first step in the procedure. The results from the second step OLS regression in this Heckman procedure, with Greene (1981, pp. 797–798) corrections for the coefficient standard errors, are presented in Table 6, Panel B. The OLS model is significant at the 5% level ($F = 2.162$), with an adjusted $R^2$ of 13.82%. The Breusch–Pagan (Breusch and

Table 6
Two stage Least-Squares Estimation, with Dependent Variable *TT*. Panel A gives the results of the initial Probit model, while Panel B gives the results of the second stage ordinary least-squares (OLS) regression[a]

| Variable name | Hypothe-sized sign | Estimated coefficient | Standard error | *t*-ratio | *p*-value, two-tailed test | *p*-value, single-tailed test |
|---|---|---|---|---|---|---|
| *Panel A: Probit analysis*[b] | | | | | | |
| DSHS | | −2.5938 | 1.4753 | −1.7582 | 0.0824 | 0.0412 |
| LEV | | 3.1358 | 1.3517 | 2.3199 | 0.0228 | 0.0114 |
| NEX | | 4.3303 | 1.0662 | 4.0613 | 0.0001 | 0.0001 |
| BDS | | 0.0832 | 0.0404 | 2.0613 | 0.0424 | 0.0212 |
| CONSTANT | | −2.6849 | 0.6946 | −3.8652 | 0.0002 | 0.0001 |
| | | | | | | |
| *Panel B: Second stage OLS regression*[c] | | | | | | |
| DSHS | − | −8.4688 | 10.1998 | −0.8303 | 0.4090 | 0.2045 |
| LEV | + | 10.3523 | 8.3464 | 1.2403 | 0.2187 | 0.1094 |
| SIZE | + | 2.4729 | 3.2018 | 0.7723 | 0.4423 | 0.2212 |
| BIG6 | + | 2.6374 | 0.5840 | 4.5163 | 0.0000 | 0.0000 |
| NEX | + | 7.3503 | 11.3245 | 0.6491 | 0.5183 | 0.2592 |
| BDS | + | 0.0559 | 0.2304 | 0.2428 | 0.8088 | 0.4044 |
| DOMCE | + | −0.9173 | 0.4505 | −2.0363 | 0.0453 | 0.0227 |
| NOSH | + | 0.0520 | 0.2432 | 0.2140 | 0.8312 | 0.4156 |
| QUAL | + | −0.0251 | 1.0122 | −0.0248 | 0.9803 | 0.4902 |
| GRSAL | + | −0.0217 | 0.0138 | −1.5719 | 0.1202 | 0.0601 |
| BMV | + | −0.6902 | 0.4573 | −1.5092 | 0.1354 | 0.0677 |
| LAMBDA | | 4.2351 | 5.2202 | 0.8113 | 0.4198 | 0.2099 |
| CONSTANT | | −42.5219 | 49.3472 | −0.8617 | 0.3916 | 0.1958 |

[a] *TT* is the total annual time in hours that the AC met for, *DSH* is the proportion of shares held by the directors, *LEV* is the ratio of debt to firm size (the sum of the market value of equity plus the book values of preference capital, debt and current liabilities), *SIZE* is the natural logarithm of firm size, *BIG6* is a dummy variable with a value of 1 if the auditor is a Big Six accounting firm, *NEX* is the proportion of the board made up of non-executive directors, and *BDS* is the size of the board, *DOMCE* is a dummy variable with a value of 1 if the roles of chairman (president) and managing director (chief executive officer) are combined, *NOSH* is the natural logarithm of the number of shareholders, *QUAL* is a dummy variable with a value of 1 if the accounts were qualified in the last three years, *GRSAL* is the percentage growth in sales over the past year, and *BMV* is the book to market ratio.
[b] Likelihood ratio test 38.3689 (with 4 d.f), $p = 0.000$ Maddala $R^2 = 0.2382$.
[c] *F*-Test 2.162 ($p = 0.022$), Adjusted $R^2 = 0.1382$, Breusch–Pagan test 15.95 ($p = 0.194$).

Pagan 1979, pp. 1288–1290) test for heteroskedasticity is not significant at the 5% level (single-tailed chi-squared test). *BIG6* has the expected sign and is highly significant. *DOMCE* is significant at the 5% level in a two-tailed test, but has a sign opposite to that expected. The coefficients on both *BIG6* and *DOMCE* are similar to those found in the AC sample OLS regression reported in Table 5. The significance of the *DOMCE* variable suggests that far from encouraging AC activity as a monitoring device, dominant chief executives are associated with less active ACs, and presumably, less monitoring. This result is in line with that of Forker (1992, p. 123) who showed that the presence on a board of dominant personalities adversely affected the quality of disclosure of directors' share options. *LEV* just fails to be significant at the 10% level in a one-tailed test. None of the other agency variables are associated in any significant manner with AC activity. Of the control variables, none is significant at the 10% level and the signs for *BMV* and *GRSAL* are opposite to that expected.

The finding that there is a negative association between AC activity and dominant personalities on the board suggests that it may be worthwhile to pursue the impact of the presence of insiders on an AC on its activity. Certainly the literature, both theoretical and professional, seems to suggest that AC membership should not include insiders (executive directors). For example, Mace (1986, pp. 190–194) and Patton and Baker (1987, pp. 10–12) argue that management inherently dominate boards through control of the nomination and election of directors. This suggests that insiders on an AC might similarly dominate the AC and reduce monitoring activity. More pragmatically, Sommer (1991, p.91), Vicknair et al. (1993, p. 53) and the SEC (1980, p. 491) have highlighted this as an issue which may affect the independence of the AC. From a UK policy viewpoint, the Cadbury Committee clearly believed that the presence of insiders on the AC is likely to have a detrimental impact on AC activity and specifically state that membership "should be confined to non-executive members of the company" (1992, p. 69). To investigate whether the Cadbury Committee have some grounds for their concerns, we have a ninth hypothesis to test:

H9: AC activity is a decreasing function of the presence of insiders. [15]

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[15] Menon and Williams (1994, pp. 135–137) link the propensity to exclude outsiders from the AC to the agency factors discussed in hypotheses 1–6 with the presence of insiders on the AC as a dependent variable with a 0 or 1 value throughout their analysis. For consistency with Menon and Williams (1994), we undertook a similar test using the eight agency variables and control variables, already described, as independent variables in a logistic regression with a new variable *INSIDERS* as the dependent variable. *INSIDERS* is a dummy variable with a value of 1 if there were any executive directors present on the AC. We found no significant relationship in our UK sample between the presence of insiders on the AC and any of the agency variables (one-tailed). Although *DSHS*, *NEX*, *BDS* and *DOMCE* all had the expected sign, the *t*-ratios were not significant at the 5% level (one-tailed), nor was the likelihood ratio test significant. A copy of the results is available from the authors on request.

The alternative view hypothesized above is that the inclusion of insiders is a matter of corporate governance choice motivated by managerial self-interest rather than agency factors connected with monitoring activity. We test this hypothesis by once again using the two-stage Heckman (1979, pp. 156–160) procedure, with corrected standard errors (Greene, 1981, pp. 795–798). The first stage Probit model is identical to that previously described, but the second stage model incorporates the dummy variable *INSIDERS*, which has a value of one if executive directors are present on the AC. The results are reported in Table 7. This model is highly significant ($F = 2.663$) and has greater explanatory power than the base model reported in Table 6 (Panel B) ($R^2 = 19.90\%$, compared with 13.82%). The Breusch–Pagan (Breusch and Pagan, 1979, pp. 1288–1290) test for heteroskedasticity again is not significant at the 5% level (single-tailed chi-squared test). *INSIDERS* has the hypothesized sign and is highly significant. The coefficient associated with *INSIDERS* shows that the AC activity is reduced by around 1.17 hours per annum (Table 7) which is nearly 20% of the mean meeting time (Table 2, Panel B). The significance of the other agency variables is largely unaffected, but the significance of the *DOMCE* variable is now just outside the 5% confidence interval in a two-tailed test ($p = 0.069$). *LEV* now borders on significance at the 10% level in a one-tailed test. [16] Of the control variables, *BMV* remains insignificant at the 10% level but *GRSAL* is now significant at the 5% level (two-tailed), which suggests that firms with increasing short term growth may spend less on monitoring activity.

The finding that the presence of a dominant chief executive reduces monitoring activity is of concern to both independent auditors and investors and reinforces the policy recommendation of the Cadbury Committee (1992, p. 58) that there must be a clearly accepted division of responsibilities at the head of the company and where the role of chairman and chief executive are combined "it is essential that there should be a strong and independent element on the board with a senior member". The effect of a dominant chief executive is important in the UK as in the 36.4% of our sample firms where the roles of chairman (president) and chief executive officer (CEO) were combined, AC activity is reduced by 0.9173 hours per annum (Table 6, Panel B) or 0.797 per annum when the impact of *INSIDERS* is taken into account (Table 7).

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[16] When, because of the potential multi-collinearity problem referred to earlier, *NOSH* is excluded from the analysis, the *p*-value of *SIZE* increases to 0.2104 (i.e., 10.52% in a one-tailed test) in the regression excluding *INSIDERS*. However, when *INSIDERS* is included, the *p*-value fall to 0.4037. The significance of all other variables is not materially affected.

Table 7
Second Stage Ordinary Least Squares Regression, with Dependent Variable *TT* and Introducing the Independent Variable *INSIDERS* to the Model Tested in Table 6[a,b]

| Variable name | Hypothe-sized sign | Estimated coefficient | Standard error | *t*-ratio | *p*-value, two-tailed test | *p*-value, single-tailed test |
|---|---|---|---|---|---|---|
| *DSHS* | − | −10.0811 | 9.7711 | −1.0317 | 0.3056 | 0.1528 |
| *LEV* | + | 10.2239 | 7.9428 | 1.2872 | 0.2020 | 0.1010 |
| *SIZE* | + | 1.7181 | 3.0607 | 0.5613 | 0.5763 | 0.2882 |
| *BIG6* | + | 2.4815 | 0.5759 | 4.3088 | 0.0000 | 0.0000 |
| *NEX* | + | 7.3463 | 10.7847 | 0.6812 | 0.4979 | 0.2490 |
| *BDS* | + | 0.0652 | 0.2196 | 0.2968 | 0.7675 | 0.3838 |
| *DOMCE* | + | −0.7970 | 0.4322 | −1.8439 | 0.0692 | 0.0346 |
| *NOSH* | + | 0.0165 | 0.2325 | 0.0709 | 0.9437 | 0.4719 |
| *QUAL* | + | −0.0431 | 0.9822 | −0.0439 | 0.9651 | 0.4826 |
| *GRSAL* | + | −0.0276 | 0.0134 | −2.0606 | 0.0429 | 0.0215 |
| *BMV* | + | −0.6526 | 0.4381 | −1.4895 | 0.1406 | 0.0703 |
| *INSIDERS* | − | −1.1722 | 0.4145 | −2.8281 | 0.0060 | 0.0030 |
| *LAMBDA* | | 4.0041 | 4.9744 | 0.8049 | 0.4234 | 0.2117 |
| *CONSTANT* | | −29.8440 | 47.1683 | −0.6327 | 0.5289 | 0.2645 |

[a] *F*-Test 2.663 ($p = 0.004$), Adjusted $R^2$ 0.1990, Breusch–Pagan Test 20.141 ($p = 0.092$).
[b] *TT* is the total annual time in hours that the AC met for, *DSH* is the proportion of shares held by the directors, *LEV* is the ratio of debt to firm size (the sum of the market value of equity plus the book values of preference capital, debt and current liabilities), *SIZE* is the natural logarithm of firm size, *BIG6* is a dummy variable with a value of 1 if the auditor is a Big Six accounting firm, *NEX* is the proportion of the board made up of non-executive directors, *BDS* is the size of the board, *DOMCE* is a dummy variable with a value of 1 if the roles of chairman (president) and managing director (chief executive officer) are combined, *NOSH* is the natural logarithm of the number of shareholders, *QUAL* is a dummy variable with a value of 1 if the accounts were qualified in the last three years, *GRSAL* is the percentage growth in sales over the past year, *BMV* is the book to market ratio, and *INSIDERS* is a dummy variable with a value of 1 if insiders (executive directors) are present on the AC.

## 7. Conclusions

Menon and Williams (1994, pp. 133–135) concluded that only consistent relationships between the AC activity, proxied by the frequency of AC meetings, and the hypothesized agency variables were a positive association with firm size and the proportion of outsiders on the board. Our paper replicates and extends their work (1994) using the annual duration of AC meetings as the proxy for AC activity because we believe it is an improved, albeit not perfect, measure of AC activity and because there was insufficient variation in the number of annual meetings of UK firms to allow significant results to be found. We have shown that for major UK listed firms, prior to the Cadbury Committee (1992) recommendations, relationships between various agency variables and AC activity appear to hold more strongly than they do in the US.

Consistent with an agency theoretic perspective of monitoring, we show that high quality (Big Six) auditors, and to some degree leverage have a positive relationship with AC activity. For major UK companies, unlike their US counterparts, size, although positively related to AC activity, does not appear to be statistically significant. Given that size proxies for economies of scale in monitoring costs and that the UK firms sampled are on average larger than those sampled by Menon and Williams (1994), [17] the finding suggests economies of scale in monitoring costs are not a significant factor in determining the length of AC meetings in larger firms. The lack of association between the proportion of outsiders (nonexecutive directors) on the main board and AC activity is probably explained by board structure differences between UK and US firms. For example, Charkham (1994, p. 188–189) notes that in US firms there are usually significantly more outsiders on the board than in the UK and we feel that this may lead to greater influence on the level of AC activity.

The importance of high quality independent auditors is consistent with Pincus et al. (1989, p. 262) and Menon and Williams (1994, p. 137) both of whom found a positive association between AC formation and the employment of a high quality independent auditor. A plausible explanation for the relationship extending to AC activity is that the pressure from the Big Six auditors for a firm to form an AC is followed by pressure for the AC to be active. [18]

The relationship between the average annual duration of AC meetings and the variable proxying for situations with high agency costs of debt gives some indication that there may be serious efforts to rely on ACs to monitor management in these circumstances and that monitoring needs may drive AC activity. This association between AC activity and leverage is consistent with Collier (1993, p. 428) who reported a positive relationship between leverage and AC formation in the UK.

We also found support for concerns about two factors that might compromise the quality of monitoring. First, dominant chief executives have a strong negative influence on AC activity, so that companies that combine the roles of chairman (president) and CEO appear to opt for significantly less monitoring. Second, it is very clear that the inclusion of insiders (executive directors) on an AC has a definite negative impact on the activity of an AC.

The finding that the presence of a dominant chief executive reduces monitoring activity is of concern to both independent auditors and investors. The result reinforces the policy recommendation of the Cadbury Committee (1992, p. 58) that there must be a clearly accepted division of responsibilities at the

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[17] Table 2, Panel B shows a mean size for the UK sample with an AC of £4.147 billion compared to a mean of US$ 737 million for the US sample (Menon and Williams, 1994, p. 130).

[18] Big six firms produce booklets advising on the detailed operation of ACs (see for example, Touche Ross & Co, 1992).

head of the company and where the role of chairman and chief executive are combined "it is essential that there should be a strong and independent element on the board with a senior member" and raises concerns about why the Hampel Committee (1998) did not take a stronger line on the issue. The Hampel Committee (1998) did not consider that the separation of the roles of chief executive officer and chairman should be a firm rule, but merely affirmed that "the roles of the chairman and chief executive are better kept separate" and that where these roles are combined, the board should explain and justify the fact (p. 28). The importance of the effect of a dominant chief executive in reducing monitoring is important in the UK as in the 36.4% of our sample firms where the roles of chairman (president) and chief executive officer (CEO) were combined, AC activity is significantly reduced.

The finding that the inclusion of insiders (executive directors) has a definite negative impact on the activity of an AC is consistent with Menon and Williams (1993, p. 125) who observed that "an AC with inside directors cannot be viewed as an objective monitor of management" and adds weight to the observations of the SEC (1980, p. 491) that an AC with insiders is worse than no AC at all. The demonstration that the presence of insiders on the AC reduces monitoring activity vindicates the recommendation of the Cadbury Committee (1992, p. 69) that membership of the AC should be confined to the non-executive directors of the company. The effect of insiders in reducing monitoring is important. As for the 40.9% (Table 2, Panel B) of the firms in our sample that had insiders on the AC, AC activity is reduced by 1.722 hours per annum (Table 7). Furthermore, for the 15.9% of firms in our sample where there is a combination of a dominant chief executive officer and the presence of insiders on the AC, AC activity will be reduced by 1.9692 hours per annum (*INSIDERS* plus *DOMCE*).

Unlike Menon and Williams (1994, p. 136), who found an association between the proportion of outsiders on the board and the number of insiders on the AC, our findings suggest that in UK firms there is no systematic relationship between the agency variables we measure here and the inclusion of insiders (executive directors) on the AC. This supports our use of the presence of insiders as a control variable when modeling AC activity.

On the assumption that increased AC activity improves the effectiveness of monitoring, the results have important implications for the corporate governance debate in the UK and on a wider stage. The results support the decision of the Hampel Committee (1998, p. 63) to maintain the Cadbury Committee (1992, p. 69) recommendation that ACs should to be composed of non-executive members and follow the advice of the Cadbury Committee (1992, p. 58) that, *ceteris paribus*, the combination of the roles of chairman (president) and CEO should be avoided (Hampel Committee, 1998, p. 59). However, our findings also suggest that a firmer line on the latter issue may be more appropriate.

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