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The effect of corporate governance on earnings management around UK rights issues

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Abstract

Purpose – This paper aims to investigate the relation between corporate governance and earnings management around UK rights issues.

Design/methodology/approach – The paper examines the effect of board structure, ownership structure, adviser structure, and capital structure on discretionary current accruals – a proxy for earnings management – for a sample of size-controlled rights issuers. Rights issues are chosen as a context in which firms have particular incentives to manage earnings.

Findings – The results suggest that firms with higher debt to equity ratios, with lower proportions of non-executive directors, or with no large block owner, are more likely to use discretionary current accruals to manipulate earnings around rights issues.

Research limitations/implications – Similar research can be conducted around other equity issuing methods such as open offers and around other major corporate events such as initial public offerings.

Practical implications – The paper's evidence contributes to an understanding of corporate governance and has practical implications for stakeholders. It suggests that investors can rely more on the financial disclosures of firms with lower debt to equity ratios, higher proportions of outside directors, and with a large blockholder. Regulators may propose that firms undertaking corporate events such as equity offerings should follow best corporate governance practices to enhance investor confidence.

Originality/value – This study is the first to investigate the corporate governance mechanisms in place to check opportunistic earnings management around specific corporate events for the UK market.

Keywords Corporate governance, Earnings, Rights issues, United Kingdom

Paper type Research paper

1. Introduction

Empirical evidence shows that US firms manage earnings around seasoned equity offerings (SEOs) and investors fail to recognise this. Teoh *et al.* (1998a), for example, find that firms boost earnings using discretionary current accruals in the run-up to US SEOs and argue that this manipulation and the subsequent accruals reversal explain the evidence of positive pre-SEO and negative post-SEO abnormal stock returns. Recent evidence for the UK suggests that firms have similar incentives to manage

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earnings around UK open offers and rights issues (Iqbal *et al.*, 2006, 2009). Both US and UK studies report evidence of variation in the aggressiveness of earnings management by SEO firms, with more aggressive earnings management resulting in significantly lower post-SEO returns. The determinants of this cross-sectional variation in earnings management by SEO firms and the constraints on the ability of SEO firms to manage earnings is of interest to investors, regulators, and – because of the resource allocation role of the stock market – to society at large. Because the evidence shows that firms manage earnings around seasoned equity issues and that there is cross-sectional variation in the degree of earnings management, SEOs offer a powerful context in which to examine the effect of corporate governance on earnings management.

Raising additional equity (for example, through a rights issue) is an important event in the life of a firm. However, little research exists on the corporate governance mechanisms in place to check opportunistic earnings management around specific corporate events for the UK market. In this study we ask whether corporate governance mechanisms restrict earnings management around UK rights issues. Iqbal *et al.* (2006) report that UK rights issuers experience pre-issue abnormal stock return and operating performance during the period 1991-1995. They also find that rights issuing firms use discretionary current accruals in the year before the issue to inflate reported earnings, thus misleading investors about their future prospects. They point out that in the case of rights issues, information asymmetry can be present among existing shareholders, who can be broadly categorised into informed and uninformed shareholders. This contrasts with the information asymmetry that exists between managers, acting on behalf of existing shareholders, and outside investors in the case of open market SEOs (Myers and Majluf, 1984). In rights issues, informed shareholders can benefit from an inflated share price, at the expense of uninformed shareholders and investors, by selling both shares and rights. Iqbal *et al.* (2006) also argue that managerial incentives to increase the size of the firm, access additional free cash flow, increase the probability of a higher rights take up, improve the firm's debt capacity, preserve earnings per share, etc. can also motivate earnings management around rights issues.

We examine the relation between discretionary current accruals, the proxy for earnings management, and offering firms' board, ownership, adviser and capital structures to identify which rights issuers are more likely to manage earnings immediately before a rights issue. Potentially, this analysis can inform investors about whether they can place more trust in the earnings disclosures of SEO firms when they have better corporate governance. Related work by Ching *et al.* (2006) examines the relation between earnings management, corporate governance and the stock performance of rights issues in Hong Kong over the period 1993-1998. Similar to Teoh *et al.* (1998a), Ching *et al.* find that SEO firms manage earnings upward in the pre-issue year and that pre-issue discretionary current accruals are significantly negatively related to one-year buy-and-hold abnormal returns. Ching *et al.* also find that earnings management is higher in SEO firms with larger boards of directors. They also report a positive relation between blockholders and earnings management and insignificant relations for other corporate governance variables.

Using a random sample of 100 size-controlled rights issuers, listed on the London Stock Exchange over the period 1991-1995, designed to coincide with the sample period of Iqbal *et al.* (2006), our results suggest that firms with higher proportions of

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non-executive directors, smaller debt to equity ratios, or a large blockholder (with more than 10 per cent of share ownership), are less likely to use discretionary current accruals to manage earnings. Our results on institutional and managerial ownership are inconclusive. Our results compare with Peasnell *et al.* (2005) who report a significant negative relation between income increasing accruals and the proportion of outside directors on the board.

The remainder of the paper continues as follows. Section 2 reviews recent studies that examine earnings management in relation to capital, board, management, and adviser structures. Section 3 describes our data and research methodology. Section 4 presents the descriptive and empirical results. Section 5 concludes the paper.

2. Corporate governance and earnings management

This section reviews recent studies relating various corporate governance mechanisms to earnings management. In particular, we consider how corporate governance affects earnings management through a firm's board structure, ownership structure, adviser structure, and capital structure.

2.1 Board structure and earnings management

The board of directors (hereafter, the board) is responsible for hiring, evaluating, and firing top management, voting on key operating and financial decisions, providing expert advice to management, and keeping shareholders informed about the conduct of the company (Kim and Nofsinger, 2004). Ching *et al.* (2006) point out that the quality and composition of the board are crucial to good governance. Quality depends on the reputation of the directors and on their expertise while composition relates to the overall size of the board, and the number and proportion of non-executive and executive directors, and whether the chairman is also the company's CEO.

A major board responsibility is to minimise conflicts of interest between insiders and outsiders, by monitoring top management actions (Fama and Jensen, 1983). Conflicts of interest between managers and shareholders create agency costs of equity, which shareholders bear. One source of conflict is top management's use of accruals to manipulate earnings to maximise private gains (Schipper, 1989). Such private gains can arise, for example, when managers' salaries or bonuses depend on accounting income numbers (Healy, 1985), when managers face the threat of job losses (Weisbach, 1988), or when companies attempt to issue overpriced equity, for example through IPOs, SEOs, or stock-financed acquisitions (Teoh *et al.*, 1998a, b; Rangan, 1998; Louis, 2004). In the following subsections, we consider three aspects of the quality of governance provided by the board.

The role of outside directors. Typically, the board consists of inside and outside directors. Previous research indicates that outside directors play an important role in influencing board decisions. Dechow *et al.* (1996) and Beasley (1996) independently examine firms that have violated GAAP or have fraudulent financial reporting systems. Both studies find that a higher proportion of outside directors on a firm's board is associated with greater confidence in the firm's financial reporting system. Fama and Jensen (1983) point out that outside directors have incentives to monitor effectively, both to maintain and develop their reputation as independent directors and to signal to the market that they are acting in the best interests of shareholders.

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Weisbach (1988) reports that CEO turnover among poorly performing firms is higher when there is a higher proportion of outside directors.

Peasnell *et al.* (2005) extend this literature by examining the relation between the monitoring role of the board and earnings management for firms who do not violate GAAP. Arguing that effective board monitoring should restrict earnings manipulations that are costly to the firms' owners, they use the proportion of outside board directors and the presence of an audit committee as two independent dimensions of board monitoring. They argue that firms manage earnings to avoid reporting both negative earnings and negative earnings changes and that they manage earnings to decrease or smooth earnings if current earnings are significantly higher than the previous year's earnings. They divide their sample of 559 UK firms (1,271 firm-years) over the period 1993-1995 into two categories, namely firms whose pre-managed earnings are below a specified threshold and firms whose pre-managed earnings are above the threshold by a specified margin[1]. Their results show that firms with a higher percentage of outside directors are less likely to engage in income increasing earnings management to avoid reporting losses or earnings decreases. However, they find little evidence of outside director influence on income decreasing earnings management when pre-managed earnings exceed thresholds. They find no evidence of an audit committee influencing earnings management directly, but they find that the influence of outside directors in restraining income increasing earnings management is stronger in the presence of an audit committee. They conclude that outside directors play an important monitoring role in establishing and maintaining the integrity and credibility of the firm's financial reporting process. Chen *et al.* (2007) also find a negative relation between the role of independent directors and earnings management using absolute discretionary accruals for Taiwanese firms. Garcia Osma and Gill-de-Albornoz Noguer (2007), using absolute discretionary accruals, find no relation between board independence and earnings management or between independent audit committee and earnings management for Spanish firms. However, they report that institutional directors play an important role in constraining earnings management practices in Spanish firms. Recently, Garcia Osma (2008) shows that a more independent board contributes towards restricting managers from using research and development expenditure as a tool to manipulate earnings.

The role of the CEO on the board. As noted earlier, one of the major tasks of the board is to appraise the performance of top management including the CEO. Kim and Nofsinger (2004) note that, while in many US firms the CEO also chairs the board, a board is more independent if these two roles are separate. Therefore outside directors on the board may be insufficient for the board to be independent. Yermack (1996) and Jensen (1993) argue that combining the responsibilities of chairman and CEO in one individual also has monitoring implications. Klein (2002) examines 692 US firms and finds that boards that are more independent of the CEO are better able to perform their monitoring roles and to avoid top management pressure to endorse earnings management.

Board size. Jensen (1993) argues that smaller boards perform their monitoring and controlling roles better than larger boards, which the CEO can more easily influence. Beasley (1996) reports that board size is positively related to the incidence of financial statement fraud. Ching *et al.* (2006) find a significant positive relation between the degree of earnings management and the size of the board for Hong Kong SEOs over the

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period 1993 to 1998. In contrast, Chaganti and Mahajan (1985) suggest that co-opting directors from wide-ranging backgrounds onto larger boards may help to avoid corporate failure. Recent UK studies (for example, Peasnell *et al.*, 2005) report that the mean and median board size of UK firms is about eight directors and there is a negative and significant relation between earnings management and board size.

On the basis of this discussion of the role of the board, of the CEO on the board, and of the size of the board, we expect earnings management to be negatively related to the proportion of outside directors on the board and positively related to whether the CEO also chairs the board. Previous results on the relation between the size of the board and the degree of earnings management are mixed. Some studies find that smaller boards are better able to monitor managers' actions (Jensen, 1993; Ching *et al.*, 2006), whereas others find that larger boards are in a superior position to monitor managers' actions (Peasnell *et al.*, 2005).

2.2 Ownership structure and earnings management

A second important influence on corporate governance and board monitoring is the ownership structure of the firm: managerial versus non-managerial ownership, institutional versus individual ownership, and blockholder ownership.

Managerial ownership. Prior research suggests that the higher the proportion of insider share ownership, the less the divergence of interests between insiders and outsiders and the lower the agency costs of equity. Warfield *et al.* (1995) find that managerial ownership is inversely related to the magnitude of accounting accrual adjustments and, as a consequence, positively related to the informativeness of earnings. Koh (2003) examines a sample of Australian firms over the period 1993-1997 and finds a negative but insignificant relation between income increasing discretionary accruals and a measure of managerial share ownership. Peasnell *et al.* (2005) show that the role of outside directors in restricting earnings management is present only in firms with low managerial ownership. They point out that their results are consistent with the predictions of agency theory that incentives to manage earnings are strongest in firms with lower managerial stock ownership[2].

The general thrust of these results is that managers with a larger stake in the firm engage in less earnings management. We therefore predict a negative relation between managerial ownership and earnings management around UK rights issues. Nagata and Hachiya (2006) report a negative relation between insider ownership and abnormal accruals for 830 Japanese IPOs over the period 1989-2000. They contend that the reduced takeover threat from greater insider ownership allows managers to ignore the possible short term gains of earnings management in favour of benefitting in the long run, for example, through future equity issues.

Institutional ownership. We can also view ownership structure from the perspective of the proportion of shares owned by institutional versus individual shareholders. Rajgopal *et al.* (1999) argue that institutional share ownership may have implications for earnings management, as large institutional shareholders play an important monitoring role. They find a negative relation between institutional share ownership and the absolute value of discretionary accruals. Bushee (1998) examines whether institutional investors decrease or increase incentives to manage short-term earnings through R&D investment. His main result is that when institutional ownership is high, managers are less likely to cut investment in R&D to reverse an earnings decline.

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However, for a subset of firms with high institutional ownership and with a high proportion of these institutions following investment styles characterised by high portfolio turnover, diversification, and momentum trading, Bushee finds a greater tendency for firms to cut R&D to boost earnings. Lang and McNichols (1997) also find that institutional trade is responsive to earnings, which may increase incentives for firms to engage in earnings management. Koh (2003) reports a positive relation between income increasing discretionary accruals and managerial ownership at lower levels of institutional ownership, but an inverse relation at higher levels of institutional ownership.

In the case of rights issues there are similar opposing possibilities. Short-term institutional investors may want to encourage issuing firms to report increased accruals in the hope of selling over-valued rights and existing shares. However, long-term institutional investors will want to restrict managerial attempts to manipulate reported earnings upward around the rights issue.

Blockholders. Shliefer and Vishny (1986) and Jensen (1993) suggest that large blockholders act as an additional monitoring mechanism on the actions of top management. Large blockholders also play an important role in appointing the board. These studies predict a negative relation between earnings management and large blockholdings. However, Ching *et al.* (2006) find a significant positive relation between blockholders and earnings management (proxied by the previous year's discretionary current accruals) around Hong Kong rights issues, contrary both to their expectations and to the predictions of previous studies. On the other hand, Peasnell *et al.* (2005) report an insignificant positive relation between abnormal accruals and the presence of a large blockholder (with a stake of 10 per cent or greater) for UK firms.

Consistent with the blockholder monitoring role hypothesis, we expect a negative relation between discretionary accruals and the presence of a large blockholder.

2.3 Adviser structure and earnings management

A firm's annual financial report is one of the most important pieces of information that investors use. The firm's auditors certify the integrity of the annual report. Recent research suggests that having a large auditing firm enhances the credibility of the firm's financial reporting[3].

In the context of financial reporting, Francis *et al.* (1999) argue that firms with large proportions of accruals or with opportunities for aggressive earnings management have incentives to use the services of one of the Big-6 auditors. Francis *et al.* use a large sample of NASDAQ firms over the period 1975-1994 and find that firms with higher levels of total accruals hire one of the Big-6 auditors and that these firms have lower levels of estimated discretionary accruals. They conclude that Big-6 auditors play a role in restricting firms' use of aggressive earnings management via discretionary accruals. In a related study, Becker *et al.* (1998) argue that firms with incentives to manage earnings upward may be restricted from doing so if they have a Big-6 external auditor. Their results suggest that firms with non-Big-6 auditors are more likely to use income increasing discretionary accruals to manipulate earnings. Both studies suggest that auditor quality plays a significant role not only in signalling to the market that firms employing a Big-6 auditor are not engaging in earnings management, but also in enhancing the quality of reported earnings. More recently, Koh (2003) reports a significant negative relation between positive discretionary accruals and Big-6 audited

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Australian firms. Contrary to these findings, Ching *et al.* (2006) for Hong Kong SEOs and Peasnell *et al.* (2005) for UK firms do not find this negative relation to be significant. Based on theory, we expect a negative relation between the degree of earnings management and a Big-6 auditor dummy for UK rights issuers.

2.4 Capital structure and earnings management

DeFond and Jiambalvo (1994) argue that firms have incentives to manipulate earnings to avoid the costs of violating debt covenants. On the other hand, there are costs of managing earnings. Recent studies indicate that investors' reactions to earnings management and therefore to discretionary accruals depend on the incentives behind earnings management. For example, Paek (1998) reports a negative association between stock market reaction and income-increasing discretionary accruals when a bonus maximisation incentive motivates these discretionary accruals, whereas this association is significantly positive for a leverage reduction incentive. These results suggest that investors perceive earnings management to maximise bonuses as costly and earnings management to avoid debt covenant violation as beneficial. We argue that managers may be tempted to inflate reported earnings before a rights issue to make it successful in order to relax debt capacity constraints or to increase the ability to service existing debt. Consistent with the above arguments, we expect a positive relation between earnings management and the level of gearing in the firms' capital structure.

3. Data and research methodology

This section explains the data and our research methodology for analysing the roles played by various corporate governance mechanisms in restricting, or promoting earnings management around UK rights issuers.

3.1 Data selection

We study a (size-controlled) sample of UK rights issuers on the London Stock Exchange over the period January 1991 to December 1995. This period coincides with the sample period of Iqbal *et al.* (2006), who show that rights issuers manage earnings at the time of rights issues over this period, therefore allowing us in this study to examine the relation between corporate governance and earnings management in the context of an important corporate event. As the last significant changes to the London Stock Exchange regulations governing seasoned equity issues occurred as part of the general stock market deregulation of 1986, a study of UK rights issues during 1991-1995 remains representative and relevant for subsequent years and the current day. Open offers and placings have gained in popularity since the late 1990s in the UK, but rights issues remain the dominant method of raising additional equity (Iqbal, 2008). In addition, rights issues involve the largest amounts of new equity capital, underlining their importance as a corporate event.

Information on names, announcement dates, discounts offered, issue proceeds, etc. are from the *Financial Times Extel Record of Takeovers, Offers and New Issues* published by Extel Financial. Following recent literature, we control for size (measured as total assets in fiscal year -1, the year before the issue)[4,5] To be included in the initial sample, an issuing firm must be a non-financial, non-utility company[6], raising more than £1 million from an issue of common stock. From an initial sample of 359

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rights issuers, we select firms with pre-issue total assets of £50-£450 million and with data available to estimate discretionary current accruals in the pre-issue year. Owing to the positive association between board size and firm size (Lin *et al.*, 2003), we choose a size range of £50-£450 million, in terms of total assets in year −1, to avoid including very small and very large firms. This leads to a reduced sample of 140 rights issuers. From this reduced sample we randomly select 100 rights issuers for further analysis[7].

Table I reports descriptive statistics on the size characteristics of the sample. Our average rights issuer is smaller than in the larger sample of Iqbal *et al.* (2006) but the size distribution of our sample is much less skewed.

The sample of 100 firms is distributed across the sample period as follows: 36 issuers from 1991, 17 from 1992, 24 from 1993, 19 from 1994, and four issuers from 1995[8]. We collect data for the sample of 100 rights issuers for fiscal year −1 for the variables described below (referred to as corporate governance variables in this study), which cover firms' board, ownership, adviser, and capital structures.

Board structure variables. We examine board structure from the perspective of Section 2.1 using the proportion of outside directors on the board, CEO and the chair of the board, and the size of the board. The proportion of the outside directors on the board (NED) is defined as the percentage of non-executive directors on the board (Beasley, 1996; Klein, 2002; Beekes *et al.*, 2004). Another common definition is a dummy variable (NEDDum) equal to 1 if more than 50 per cent of directors on the board are non-executive and 0 otherwise. The second definition captures the possibility that boards are independent only when non-executive directors are in the majority (Dechow *et al.*, 1996; Klein, 2002). Table II shows that 38 percent of our sample firms have a majority of non-executive board directors, the average non-executive percentage is 47, while the minimum (maximum) percentage is 0 (82).

We use a dummy variable (CCDum) equal to 1 if the CEO also chairs the board in the year before the issue and 0 otherwise. Table II shows that the same person fills these roles in 29 percent of our sample. The number of directors (DirTot) on the board represents the size of the board (Peasnell *et al.*, 2005). Similar to Peasnell *et al.* (2005) the average company in our sample has between seven and eight directors on the board, with the minimum being six and the maximum 12.

Ownership structure variables. We measure three different dimensions of this variable: managerial/non-managerial, institutional/individual, and block ownership.

	Total assets	Market value	Book value	Market-to-book	Discount %	Sales growth %
Mean	207.15	148.61	69.95	2.35	18	31
Median	174.29	118.87	59.58	1.77	18	27
SD	107.15	117.29	46.18	3.64	3	30

Notes: The table reports different size characteristics of the random sample of 100 rights issuing firms. Gives details of size characteristics of the 100 rights issuers. Size characteristics – total assets, market value and book value – are in millions of pounds and are from the fiscal year before the rights issue year (year −1). Discount is the discount offered at the time of the rights issue and is in percent. Sales growth is change in sales in year −1 deflated by total assets in year −2, reported in percent. SD denotes standard deviation

Table I. Size characteristics

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Variables	Mean	SD	Min.	Q1	Median	Q3	Max.
Corporate governance variables – board structure							
NED	0.47	0.15	0.00	0.38	0.44	0.60	0.82
NEDDum	0.38						
CCDum	0.29						
DirTot	7.40	1.96	3.00	6.00	7.00	9.00	12.00
Corporate governance variables – ownership structure							
ManOwn	0.08	0.09	0.00	0.01	0.04	0.13	0.33
InstOwn	0.31	0.18	0.00	0.21	0.32	0.40	0.79
$InstOwn^2$	0.13	0.13	0.00	0.04	0.10	0.16	0.62
BlkDum	0.55						
Corporate governance variables – adviser structure							
AudDum	0.83						
Corporate governance variables – capital structure							
Gear	0.42	0.21	0.13	0.27	0.35	0.53	1.17
Earnings management and control variables							
DCA_{-1}	0.02	0.08	−0.19	−0.03	0.02	0.05	0.26
$NDCA_{-1}$	0.02	0.04	−0.08	0.00	0.00	0.02	0.22
$DLTA_{-1}$	−0.03	0.08	−0.28	−0.07	−0.02	0.00	0.21
$NDLTA_{-1}$	−0.07	0.12	−0.43	−0.15	−0.08	−0.01	0.28
CFTA	0.10	0.14	−0.23	0.02	0.11	0.18	0.48
Ln IsSz	3.48	0.63	1.76	3.04	3.43	3.94	5.08
DCA_0	0.02	0.05	−0.13	−0.01	0.02	0.04	0.15
EEPDum	0.29						
Dependent variables							
MAR1Y	−0.09	0.24	−0.77	−0.23	−0.09	0.08	0.47
MAR2Y	−0.23	0.39	−1.07	−0.47	−0.23	0.01	0.93
$\Delta Y_1/TA_0$	−0.02	0.08	−0.24	−0.04	−0.01	0.01	0.22
$\Delta Y_2/TA_1$	−0.01	0.07	−0.19	−0.04	0.00	0.02	0.19

Note: Reports descriptive statistics for the study variables. SD denotes standard deviation

Table II.
Descriptive statistics

The ratio of shares owned beneficially by directors to the total number of shares outstanding represents managerial ownership (ManOwn)[9]. This definition of managerial ownership is consistent with Peasnell *et al.* (2005) for the UK. Table II shows that this figure is 8 percent for our average sample firm, similar to the figure Peasnell *et al.* report, but our median figure of 4 percent indicates that our sample is less skewed in terms of managerial ownership.

The ratio of shares owned by institutional investors to the total number of shares outstanding measures institutional ownership (InstOwn). Following the evidence in Koh (2003) that income increasing discretionary accruals have an inverted U-shape relation with institutional investors, we also include $InstOwn^2$, the square of InstOwn. Table II shows that institutions own 31 percent of our sample firms. Comparing this to a corresponding figure of 22 percent reported by Peasnell *et al.* (2005) indicates that institutions have greater ownership stakes in rights issuers than in the average UK quoted firm.

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BlkDum is a dummy variable that equals 1 if there is at least one blockholder with an ownership stake of 10 per cent or more, and 0 otherwise. Table II shows that blockholders are present in 55 percent of our sample firms.

Adviser structure variable. This variable, denoted AudDum, is a dummy variable equal to one if the auditor of the sample firm is a Big-6 auditor and equal to zero otherwise[10]. Table II shows that 83 percent of our sample firms employed a Big-6 auditor.

Capital structure variable. We capture capital structure, denoted Gear, by the ratio of total debt to total capital employed by the company, available as a single item, "capital gearing", in Datastream. Table II shows that the mean (median) value of this variable is 42 (35) percent.

We do not include variables such as underwriter reputation or the presence of an audit committee. Armitage (2002) shows that for UK rights issues, the underwriter's role is not to certify whether the equity issue is appropriately valued but is limited to guaranteeing the underwritten amount. In relation to audit committees, Peasnell *et al.* (2005) find an insignificant relationship between the existence of an audit committee and abnormal accruals for UK firms.

We collect the data on various measures of board, ownership, and adviser structure manually from sources such as the Corporate Register, the Stock Exchange Official Year Book, and supplement this where necessary with information from the annual reports of the issuing firms.

It is important to recognise that most studies of corporate governance suffer from the problem of simultaneity or endogeneity. Bebchuk *et al.* (2009, Sec 3.3) point out that this problem is "notoriously difficult to resolve" partly due to the difficulty of identifying good instruments. Using one-period-lagged governance variables does not offer a solution. In this study, we implicitly assume that the corporate governance characteristics we examine "cause" limits on the degree of earnings management. The other possible direction of causation is that firms that decide to limit their degree of earnings management around rights issues choose to improve their corporate governance. Hence, our approach assumes that:

- some of the corporate governance variables are exogenous (e.g. institutional ownership);
- it is unlikely that firms abruptly adjust their corporate governance before rights issues; and
- it is more likely that long-term strategic decisions about corporate governance condition firm behaviour around rights issues.

However, we ultimately cannot rule out or disprove the alternative or simultaneous causation.

3.2 Research methodology

We use annual data to estimate and segregate total accruals into discretionary and non-discretionary current and long term accruals as in Teoh *et al.* (1998a) and Iqbal *et al.* (2006)[11]. We collect accounting data for issuing firms for five years surrounding the issue year (two years before to two years after the issue year and the issue year itself), to study their pre-issue and post-issue accruals performance. Each issuing firm must have relevant accounting data available in the issue year and in the year before

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the issue year to be included in the sample. We collect accounting information from Datastream. The results report both medians and means of different measures but we base our conclusions on medians following Barber and Lyon (1996), using Wilcoxon's sign rank test to test significance.

The following section analyses the sample of 100 right issuers using both univariate and multivariate approaches. We calculate discretionary accruals using the cross-sectional version of the modified Jones (1991) model (Dechow *et al.*, 1995). We use discretionary current accruals (DCA) to proxy for earnings management following evidence from recent studies that the discretionary component of current accruals predicts post-issue long run operating and stock return performance of seasoned equity issuers[12].

4. Empirical results

Table III reports the results from regressing post-issue earnings changes on earnings management and control variables. The regressions take the form:

$$\begin{aligned}\frac{\Delta Y_{it}}{TA_{t-1}} &= \beta_0 + \beta_1 DCA_{i,-1} + \beta_2 DLTA_{i,-1} + \beta_3 NDCA_{i,-1} + \beta_4 NDLTA_{i,-1} \\ &+ \beta_5 CFTA_{i,-1} + \beta_6 DISC_i + \beta_7 SLGR_i + \beta_8 LnMV_i + \beta_9 LnBM_i \\ &+ < \text{year dummies} > + < \text{industry dummies} > + u_i\end{aligned} \tag{1}$$

where the dependent variable, is the annual change in earnings in year t ($t = 1, 2$) following the rights issue deflated by total assets at the start of the year. The independent variables include the four measures of accruals (discretionary current accruals, DCA_{-1}; discretionary long term accruals, $DLTA_{-1}$; non-discretionary current accruals, $NDCA_{-1}$; non-discretionary long-term accruals, $NDLTA_{-1}$) from the year before the rights issue (year -1) of the issuer i. The other independent variables comprise the ratio of cash flow to total assets ($CFTA_{-1}$) in the year before the right issue, the rights issue discount (DISC), sales growth (SLGR), and the size (Ln MV) and book-to-market value (Ln BM) of the issuer i (both in logs). Cash flow to total assets controls for possible misspecification of abnormal accruals. Including DISC controls for any relation between the size of the rights issue discount and future earnings performance. Including sales growth controls for the possibility that some rights issuers are high growth firms that may also have large accruals. Including size and book-to-market follows standard practice in the literature. Finally, we include year and industry dummies to control for temporal variation and cross-sectional industry variation in the underlying relation.

Table III shows that DCA in the pre-issue year is the only significant variable in predicting earnings changes in the second year following the rights issue. No variables are significant in explaining the earnings change in the year immediately following the right issue. Instead, the significant negative coefficient on DCA_{-1} suggests that abnormal current accruals reverse with a 12-month lag. The other three accruals variables are insignificant, bearing out existing results that discretionary working capital accruals capture attempts by firms to manage earnings.

Table IV reports the results of regressing post-issue returns on earnings management and control variables. The regressions take the form:

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Table III. Regressions of post-issue earnings changes on earnings management and corporate governance variables

Independent variable	Dependent variable: $\Delta Y_{i,1}/TA_0$			$\Delta Y_{i,2}/TA_1$		
Constant	−0.138*	−0.024	−0.042	0.063	0.124	−0.020
DCA_{-1}	−0.070	−0.081	−0.106	−0.283**	−0.279**	−0.240*
$DLTA_{-1}$	−0.091	−0.133	−0.108	−0.185	−0.193	−0.158
$NDCA_{-1}$	0.070	0.090	0.140	−0.194	−0.171	−0.105
$NDTLA_{-1}$	0.024	0.028	−0.016	−0.106	−0.109	−0.115
$CFTA_{-1}$	−0.049	−0.041	−0.007	−0.001	0.015	0.058
DISC	0.113	0.045	−0.175	−0.310	−0.329	−0.312
SLGR	−0.016	−0.014	−0.025	−0.001	−0.002	0.012
Ln MV	0.021*	0.020***	0.012	−0.004	−0.006	−0.018
Ln BM	0.041	0.041	−0.004	−0.014	−0.014	−0.020
Year dummies	–	Insignificant	Insignificant	–	Insignificant	Insignificant
Industry dummies	–	–	Insignificant	–	–	Insignificant
$\overline{R}^2$	−0.030	−0.027	0.094	0.067	0.041	0.101

Notes: The table reports the results of regressing the change in earnings from year 0 to year 1 ($\Delta Y_{i,1}/TA_0$) and from year 1 to year 2 ($\Delta Y_{i,2}/TA_1$) on earnings management and corporate governance variables. The independent variables are year −1 discretionary current accruals (DCA_{-1}), discretionary long-term accruals ($DLTA_{-1}$), non-discretionary current accruals ($NDCA_{-1}$), non-discretionary long-term accruals ($NDLTA_{-1}$), and cash flow to total assets ($CFTA_{-1}$), the rights issue discount (DISC), asset-scaled sales growth (SLGR), size (Ln MV), book-to-market ratio (Ln BM), and dummy variables for year and industry. Superscripts *, **, and *** indicate significance at 5 percent, 1 percent, and 10 percent.

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Table IV. Regressions of post-issue returns on earnings management and control variables

Independent variable	Dependent variable					
	MAR1Y			MAR2Y		
Constant	−0.252	−0.167	0.521	−0.731*	−0.419	−0.951
$DCTA_{-1}$	−0.338	−0.403	−0.424	−1.219**	−1.311**	−1.311**
$DLTA_{-1}$	0.334	0.193	0.036	0.273	−0.164	−0.554
$NDCA_{-1}$	−0.674	−0.886	−0.776	−0.610	−0.676	−0.554
$NDLTA_{-1}$	−0.341	−0.306	−0.259	−0.525	−0.518	−0.425
$CFTA_{-1}$	−0.151	−0.205	−0.192	−0.418	−0.434	−0.433
DISC	−0.678	−0.976	−1.227***	0.031	−0.699	−0.828
SLGR	0.059	0.062	0.100	−0.090	−0.062	−0.031
Ln MV	0.060	0.067***	0.049	0.120*	0.118*	0.100
Ln BM	0.002	−0.005	−0.040	0.010	0.030	0.020
Year dummies	–	Insignificant	Insignificant	–	Insignificant	Insignificant
Industry dummies	–	–	Insignificant	–	–	Insignificant
$\overline{R}^2$	0.075	0.100	0.093	0.076	0.129	0.177

Notes: The table reports the results of regressing market-adjusted (FT ALL Share Index) log returns for one year (MAR1Y) and two-years (MAR2Y) post-issue on earnings management and control variables. The return period begins either at the offer month or six months after the previous fiscal year-end, whichever is later. The independent variables are year −1 discretionary current accruals (DCA_{-1}), discretionary long-term accruals ($DLTA_{-1}$), non-discretionary current accruals ($NDCA_{-1}$), non-discretionary long-term accruals ($NDLTA_{-1}$), and cash flow to total assets ($CFTA_{-1}$), the rights issue discount (DISC), asset-scaled sales growth (SLGR), size (Ln MV), book-to-market ratio (Ln BM), and dummy variables for year and industry. All independent variables are known at the start of the return period. Superscripts *, **, and *** indicate significance at 5 percent, 1 percent, and 10 percent.

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$$\mathrm{MARtY}_i = \beta_0 + \beta_1\mathrm{DCA}_{i,-1} + \beta_2\mathrm{DLTA}_{i,-1} + \beta_3\mathrm{NDCA}_{i,-1} + \beta_4\mathrm{NDLTA}_{i,-1} + \beta_5\mathrm{CFTA}_{i,-1} + \beta_6\mathrm{DISC}_i + \beta_7\mathrm{SLGR}_i + \beta_8\mathrm{LnMV}_i + \beta_9\mathrm{LnBM}_i + < \text{year dummies} > + < \text{industry dummies} > + u_i \quad (2)$$

where the dependent variable, MARtY, is the market-adjusted log return over year t ($t = 1, 2$) following the rights issue and other variables are as in Table III. The FT ALL Share Index return proxies the market return. Table IV shows that DCA_{-1} is negative and significant over the two post-issue years and helps to predict lower abnormal returns in the second year following the rights issue.

Having shown that higher pre-issue year discretionary current accruals predict lower earnings performance and lower return performance post-issue, we now examine the relation between pre-issue year discretionary current accruals and corporate governance. Tables V and VI report the results of regressing $\mathrm{DCA}_{i,-1}$ on the corporate governance variables discussed in Section 3.1 and a set of control variables. We include as control variables:

- size (Ln MV) to control for incentives of larger firms to manage earnings to avoid political costs;
- a book-to-market variable (Ln BM) to control for differential earnings management incentives between value and growth firms;
- sales growth (SLGR) to control for the possibility that firms raising equity finance are high growth firms and high growth firms have higher working capital accruals;
- the rights issue discount (DISC), since this may affect incentives to manage earnings[13]:
- the ratio of cash flow to total assets (CFTA) in the pre-issue year to control for the possibility of cash flows affecting estimated discretionary current accruals;
- issue size (Ln IsSz), since larger issues may increase incentives to manage earnings;
- an extreme earnings performance dummy (EEPDum), which takes a value of 1 for the 15 per cent top and bottom firms on earnings over total assets from year -1, to control for extreme earnings performance; and
- a set of year and industry dummy variables.

Table V reports univariate regression results and Table VI reports these results including the control variables. Tables V and VI show that the ratio of outside directors to inside directors (NED) is negatively related to the degree of earnings management (proxied by discretionary current accruals in year -1). The coefficients on NEDDum and BlkDum show a similar relation, i.e. the presence of more than 50 per cent outside directors on the board and/or a blockholder on the board restricts the firm from reporting inflated earnings around rights issues. Finally, Gear is positively related to pre-issue discretionary current accruals showing that firms with higher levels of debt tend to report inflated earnings. None of the other variables such as CCDum, ManOwn, InstOwn, $\mathrm{InstOwn}^2$, AudDum, and DirTot play a significant role in restricting earnings management. In general, these results are consistent with the prior literature.

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Table V. Univariate regression of discretionary accruals from year −1 on corporate governance variables

	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5	Regression 6	Regression 7	Regression 8	Regression 9	Regression 10
Constant	0.082**	0.037**	0.017***	0.030	0.025*	0.018	0.019***	0.040**	0.005	−0.043**
NED	−0.138 **									
NEDDum		−0.050**								
CCDum			0.005							
DirTot				−0.002						
ManOwn					−0.087					
InstOwn						0.001				
$InstOwn^2$							−0.004			
BlkDum								−0.040 **		
AudDum									−0.016	
Gear										0.143 **

Notes: The table reports the results of univariate regressions of discretionary current accruals in the pre-issue year (DCA_{-1}) on corporate governance and control variables. The independent corporate governance variables are: the ratio of non-executive directors to total directors (NED); a majority non-executive board dummy (NEDDum); a unified CEO/chairman dummy (CCDum); the number of directors on the board (DirTot); the proportion of shares owned by managers (ManOwn) and institutions (InstOwn); the square of InstOwn ($InstOwn^2$); a 10 percent blockholder dummy (BlkDum); a Big-6 auditor dummy (AudDum); and capital gearing (Gear). Control variables are: size (Ln MV); book to market ratio (Ln BM); aset-scaled sales growth (SLGR); the rights issue discount (DISC); discretionary current accruals in the pre-issue year (DCA_{-1}); cash flow to total assets ($CFTA_{-1}$); the log is issue size (Ln IsSz); an extreme earnings performance dummy (EEPDum); and dummy variables for year and industry. All independent variables are from the year before the issue. Superscripts *, **, and *** indicate significance at 5 percent, 1 percent, and 10 percent; dependant variable: DCA_{-1}.

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Table VI. Multivariate regression of discretionary accruals from year −1 on corporate governance variables

	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5	Regression 6	Regression 7	Regression 8	Regression 9	Regression 10
Constant	−0.027	−0.063	−0.088	−0.072	−0.074	−0.094	−0.089	−0.051	−0.093	−0.156
NED	−0.141**									
NEDDum		−0.045**								
CCDum			0.007							
DirTot				−0.003						
ManOwn					−0.101					
InstOwn						0.020				
$InstOwn^2$							0.026			
BlkDum								−0.043*		
AudDum									−0.012	
Gear										0.138**
Ln MV	0.002	0.005	0.001	0.003	0.000	0.001	0.001	−0.007	0.001	0.018
Ln BM	0.000	0.005	0.002	0.000	0.002	−0.002	−0.002	0.000	0.000	0.014
SLGR	0.000	0.000	−0.001	0.001	0.009	0.002	0.002	−0.004	0.002	−0.007
DISC	0.073	0.034	0.096	0.096	0.100	0.111	0.110	0.103	0.102	0.081
$CFTA_{-1}$	−0.084	−0.069	−0.087	−0.084	−0.082	−0.089	−0.089	−0.085	−0.084	−0.069
Ln IsSz	0.025	0.019	0.024	0.023	0.021	0.023	0.022	0.032	0.022	0.004
EEPDum	0.027	0.024	0.031	0.031	0.034***	0.031***	0.030*	0.031*	0.031	0.015

Notes: The table reports the results of multivariate regressions of discretionary current accruals in the pre-issue year (DCA_{-1}) on corporate governance and control variables. The independent corporate governance variables are: the ratio of non-executive directors to total directors (NED); a majority non-executive board dummy (NEDDum); a unified CEO/chairman dummy (CCDum); the number of directors on the board (DirTot); the proportion of shares owned by managers (ManOwn) and institutions (InstOwn); the square of InstOwn ($InstOwn^2$); a 10 percent blockholder dummy (BlkDum); a Big-6 auditor dummy (AudDum); and capital gearing (Gear). Control variables are: size (Ln MV); book-to-market ratio (Ln BM); asset-scaled sales growth (SLGR); the rights issue discount (DISC); discretionary current accruals in the pre-issue year (DCA_{-1}); cash flow to total assets ($CFTA_{-1}$); the log of issue size (Ln IsSz); an extreme earnings performance dummy (EEPDum); and dummy variables for year and industry. All independent variables are from the year before the issue. Superscripts *, **, and *** indicate significance at 5 percent, 1 percent, and 10 percent; dependant variable:DCA_{-1}

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Table VII reports the multivariate regression results. It also shows that the presence of a larger proportion of outside directors (NED or NEDDum) on the board serves to limit discretionary earnings management. This is consistent with Xie *et al.* (2003). Whether the CEO also chairs the board appears to have no effect on earnings management, which is consistent with Peasnell *et al.* (2005). Of the ownership structure variables, managerial and institutional ownership are insignificant in the regressions. However, the presence of a large blockholder is significant in reducing earnings management. The auditor dummy variable is negative and insignificant. Peasnell *et al.* (2005) also find a negative but insignificant relation between abnormal accruals and an auditor dummy for Big-5 auditors using UK data. The table also shows that firms with higher gearing are more likely to engage in earnings management. Finally, none of the other variables are statistically significant.

We also run multivariate regressions using discretionary current accruals (DCA) from the issue year (year 0) itself. The independent and control variables are similar to those included in Table VII, except that we include $DCA_{i,-1}$ as an additional control variable in these regressions. Overall, the results are qualitatively similar to those reported in Table VII and hence not tabulated.

5. Conclusion

The recent literature on earnings management suggests that firms opportunistically manage earnings upwards and downwards both around specific corporate events (such as SEOs and IPOs) and in general. For example, Iqbal *et al.* (2006) report that rights issuers, on average, manage earnings through discretionary accruals. We reconfirm in this study that stock market returns are consistent with this form of earnings management misleading investors i.e. rights issuers appear, on average, to be overvalued at the time of the issue and the market only gradually corrects the overvaluation. However, we show that the presence of certain corporate governance characteristics can reduce the degree of earnings management. This serves to reduce the degree of market misvaluation and promotes efficient resource allocation.

One of the important mechanisms that can restrict firms from managing earnings is corporate governance. This study examines this critical relationship with reference to various corporate governance mechanisms such as the roles of the board, and of ownership, adviser, and capital structures in controlling firms from managing earnings around UK rights issues. Our sample consists of 100 size controlled UK industrial rights issuers covering the period 1991-1995. We proxy earnings management by discretionary current accruals and find that firms with a majority of non-executive directors, with a large blockholder and with smaller debt to equity ratios are less likely to manage earnings. We find no relation between earnings management and institutional or managerial ownership around rights issues nor do we find that having a Big-6 auditor plays a significant role in constraining firms from using discretionary accruals to manage earnings.

These results have important implications for various stakeholders, not only in the UK market but also in other markets of the world where rights issues are still common. For example, investors in rights issuing firms should prefer to invest in firms with a larger proportion of non-executive directors, where there is a large blockholder and/or in firms with low debt ratios. Regulators and policy makers could devise best corporate governance practices for specific corporate events to boost investor confidence.

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Table VII. Regressions of pre-issue-year discretionary current accruals on corporate governance variables – multivariate regression results

Constant	0.021	−0.083	0.013	−0.230	−0.008	−0.113	0.038	−0.151
NED	−0.107*	−0.117*	−0.125*	−0.121*	–	–	–	–
NEDDum	–	–	–	–	−0.037*	−0.036*	−0.041*	−0.042*
CCDum	0.004	0.008	0.005	−0.001	0.004	0.007	0.004	−0.003
DirTot	0.009	−0.000	−0.001	−0.000	−0.001	−0.001	−0.001	−0.000
ManOwn	−0.082	−0.068	−0.068	−0.132	−0.066	−0.055	−0.046	−0.114
InstOwn	0.009	0.037	0.002	0.058	0.033	0.057	0.020	0.079
$InstOwn^2$	0.034	0.040	0.086	0.077	0.011	0.011	0.055	0.052
BlkDum	−0.040*	−0.045*	−0.042*	−0.051*	−0.042*	−0.045*	−0.042*	−0.051*
AudDum	0.012	0.010	0.009	0.018	0.007	0.005	0.005	0.012
Gear	0.116**	0.091*	0.096*	0.094***	0.110**	0.094*	0.102*	0.102*
Ln MV	–	0.007	0.007	0.015	–	0.011	0.010	0.018
Ln BM	–	0.005	0.000	−0.035	–	0.010	0.004	0.030
SLGR	–	−0.005	−0.003	−0.011	–	−0.002	−0.006	−0.012
DISC	–	0.104	0.097	0.080	–	0.072	0.049	0.026
$CFTA_{-1}$	–	−0.076	−0.090	−0.097	–	−0.065	−0.074	−0.084
Ln IsSz	–	0.019	0.022	0.018	–	0.014	−0.018	0.013
EEPDum	–	0.020	0.021	0.020	–	0.016	0.017	0.015
Year dummies	–	–	Insig.	Insig.	–	–	Insig.	Insig.
Industry dummies	–	–	–	Insig.	–	–	–	Insig.
$\overline{R}^2$	0.151	0.140	0.115	0.159	0.155	0.132	0.113	0.162

Notes: The table reports the results of regressing discretionary current accruals in the pre-issue year (DCA_{-1}) on corporate governance variables and control variables. The independent corporate governance variables are: the ratio of non-executive directors to total directors (NED); a majority non-executive board dummy (NEDDum); a unified CEO/chairman dummy (CCDum); the number of directors on the board (DirTot); the proportion of shares owned by managers (ManOwn) and institutions (InstOwn); the square of InstOwn ($InstOwn^2$); a 10 percent blockholder dummy (BlkDum); a Big-6 auditor dummy (AudDum); and capital gearing (Gear). Control variables are: size (Ln MV); book-to-market ratio (Ln BM); asset-scaled sales growth (SLGR); the rights issue discount (DISC); discretionary current accruals in the pre-issue year (DCA_{-1}); cash flow to total assets ($CFTA_{-1}$); the log of issue size (Ln IsSz); an extreme earnings performance dummy (EEPDum); and dummy variables for year and industry. All independent variables are from the year before the issue. Superscripts *, **, and *** indicate significance at 5 percent, 1 percent, and 10 percent. "Insig." represents insignificance of the dummies; dependant variable: DCA_{-1})

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Institutional investors or fund managers should closely scrutinise a firm's financial information before making any event specific investment decisions. Managers of rights issuing firms should disclose that they are following best corporate governance practices alongside new issue information (such as prospectuses) to enhance investor confidence. Finally, future research could consider other important corporate events, including equity issuing methods such as open offers or initial public offerings in the UK and in other developed or emerging markets to review the effects of corporate governance mechanisms on earnings management.

Notes

1. They examine thresholds of zero earnings and the previous year's reported earnings and their margin is the 75th percentile of pre-managed earnings minus the threshold.
2. Ching *et al.* (2006) find a negative but insignificant relation between the degree of earnings management around Hong Kong SEOs and family ownership.
3. The literature refers to these as the Big-*x* auditors, where the number *x* has decreased over time.
4. For example, Lin *et al.* (2003) show that both board size and the percentage of outside directors associate positively with firm size.
5. We set year 0 as the rights issue announcement year, determined by the availability of accounting information to the public using the issuing firms' latest financial year-end date (from Datastream) and a six month lag. An example is as follows. If the financial year for a firm ends on 31 December 1992, we assume that accounting information for financial year 1992 is publicly available by 30 June 1993. If this firm announces a rights issue between 1 July 1992 and 30 June 1993, we use accounting information for the financial year 1992 as the data in year 0 and accounting information for 1991 as the data in year -1. When examining the time-series performance of issuing firms, there may be an overlap between accounting years relative to the issue year for some companies, which may underestimate the degree of earnings management in year -1.
6. The industrial classification of the sample firms is from the London Share Price Database (LSPD) (1996).
7. The corporate governance data for the sample period were not available electronically, and hence involved manual collection.
8. One reason for the highest number of issuers being in 1991 is that we exclude rights issues made by the same firm in subsequent years to reduce problems of dependence between observations.
9. Peasnell *et al.* (2005) imply that it is not possible to spot the voting rights of non-beneficial shareholdings.
10. Big-6 auditors during the sample period were Arthur Anderson, Ernst and Young, Deloitte and Touch, KPMG, PricewaterhouseCooper, and Coopers and Lybrand.
11. We do not include details of the modified Jones model in the paper as it is well-known and in the interests of conserving space. The model has been used extensively in earnings management studies. Although certain refinements have been proposed, the modified Jones model remains the most widely used model in studies of earnings management. The refinements themselves suffer from problems. The major criticism of the Jones and modified Jones models is that it can misclassify genuinely good performance as earnings management. To address this point, we adjust the DCAs of issuers using the DCAs of

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performance-matched non-issuers and re-estimate all the regressions. The results remain qualitatively similar.

12. See, for example, Teoh *et al.* (1998a) and Rangan (1998).

13. We perform Hausman tests for endogeneity on DISC and issue size (LnIsSz). The results indicate the absence of endogeneity for both variables and hence we treat them as exogenous.

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