ERROR ANNOUNCEMENTS, AUDITOR TURNOVER, AND EARNINGS MANAGEMENT – EVIDENCE FROM GERMANY

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Abstract

Error announcements shall in principle unfold both a preventative and a sanctioning function via adverse publicity. While US research provides large and unambiguous evidence of sanctions which are based on capital market reactions, but also personal consequences of responsible managers and auditors, the few studies which investigated the German enforcement system do not yield comparable results, thereby questioning its efficacy. Building on this, we first investigate for the German enforcement setting whether error announcements lead to abnormal turnover of audit teams and audit firms than comparable non-error firms by using logistic regression. Second, we analyze whether audit team or audit firm turnover results in improved accounting quality. To do so, we proxy accounting quality with well-established earnings management models and explore the turnover's impact on accounting quality with a difference-in-difference approach. Our results do not provide evidence of increased audit firm turnover due to error announcements, thereby contradicting studies from the US; the same holds for changes of the responsible audit teams. However, our results suggest that firms with changes of the audit firm or audit team exhibit an increase in accounting quality, which how-ever takes place already in the time gap between error announcement and auditor change. Consequently, we interpret auditor changes serving as a signal of improved corporate governance, rather than indeed improving corporate governance.

Keywords: Enforcement, Error Announcement, Auditor Turnover, Earnings Management, Germany

1. INTRODUCTION

This paper provides additional insights in shareholder perceptions of error announcements in the German enforcement setting by investigating potential impacts on abnormal auditor[11] turnover. The German enforcement system consists of the private Financial Reporting Enforcement Panel (FREP) and the securities authority Bundesanstalt für Finanzdienstleistungs-aufsicht (BaFin). This two-tier mechanism has started its reviewing activities on July 1, 2005, and is supposed to ensure a preventative and sanctioning function via adverse publicity in case of error findings.

Research provides numerous studies on the beneficial effect of enforcement institutions, both with regard to its preventative and sanctioning function. With regard to the preventative function, several cross-country studies highlight the positive effect of enforcement, both stand-alone and in connection with IFRS adoption (Daske et al., 2008; Ernstberger et al., 2012b; Samarasekera et al., 2012; Christensen et al., 2013).

Turning to the sanctioning function, to date the vast majority of studies investigate the US enforcement setting: They provide mostly unambiguous evidence that restatements negatively affect investor reactions and analysts' forecasts (Feroz et al., 1991; Dechow et al., 1996) and financial statement credibility (Wilson, 2008), to name but a few, but also lead to higher turnover of responsible managers (Arthaud-Day et al., 2006; Desai et al., 2006; Collins et al., 2009), members in the board of directors (Johnstone et al., 2011), audit committee members (Carver, 2014), and audit firms

11 For the sake of linguistic simplicity, in the following the term 'auditor' comprises both the audit firm and the personally responsible auditors (i.e., the audit team) who conduct the audit. Only if we need to explicitly distinguish between the audit firm and the audit team, we use the more concrete terms 'audit firm' and 'audit team'.

(Kryzanowski and Zhang, 2013; Mande and Son, 2013).

Notwithstanding this rich universe of studies, we must admit that there is only little evidence on the German enforcement system to date. First studies cast doubt on pronounced capital-market effects due to error announcements (Hitz et al., 2012; Ebner et al., 2015), furthermore research observes increased audit firm turnover already before the publication of detected accounting errors (Brocard et al., 2017), thereby putting the interaction between enforcement and shareholder monitoring into perspective. Similar limited evidence holds for the expected deterrence mechanism of error announcements on future earnings management activities (Böcking et al., 2015), which can be observed in the US setting though. Consequently and based on the notion that the US results might not be transferable, we feel encouraged to shed further light on the genuine German setting.

Motivated by the contradicting findings on the role of adverse publicity on auditor turnover in the US and German setting, we extend the analysis of Brocard et al. (2017) by distinguishing between changes of the audit firm – which can be considered well-investigated by now –, and changes of the responsible audit team which conducts the audit. We argue that changing the responsible audit team while keeping the audit firm might be a suitable compromise between signaling improved corporate governance and maintaining relations to the audit firm, which might also be characterized by non-audit services. In addition, we aim to bridge the gap between the expected sanctioning and preventative function of enforcement by analyzing whether changes of the audit firm or the audit team yield enhanced accounting quality or shall solely aim to achieve a 'labeling effect'. To recapitulate, our study investigates whether audit teams or rather audit firms are more likely to be replaced around error announcements and which of either two changes does later lead to comparably higher accounting quality. We argue that the change of the audit firm is more likely to result in better accounting quality as the new audit firm can be considered to work more independently compared to a new audit team: A new audit team might still have to pay attention to existing relations with the client (e.g., non-audit services). By changing the perspective, it can be however also presumed that a company might choose to replace rather the audit firm – instead of the audit team – in order to achieve a stronger signal or stronger label of improved accounting quality to and for its shareholders. Thus, our analysis should be of also interest to shareholders who need to assess such signals of improved accounting quality and decide whether to take them at face value or not.

We examine a sample of 99 German firms that are subject to an error announcement in the period 2006-2012 and compare their auditor and audit firm turnover with those of non-error control companies that are most similar in size and industry. Contrary to prior US evidence and in line with the study of Brocard et al. (2017), we cannot provide evidence that error announcements are associated with higher audit firm turnover; running counter to our expectations, this also holds for changes of the responsible auditors.

Based on two small subsamples of the error sample, we can show that firms with auditor changes exhibit increased accounting quality; however, this effect already takes place in the gap year between error announcement and auditor turnover, thereby hinting at the fact that auditor changes are not the main driver of enhanced accounting quality, but shall rather serve as a signal to a firm's stakeholders that accounting quality improved in the aftermath of detected accounting errors.

The structure of our paper is as follows: Section 2 sheds light on the institutional background of the German enforcement system and section 3 presents prior researchers' findings and our hypotheses development. Thereafter, section 4 describes our employed methodology, followed by the study's results. After presenting the findings of various robustness tests in section 6, we conclude in section 7.

2. INSTITUTIONAL BACKGROUND: THE GERMAN ENFORCEMENT SYSTEM

The German enforcement system is rooted in the so-called 'IAS Regulation' (Regulation (EC) No. 1606/2002) which requires companies listed in a regulated market in the EU to prepare their consolidated financial statements in accordance with IFRS. Driven by the conviction that a 'proper and rigorous enforcement regime is key to underpinning investor confidence in financial markets' (Regulation (EC) No. 1606/2002, Para. 16), the 'IAS Regulation' furthermore requires EU member states to ensure the consistent and faithful application of IFRS by appropriate enforcement mechanisms. While enforcement of accounting standards thus remains an issue performed at a national level, several activities coordinated by the Committee of European Securities Regulators (CESR, since 2011 replaced by the European Securities and Markets Authority (ESMA)) strive to provide guidance on a common approach to enforcement.[12].

Before 2004, enforcement of accounting standards in Germany was only carried out by independent auditors and internal corporate governance mechanisms. In order to keep pace with the above-mentioned developments and additionally driven by several accounting scandals in Germany and abroad,[13] the German legislator passed the Bilanzkontrollgesetz (BilKoG – Accounting Enforcement Act) in 2004, being part of a major three-stage enforcement reform.[14] Its most important novelty is the set-up of a two-tiered

12 CESR Standards No. 1 and 2 on Financial Information may serve as examples of such harmonizing activities, despite the fact that they remain only non-binding 'soft-law' (see e.g. Berger, 2010, p. 19). They have been superseded by ESMA's final guidelines on enforcement (see ESMA, 2014).

13 While the cases of Enron and Worldcom certainly attracted the greatest amount of attention, there were also several accounting scandals in Germany which displayed the incapability of the established mechanisms to ensure compliance with accounting standards (e.g. Flowtex, see Heck (2006)).

14 Besides the Accounting Enforcement Act, the German legislator passed the Abschlussprüferaufsichtsgesetz (APAG – Auditor Oversight Law) and the Bilanzrechtsreformgesetz (BilReG – Accounting Law Reform Act). For more detailed information see Ernstberger et al. (2012b), p. 220.

enforcement mechanism, which consists of a private Financial Reporting Enforcement Panel (FREP) and the financial markets authority Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin). Due to the fact that the unique structure of the German enforcement system has already been extensively outlined in several previous scientific articles (see e.g. Ernstberger et al., 2012b; Hitz et al., 2012; Strohmenger, 2014; Böcking et al., 2015; Ebner et al., 2015), we focus our depiction on its most essential features that might be helpful in understanding the subsequent hypotheses development.

On the first stage, FREP conducts both proactive and reactive reviews of the most recently published financial reports. Proactive investigations are based on a random- and risk-based selection process that accounts for some 80-85% of total investigations. This procedure is designed to ensure that all companies are regularly reviewed in dependence of their stock index listing, which is once in 4-5 years for DAX, MDAX, SDAX and TecDAX companies, and once in 8-10 years for the remaining companies (FREP, 2009). Reactive investigations account for the remaining 15-20% of reviews and are conducted in case of specific information on accounting malfeasance or on request of BaFin. If a company refuses to cooperate with FREP or to accept FREP's findings, the case enters the second stage and is handed over to BaFin which is equipped with the authoritative power to enforce the review procedure. In case that either FREP or BaFin detect non-compliance with IFRS, the respective company is required to publish the established error in the federal gazette (Bundesanzeiger). Error detection and announcement mark the end of each case-related investigation procedure.

In contrast to other enforcement institutions that complement adverse publicity with additional sanctioning mechanisms (Rashkover and Winter, 2005 and 2006; Berger, 2010), the German enforcement system solely relies on error announcements to ensure the politically postulated preventative and sanctioning function (German Government, 2004). Focusing on the years 2005-2012 as the basis of this study, FREP has conducted 848 investigations which yielded 192 detected errors. While this is equivalent to an error rate of 23%, it must be noted that the normalized error rate – which is adjusted for multiple counting of single errors and examinations that confirm known errors (FREP, 2011) – materially declined in the years 2011 and 2012. Nevertheless, the normalized error rate still adds up to 20% in the whole sample period. Though other European countries exhibit similar error rates (Berger, 2010; for converse US evidence see Hitz et al., 2012), this number is remarkable and hints at a possible failure of the existing enforcement mechanisms in the form of external auditor and supervisory board (Böcking et al., 2015) (see Table 1 in the appendix).

3. PREVIOUS RESEARCH AND HYPOTHESES DEVELOPMENT

3.1. Previous research

Error findings by enforcement institutions provide unambiguous ex-post evidence that financial reports have not been prepared in accordance with the applicable accounting standards (Palmrose and Scholz, 2004). For this reason they serve as information update for stakeholders – especially investors – who revise their a-priori beliefs of a company's economic constitution (Healy and Palepu, 2001). Several US studies investigate the effect of adverse publicity and document negative stock market reactions (see e.g. Feroz et al., 1991; Dechow et al., 1996; Anderson and Yohn, 2002; Karpoff et al., 2008), forecast revision and dispersion of financial analysts (Palmrose et al., 2004; Barniv and Cao, 2009), and increased cost of capital (Hribar and Jenkins, 2004; Liu et al., 2012; Baber et al., 2013). Moreover, credibility of financial statement information decreases after established accounting malfeasance (Anderson and Yohn, 2002; Wu, 2002; Wilson, 2008).

Moreover, there is clear empirical evidence that firms with weak corporate governance structures are more inclined to be subject of error findings (Beasley, 1996; Beasley et al., 2000; Peasnell et al., 2001; Farber 2005; Beasley et al., 2010; Ernstberger et al., 2012a). Conversely, companies that respond to adverse publicity by strengthening their corporate governance can mitigate adverse reactions by stakeholders. Possible actions comprise changes to the board of directors, internal audit functions, or external audit firms (Farber, 2005; Almer et al., 2008; Wilson, 2008; Chakravarthy et al., 2014; Chen et al., 2014; Wiedmann and Hendricks, 2013). Going in line with these findings, several studies provide evidence that publication of detected errors leads to increased turnover of members of the board of directors (Johnstone et al., 2011), audit committee members (Srinivasan, 2005; Johnstone et al., 2011; Carver, 2014), and top management (Arthaud-Day et al., 2006; Desai et al., 2006; Collins et al., 2009; Land, 2010; Johnstone et al., 2011; Wang and Chou, 2011; for contradicting evidence see Beneish, 1999).

By constituting a further pivotal part of a company's corporate governance, the auditor indisputably is in charge of ensuring the preparation of financial statements in accordance with applicable accounting standards. Consequently, erroneous financial accounting must be regarded as a result of audit failure (Larcker and Richardson, 2004; Stanley and DeZoort, 2007). This is all the more serious considering that investors are reliant on correct financial reporting in order to properly perform their investment decisions and – in combination with other internal and external corporate governance mechanisms – supervisory activities (Höltken and Ebner). These arguments support calls for an auditor change, however it must be kept in mind that such a shift also poses the risk of potential switching costs. The latter might be driven by learning-curve effects of the auditor in charge (Johnson et al., 2002) and industry specialization (Agrawal and Cooper, 2016).

Notwithstanding the advanced number of studies covering the impact of adverse publicity on management and director fluctuation, the effect on auditor turnover has not been extensively investigated yet. First evidence suggests that shareholders of restating companies are less likely to vote for audit firm ratification (Hermanson et al., 2009; Liu et al., 2009), and that audit firms of restating companies tend to resign from their

mandate (Huang and Scholz, 2012). Thompson and McCoy (2008) provide univariate results showing that restatements increase the likelihood of audit firm turnover, which gets backed by multivariate analyses of Kryzanowski and Zhang (2013) and Mande and Son (2013). In contrast, Agrawal and Cooper (2016) cannot provide unambiguous evidence of increased audit firm fluctuation.

While the findings above unexceptionally apply to the SEC enforcement, to date there is only little empirical evidence for the German two-tier enforcement system. In light of its unique structure and different institutional embedding, the US results are not readily transferable to the German context, thereby emphasizing the necessity of conducting original studies (Höltken and Ebner, 2015). Similar to the US studies, the German studies allow some inference whether the postulated preventive and sanctioning function of enforcement (Berger, 2010) effectively comes true and can thereby be regarded as an evaluation of the installed enforcement mechanisms.

Hitz et al. (2012) and Ebner et al. (2015) have made a start by providing evidence of stock market reactions due to error announcements, which however are much more attenuated compared with the findings of the US studies named above. Turning to personal consequences, to date there is only one study covering this aspect: Brocard et al. (2017) investigate the effect of erroneous financial statements on changes of the audit firm, labeling the association between the two variables as highly significant. Moreover, the authors also examine the impact of error announcements on changes of the audit firm; however, the level of significance is slightly below ten percent, thereby indicating that auditor changes rather take place prior to publication of detected errors. Consequently, Brocard et al. (2017) do provide evidence of management instead of shareholder reactions to erroneous financial statements. Notwithstanding, evidence on the change of the auditors in charge – instead of the audit firm – is still missing to date.

Bridging the gap between the two depicted streams of literature – stakeholder perceptions of adverse publicity and changes in corporate governance –, the question remains whether such an interdependence is basically the result of a 'labeling effect', i.e. that firms only pretend to improve corporate governance; or whether stakeholder reactions truly reflect improvements in corporate governance. While Wiedmann and Hendricks (2013) show that US restatement companies switching to a lower-quality audit firm exhibit a lower accounting quality, comparable evidence for Germany is still missing to date. Böcking et al. (2015) solely investigate the effect of error announcements on earnings quality without controlling for changes in corporate governance structures, but find no statistically significant improvement. Consequently, research does not provide support for the postulated preventive function due to error announcements in the German setting.

3.2. Hypotheses development

As described above, prior literature hints at an association between restatements or AAERs and audit firm turnover, however only for the US setting. In Germany, first evidence cannot clearly support the hypothesis of increased audit firm changes due to error announcements, since corresponding consequences apparently take place already prior to publication of established accounting errors.

Being the first part of our analysis, we focus on the interrelation between error announcements and shareholder monitoring instead of management reactions, thereby investigating the role of enforcement and its outcomes (i.e., error announcements) in the functioning of corporate governance. Going beyond the work of Brocard et al. (2017), we are not solely interested in changes of the auditing firm, but additionally exploit a feature of German audits by investigating changes of the personally responsible auditors, i.e. the employed audit team.[15] We argue that between the poles of no change and change of the audit firm, keeping the audit firm and simultaneously changing the audit team might constitute a further possibility of shareholder reaction. This might be of special interest for those auditor-client relationships that go beyond the pure audit of financial statements, but also entail non-audit services. Consequently, we state our first set of hypotheses as follows:

H1a: Companies with an error announcement exhibit higher audit firm turnover than comparable companies without an error announcement.

H1b: Companies with an error announcement exhibit higher audit team turnover than comparable companies without an error announcement.

Based on the findings of H1a and H1b and pursuing prior US evidence by Wiedmann and Hendricks (2013), we want to find out whether those companies that change the audit firm or the audit team due to an error publication indeed yield improvements in accounting quality, which might justify the observed attenuated stakeholder reactions in response to error announcements. On the other hand, it appears possible that companies solely change the auditor in order to blame a scapegoat for the detected accounting errors, but actually are not interested in improving accounting compliance; we call this a pure 'labeling effect'. In this case, we would not expect accounting quality to change materially.

H2a: Error firms with a change of the audit firm exhibit an increase of accounting quality, compared to error firms without an auditor change.

H2b: Error firms with a change of the audit team exhibit an increase of accounting quality, compared to error firms without an auditor change.

4. METHODOLOGY

4.1. Auditor turnover

Being a pivotal variable of our analyses, we extend prior definitions of auditor by distinguishing between the audit firm and the responsible auditors who conduct the audit, i.e. the audit team. Given the fact that the latter are apparent in German auditor reports, we can easily supplement our analyses with this detailed feature.

15 In Germany, audit reports do not only indicate the employed audit firm, but also the names of the auditor/auditors who is/are responsible for the proper execution of the audit.

We define audit firm turnover as a change of a company's audit firm in the years [0;1] and [0;2] subsequent to an error announcement (*CHANGEFIRM[0;1]* and *CHANGEFIRM[0;2]*).[16] For the sake of completeness, we also examine the years [-1;0] in order to account for auditor changes on behalf of the management (*CHANGEFIRM[-1;0]*). Nonetheless, the focus of our paper is shareholders' reaction on error announcements, which we assume to take place after the public disclosure of the error. The coding of the years is congruent with calendar years, consequently an error announcement in December of year t and election of a new audit firm in March of year t+1 is coded as auditor turnover in the event window [0;1]. We focus on audit firm elections in shareholders' meetings in order to identify audit firm turnover.

In order to avoid a change of the audit firm's name being classified as audit firm change, we additionally pay attention to the names of the audit team; thus, if the audit team remains the same, but the audit firm changes, we do not code an auditor turnover. Though these cases happen in only a few cases, we regard our approach of manually collecting the dependent variable as being superior compared to prior studies from the US that rely on conventional database solutions.

Equivalently to the change of the audit firm, we define the change of the audit team. By doing so, we create the binary variables *CHANGETEAM[0;1]* and *CHANGETEAM[0;2]* in case that both personally responsible auditors change in the one or two years subsequent to the error announcement, respectively. In line with audit firm change, we complement our analyses with a change of the audit team in the year before the error announcement (*CHANGETEAM[1;0]*). It is noteworthy that the different variations of *CHANGETEAM* comprise both companies that kept the audit firm and those that did not, with the change of the audit team being the only determining factor.

4.2. Earnings management

We follow prior literature and proxy accounting quality with earnings management metrics in form of discretionary accruals models (see e.g. Barth et al., 2008; Wiedmann and Hendricks, 2013). More specifically and aiming to exploit the benefits of different methodological approaches, we use the original Jones (1991) model, the modified Jones model by Dechow et al. (1995), and the performance-adjusted Jones model by Kothari et al. (2005) in order to identify management discretion. In line with previous studies (Chen et al., 2010; Böcking et al., 2015), we calculate total accruals (*TA*) according to the cash flow-based approach as follows:[17]

$$\mathrm{TA_{it}} = \text{Net Income}_{\mathrm{it}} - \text{Operating Cashflow}_{\mathrm{it}} \qquad (1)$$

Based on this definition, we estimate the following coefficients in order to obtain non-discretionary accruals:[18]

Jones (1991):

$$\frac{\mathrm{TA_{it}}}{\mathrm{A_{it-1}}} = \alpha_0 + \beta_1 \frac{1}{\mathrm{A_{it-1}}} + \beta_2 \frac{\Delta\mathrm{Sales_{it}}}{\mathrm{A_{it-1}}} + \beta_3 \frac{\mathrm{PPE_{it}}}{\mathrm{A_{it-1}}} + \varepsilon_{\mathrm{it}} \qquad (2)$$

Dechow et al. (1995):

$$\frac{\mathrm{TA_{it}}}{\mathrm{A_{it-1}}} = \alpha_0 + \beta_1 \frac{1}{\mathrm{A_{it-1}}} + \beta_2 \frac{\Delta\mathrm{Sales_{it}} - \Delta\mathrm{Receivables_{it}}}{\mathrm{A_{it-1}}} + \beta_3 \frac{\mathrm{PPE_{it}}}{\mathrm{A_{it-1}}} + \varepsilon_{\mathrm{it}} \qquad (3)$$

Kothari et al. (2005):

$$\frac{\mathrm{TA_{it}}}{\mathrm{A_{it-1}}} = \alpha_0 + \beta_1 \frac{1}{\mathrm{A_{it-1}}} + \beta_2 \frac{\Delta\mathrm{Sales_{it}} - \Delta\mathrm{Receivables_{it}}}{\mathrm{A_{it-1}}} + \beta_3 \frac{\mathrm{PPE_{it}}}{\mathrm{A_{it-1}}} + \beta_4 \mathrm{ROA_{it-1}} + \varepsilon_{\mathrm{it}} \qquad (4)$$

We estimate industry-year specific coefficients[19] of the models above for a population of all German firms with listed equity in the regulated market, which we obtain at ESMA's website.[20] Following conventions, we exclude foreign and financial companies; moreover, we require a minimum of 5 observations for each industry-year combination.[21] Thereafter, we use the calculated coefficients for the error sample (adjusted by financial companies) only, i.e. a subsample of the population above, in order to obtain non-discretionary accruals. The difference of total and non-discretionary accruals yields discretionary accruals as our proxy for earnings management.

4.3. Research approach

Our research approach is twofold, given the two sets of hypotheses and the corresponding streams of analyses. Starting with hypotheses H1a and H1b, we investigate the impact of error announcements on auditor changes. We do so by conducting univariate tests that simply compare the mean of the error and control sample for each of the auditor change variables described above (labeled as *CHANGE* in the

16 For a similar approach of investigating two years after publication of the detected error see Kryzanowski and Zhang (2013) and Agrawal and Cooper (2016).

17 The relevant Worldscope items are WC01551 and WC04860, respectively.

18 The respective Worldscope items are the following: $\mathrm{A_{it}}$= Total assets [WC02999]; $Sales_{it}$= Net sales or revenues [WC01001]; $\mathrm{PPE_{it}}$= Property, plant & equipment – net [WC02501]; $Receivables_{it}$= Receivables (net) [WC02051]; $\mathrm{ROA_{it}}$= (net income before extraordinary items/preferred dividends / total assets) [WC01551 / WC02999].

19 Coefficients are estimated separately industry and year within the period 2005–2014. We opt for one-digit SIC codes given the fact that the use of this industry classification yields the lowest number of industry-year combinations that cannot be estimated due to limited data availability.

20 https://registers.esma.europa.eu/publication/searchRegister?core=esma_registers_mifid_sha (last retrieved: 01/19/2017).

21 While we acknowledge that there is no consensus on how many firm-year observations should be required to estimate discretionary accruals, some studies from prior literature exhibit a similar number as ours (Doukakis, 2014, opts for 8 observations, and Ernstberger et al., 2012b, for 5).

following). Since univariate analyses provide first evidence on statistical associations, but lack explicit incorporation of other determining factors, we complement them with multivariate analyses. We perform logistic regressions for both the error and control sample with the following equation:

$$CHANGE_{i,t} = \beta_0 + \beta_1 ERROR_{i,t-1} + \beta_2 EXPERT_{i,t-1} + \beta_3 LTTNR_{i,t-1} + \beta_4 STTNR_{i,t-1} + \beta_5 SEG_{i,t-1} + \beta_6 SIZE_{i,t-1} + \beta_7 LEV_{i,t-1} + \beta_8 ROA_{i,t-1} + \beta_9 LOSS_{i,t-1} + \beta_{10} GROWTH_{i,t-1} + \varepsilon \quad (5)$$

The variable of interest *ERROR* partitions the error and control sample, taking the value one for error firms and zero otherwise. In line with prior literature,[22] we include additional variables that are designed to control for alternative drivers of auditor turnover; they are explained in detail in Table 2, Panel A.

Turning to the investigation of hypotheses H2a and H2b, we conduct a univariate analysis, too. Given the fact that earnings management activities might also be driven by macroeconomic developments – which presumably does not hold for auditor turnover[23] –, we identify the change in earnings management activities before and after the auditor change, compared with a control sample of firms that does not change the auditor subsequent to error announcements. By doing so, we obtain the difference-in-differences (DiD), which is supposed to isolate the effect of auditor turnover on earnings management (see also Daske et al., 2008; Ebner et al., 2015):

$$DiD = \left[\mathrm{POST}_{\mathrm{CHANGE}_{\mathrm{Treatment}}} - \mathrm{PRE}_{\mathrm{CHANGE}_{\mathrm{Treatment}}}\right] - \left[\mathrm{POST\_CHANGE}_{\mathrm{Control}} - \mathrm{PRE\_CHANGE}_{\mathrm{Control}}\right] \quad (6)$$

In order to additionally investigate the impact of the error announcement on earnings management, we calculate the difference in earnings management around the public error detection:

$$DiD = \left[\mathrm{POST}_{\mathrm{DETECT}_{\mathrm{Treatment}}} - \mathrm{PRE}_{\mathrm{DETECT}_{\mathrm{Treatment}}}\right] - \left[\mathrm{POST\_DETECT}_{\mathrm{Control}} - \mathrm{PRE\_DETECT}_{\mathrm{Control}}\right] \quad (7)$$

By doing so, we aim to catch a glimpse on whether the auditor change is the actual driver of changes in earnings management, or whether accounting quality already improved after the error publication, thereby reducing the auditor change to a signal of improved corporate governance in the communication with the stakeholders. Due to limited data availability for auditor changes in [0;1], we only investigate the impact of earnings management for auditor changes in [0;2]. Consequently, the post-change year is two years after the error announcement.

We incorporate alternative drivers of accounting quality by additionally conducting a regression analysis with the following equation:

$$EM_{i,t} = \beta_0 + \beta_1 CHANGE_{i,t-1} + \beta_2 POST\_CHANGE + \beta_3 POST\_CHANGE \times CHANGE_{i,t-1} + \beta_4 SIZE_{i,t-1} + \beta_5 GROWTH_{i,t-1} + \beta_6 LEV_{i,t-1} + \beta_7 EISSUE_{i,t-1} + \beta_8 DISSUE_{i.t-1} + \beta_9 OCF_{i,t-1} + \beta_{10} TURN_{i,t-1} + \varepsilon \quad (8)$$

CHANGE denotes our variable of interest by partitioning the error sample in two subsamples: one subsample with an auditor change subsequent to the error announcement, and one subsample without corresponding auditor change. *POST_CHANGE* is a binary variable that takes the value one for periods after the auditor change. In order to obtain the DiD in the multivariate analysis, we employ an interaction term *POST_CHANGE*CHANGE* (for a similar approach, see e.g. Ebner et al., 2015b).

Similar to the univariate analyses and the distinction between *POST_DETECT* and *POST_CHANGE*, we also conduct a multivariate analysis with the respective interaction term *POST_DETECTxCHANGE* in order to obtain the DiD:

$$EM_{i,t} = \beta_0 + \beta_1 CHANGE_{i,t-1} + \beta_2 POST\_DETECT + \beta_3 POST\_DETECT \times CHANGE_{i,t-1} + \beta_4 SIZE_{i,t-1} + \beta_5 GROWTH_{i,t-1} + \beta_6 LEV_{i,t-1} + \beta_7 EISSUE_{i,t-1} + \beta_8 DISSUE_{i.t-1} + \beta_9 OCF_{i,t-1} + \beta_{10} TURN_{i,t-1} + \varepsilon \quad (9)$$

The control variables are obtained from previous research on earnings management (cf. Barth et al., 2008; Ernstberger et al., 2012b; Wiedmann and Hendricks, 2013; Böcking et al., 2015); we explain them in detail in Table 2, Panel B. (see Table 2 in the appendix).

4.4. Sample selection

The study is based on a sample of German firms that have been subject to error announcements by FREP or BaFin within the years 2006-2012.[24] A search in the federal gazette (*Bundesanzeiger*), which is the compulsory publication medium of error announcements, yields 186 results.[25] After merging 6 error announcements that have been separately published at the same day for the single and consolidated accounts of 3 companies, 183 findings remain. A double check with *Handelsblatt* and *Börsenzeitung*, two prestigious German business newspapers and stock exchange gazettes, confirms these results. Based on this starting point, we conduct the following adjustments: we exclude 16

22 Several studies examine a similar research question as we do (Huang and Scholz, 2012; Mande and Son, 2013; Hennes et al., 2014; Brocard et al., 2017). They serve as precious orientation for the cited supplementing literature.

23 As a matter of fact, we do not know any auditor turnover study that employs a difference- in-difference design, arguably since the expected value of auditor turnover is zero, i.e. normally we do not expect a firm to change its audit firm or auditors.

24 Although FREP started its enforcement activities already on 1 July 2005, the first error was announced on 3 February 2006. Error announcements of the years 2013 and 2014 could not be considered due to the fact that two years following-up an error announcement are required to identify auditor changes.

25 Apart from the different sample period, the following approach is similar to the one applied in Ebner et al. (2015), p. 17.

error announcements from firms which are headquartered abroad and 13 error announcements that are solely clarifications of prior error announcements. In order to ensure comparable corporate governance settings, we delete 7 firms without listed equity. Due to constrained data availability in *Worldscope*, we exclude additional 27 companies. Furthermore, 16 error announcements are deleted since the corresponding firms do not provide information about their auditors in the two years surrounding the error announcements. Ultimately and to avoid double counting, we merge 2 error announcements that have been published by the same company within a single year. Given this selection process, we remain with a final sample of 103 error announcements.

In order to examine auditor turnover and its determinants, we compare the sample of error firms with a control sample. Following prior literature both in the field of auditor turnover (Kryzanowski and Zhang, 2013; Agrawal and Cooper, 2016) and with regard to the German enforcement system (Ernstberger et al., 2012a; Strohmenger, 2013 and 2014; Puritscher, 2015), we assign one comparable company to each error firm. The control sample is drawn from the population of firms with listed equity on a German stock market, which is available at ESMA's website.[26] Apart from a small number of companies with listed debt only, this is the universe of companies which are subject to enforcement by FREP and BaFin.

For the sake of comparability, the control firms must meet the following requirements: They must (1) not exhibit an error announcement during the investigation period, (2) apply the same accounting standards, (3) have the same industry classification according to the ICB code, (4) be headquartered in Germany and (5) most similar in size, measured by total assets, with the error firm. We exclude 4 companies from the control sample since they do not provide sufficient auditor-related information. Since the matching procedure requires congruence of error and control sample, the subsequent analyses are based on a sample of 99 error and control firms, respectively.

The ensuing analysis of earnings management activities is based on the error sample only, reduced by 28 companies of the financial sector. Since some observations lack data which is required for the calculation of discretionary accruals, this leaves us with 45 companies (180 firm-year observations) in the final analysis.

5. RESULTS

5.1. Data, descriptive statistics and correlations

We collect the data on auditor turnover from companies' annual reports; all other data is obtained from *Worldscope*. Table 3, Panel A and B, reports descriptive statistics for the control variables, partitioned in error and control firms. While the values of *SIZE* are pretty close for both subsamples, thereby hinting at a functioning matching process for the control sample, error firms exhibit lower proportions for the variable *EXPERT*, but higher values of *LEV* and *LOSS*. Smaller values of *ROA* and *GROWTH* additionally hint at the fact that error firms perform worse in economic terms than their non-error counterparts, thereby confirming the findings of prior studies on the German enforcement system that apply a similar matching approach (see Strohmenger, 2014). Table 3, Panel C, shows the descriptive statistics of the error sample only, however for an investigation period of four years (one year prior to two years after the error announcement). The variables which are also comprised in Panel A exhibit similar values, suggesting that the small subsample of our additional analysis is representative for the error sample and not subject to a selection or survivorship bias (see Table 3 in the appendix).

Table 4, Panel A, depicts the Pearson correlation matrix for both error and control firms. Apart from the variable combinations *LTTNR/STTNR* and *SIZE/SEG*, all correlation measures for the error sample do not clearly exceed the correlation measure of 0.40. The negative correlations of *LEV/ROA* and *LOSS/ROA* are the notable exception of otherwise inconspicuous values (i.e., above -0.40). Table 4, Panel B, shows the correlations of variables used in the multivariate earnings management analysis. Apart from the combinations *DISSUE/GROWTH* and *LEV/OCF*, all values are below the 0.40/above the -0.40 threshold. The positive correlation of *FIRMCHANGE[0;2]* and *TEAMCHANGE[0;2]* is not relevant since we do not include both variables in the same regression equations. In view of this, we do not regard multicollinearity as a matter for our dataset (see Table 4 in the appendix).

5.2. Univariate results

Univariate results on auditor turnover are shown in Table 5, which is partitioned in two panels according to the change of the audit firm or the audit team. Panel A, which covers the change of the audit firm, shows that – contrary to prior beliefs – the error sample exhibits less audit firm turnover, compared with the control sample which lacks erroneous financial reporting. Turning the view to the fluctuation of the audit teams depicts a slightly different picture, with *CHANGETEAM[-1;0]* indicating increased audit team turnover prior to error announcements (one-tailed p-value of 0.11). While the error sample still exhibits increased audit team turnover for the subsequent period, it lacks statistical significance (see Table 5 in the appendix).

We present the univariate results of changes in accounting quality in Table 6, paying special attention to the DiD of the error detection and the auditor change. With regard to a change of the audit firm (*CHANGEFIRM[0;2]*), we find some evidence of decreased earnings management after the error announcement, which is mostly statistically significant for signed discretionary accruals (one-tailed p-value of 0.04 for the model of Dechow et al., 1995). In contrast, the change of the audit firm does not yield comparable results.

Turning to the change of the audit team (*CHANGETEAM[0;2]*), we notice slight evidence of decreased earnings management (absolute discretionary accruals) after a change of the audit

26https://registers.esma.europa.eu/publication/searchRegister?core=esma_registers_mifid_sha (last retrieved: 01/19/2017).

team, with all other measures being clearly insignificant. Summing up, we find some evidence of increased accounting quality after the error announcement, but non-consistent results for the effect of an auditor change. Consequently, the results hint at a 'labeling effect', which means that those firms with an auditor change improve their accounting quality already before this pivotal step (see Table 6 in the appendix).

5.3. Multivariate results

Table 7 presents results of multivariate logistic regressions of auditor change on variables of interest and control variables. The first set of analyses investigates the impact of error announcements (*ERROR*) on audit firm turnover (*CHANGEFIRM[0;1]* and *CHANGEFIRM[0;2]*) and examines both error and control firms. Contradicting hypotheses H1a, the coefficient of ERROR clearly lacks statistical significance; the same holds for the role of error announcements on audit team turnover (*CHANGETEAM[0;1]* and *CHANGETEAM[0;2]*), thereby rejecting H1b. Only the coefficient of SIZE is significantly negative, indicating that error announcements play a minor role in the auditor selection of larger firms. However, we caution to blindly interpret these findings, since the estimated models are not statistically significant (Prob > Chi^2 above 0.10). Consequently, we refer to the robustness test section which yields statistically significant models in most specifications for the alternative control samples (see Table 7 in the appendix).

Table 8 comprises the regression results for earnings management activities and their drivers for the subsample of 45 error firms. Being interested in the DiD, we focus on the interaction terms which are supposed to capture the effect of error announcements and auditor changes apart from sole changes of earnings management over time. In contrast to our hypotheses H2a and H2b, the results do not indicate significant associations of both interaction terms with the earnings management metrics employed. Thus, we cannot find evidence of error announcements or auditor changes on earnings management metrics, being our proxy for accounting quality (see Table 8 in the appendix).

6. ROBUSTNESS TESTS

Since the results of our study crucially depend on the comparability of error and control firms and consequently on the applied matching procedure, we rerun the analyses outlined above with alternative control samples in order to validate our results (see Table 9). While the initial control sample is matched according to ICB industry classification and total assets as firm size proxy, we also conduct matching procedures with market capitalization (Control sample 2) or Fama-French 12-industry classification (Control sample 3) instead. Furthermore, we construct control sample 4 by matching firms according to their Fama-French 12-industry classification and market capitalization. With regard to the univariate results, we find counterintuitive increased audit firm turnover for the control samples, sometimes even scratching at statistical significance. In contrast, the error firms exhibit consistently higher audit team turnover, which mostly is quite close to conventional levels of statistical significance (see Table 9 in the appendix).

We additionally provide additional analyses for the univariate earnings management results by employing alternative proxies for accounting quality. Specifically, we use the metrics of Dechow and Dichev (2002) and McNichols (2002), which are conceptually similar to the discretionary accrual models used before, while paying more emphasis on working-capital accruals and their explanation by cash flows from past, current and future periods. While the non-signed discretionary accruals after the error publication clearly hints at increased accounting quality, all other DiDs remain insignificant. Consequently, we cannot replicate our findings from above with the alternative accounting quality measures, highlighting the role of the employed proxies on the results gained (see Tables 10-12 in the appendix).

7. CONCLUSION

In this study we investigate the association between error announcements in the German enforcement setting and subsequent turnover of the audit firm or the personally responsible auditors; furthermore, we enhance this picture by shedding light on the effect of the named changes on accounting quality. Consequently, we regard our study as a further mosaic stone in the universe of studies dealing with the unique German enforcement system and particularly its proclaimed preventative and sanctioning function. In line previous evidence of Brocard et al. (2017), we cannot provide evidence of increased audit firm turnover due to error announcements, thereby contradicting studies from the US; the same holds for changes of the responsible auditors. Additionally, we can detect enhanced accounting quality in the aftermath of error announcements for those companies that switch their auditor or audit team. However, this effect cannot be attributed to changes in corporate governance, since it takes place in the gap year between error announcement and auditor turnover. Thus, the latter arguably fulfils a 'labeling' function, serving as a signal of restored accounting quality to stakeholders.

Our study contributes to existing literature by extending scarce evidence of personal consequences due to financial misreporting in the German setting. While we cannot infer clear evidence on the effectiveness of the German enforcement system, the findings hint at the fact that error announcements do not yield abnormal auditor changes, which in turn does not provide support for the politically postulated sanctioning function. In contrast, our analyses of changes in accounting quality suggests the presence of the expected preventative function, at least for the subsample of firms with changes in corporate governance.

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APPENDIX

Table 1. Companies subject to enforcement, FREP investigations, and detected errors (2006-2012)

	2005	2006	2007	2008	2009	2010	2011	2012	Total	Share
FREP investigations										
Total	7	109	135	138	118	118	110	113	848	100%
Random investigation	4	98	118	118	103	106	90	110	747	88%
Incident-based investigation	3	10	15	19	14	8	6	2	77	9%
Investigation due to BaFin's request	0	1	2	1	1	4	14	1	24	3%
Errors detected by FREP/BaFin										
Total	2	19	35	37	23	31	27	18	192	23%
Error rate	29%	17%	26%	27%	19%	26%	25%	16%		
Normalized errors		19	33	31	22	29	19	18	171	20%
Normalized error rate		17%	24%	22%	19%	25%	17%	16%		
Distribution of sample companies										
Total		2	15	12	21	16	21	12	99	52%
In relation to the error companies of the respective period		11%	43%	32%	91%	52%	78%	67%		
Companies subject to enforcement										
Population at July 1 of each year	1,253	1,161	1,087	1,019	966	914	873	825		
Balance of entries and exits		-92	-74	-68	-53	-52	-41	-48	-428	-34%

Notes: The numbers of examinations and error announcements are taken from the annual activity reports of FREP (2005-2012). Error findings are published with some time lag and therefore regularly do not correspond with completed examinations stated for the respective year.

Table 2. Variable definitions and data sources

Panel A: Auditor turnover

Variable	Abbreviation	Definition	Data Source
Dependent variables			
Change of audit firm or audit team	*CHANGE*	Binary variable that is coded as one if there is a change of a company's audit firm (CHANGEFIRM) or personally responsible auditors (CHANGETEAM) within the calendar years [0;1], [0;2] and [-1;0] with regard to the error announcement, according to the auditor election in shareholders' meeting.	handcollected
Variable of interest			
Error announcement	*ERROR*	Binary variable that is coded as one if the company is subject to an error announcement.	handcollected
Control variables			
Auditor's industry expertise	*EXPERT*	Binary variable that is coded as one if the audit firm is accountable for most of the audits in the relevant industry, according to the ICB industry classification. The calculation is based on the sample of companies with listed equity in the regulated market in Germany.	Worldscope
Short-term auditor tenure	*STTNR*	Binary variable that is coded as one if the audit firm or audit team has been employed for less than three years at the date of the error announcement.	handcollected
Long-term auditor tenure	*LTTNR*	Binary variable that is coded as one if the audit firm or audit team has been employed for five or more years at the date of the error announcement.	handcollected
Business segments	*SEG*	Number of business segments the firm reports for.	Worldscope
Firm size	*SIZE*	Natural logarithm of total assets in the year of the error announcement.	Worldscope
Financial leverage	*LEV*	Ratio of total liabililies over total assets in the year of the error announcement.	Worldscope
Return on assets	*ROA*	Ratio of net income over lagged total assets in the year of the error announcement.	Worldscope
Negative income	*LOSS*	Binary variable that is coded as one if the company reports negative net income in the year of the error announcement.	Worldscope
Firm growth	*GROWTH*	Percentage change in sales in the year of the error announcement.	Worldscope

Table 2. continued

Table 2. Variable definitions and data sources

Panel B: Earnings management

Variable	Abbreviation	Definition	Data Source
Dependent variables			
Earnings management	*EM*	Earnings management measure, comprising non-signed and signed values of the following discretionary accrual models: Jones (1991), Dechow et al. (1995), and Kothari et al. (2005).	Worldscope
Variables of interest			
Change of audit firm or audit team	*CHANGE*	Binary variable that is coded as one for those companies that change their audit firm or audit team. Partitions the error sample in two subsamples.	handcollected
Time indicator of error announcement	*POST_DETECT*	Binary variable that is coded as one for the year of the error announcement (i.e., affects financial statements for the year after the error announcement), and zero otherwise.	handcollected
Time indicator of change of audit firm or audit team	*POST_CHANGE*	Binary variable that is coded as one for the year of the change of the audit firm or the audit team (i.e., affects financial statements for the year after the change of the audit firm or the audit team), and zero otherwise.	handcollected
Interaction term I	*POST_DETECTxCHANGE*	Interaction term that captures the difference-in-differences, i.e. the effect of error announcements for those firms that will subsequently change their audit firm or audit team.	handcollected
Interaction term II	*POST_CHANGExCHANGE*	Interaction term that captures the difference-in-differences, i.e. the effect of error announcements for those firms that will subsequently change their audit firm or audit team.	handcollected
Control variables			
Firm size	*SIZE*	Natural logarithm of total assets in the year of the error announcement.	Worldscope
Firm growth	*GROWTH*	Percentage change in sales in the year of the error announcement.	Worldscope
Financial leverage	*LEV*	Total liabilities over total assets in the year of the error announcement.	Worldscope
Equity issue	*EISSUE*	Percentage change in common stock in the year of the error announcement.	Worldscope
Debt issue	*DISSUE*	Percentage change in total liabilities in the year of the error announcement.	Worldscope
Operating cash flow	*OCF*	Operating cashflow scaled by total assets in the year of the error announcement.	Worldscope
Asset turnover	*TURN*	Sales over total assets in the year of the error announcement.	Worldscope

Table 3. Descriptive statistics

Panel A: Error Sample

	Mean	Std. Deviation	Lower quartile	Median	Upper quartile	N
EXPERT	0.19	0.40				99
LTTNR	0.51	0.50				69
STTNR	0.79	0.41				92
SEG	2.71	1.58	1	2	4	94
SIZE [Mio.]	6,961.03	34,103.97	51.93	196.48	1,035.73	99
LEV	0.68	0.65	0.47	0.63	0.74	99
ROA	-0.03	0.21	-0.04	0.02	0.06	99
LOSS	0.37	0.49				99
GROWTH	0.10	0.63	-0.06	0.05	0.14	97

Panel B: Control Sample

	Mean	Std. Deviation	Lower quartile	Median	Upper quartile	N
EXPERT	0.25	0.44				99
LTTNR	0.62	0.49				76
STTNR	0.79	0.41				92
SEG	2.61	1.56	1	2	4	99
SIZE [Mio.]	4,755.61	23,548.39	49.41	205.87	945.42	99
LEV	0.56	0.29	0.36	0.53	0.70	99
ROA	0.00	0.32	0.00	0.03	0.07	99
LOSS	0.24	0.43				99
GROWTH	0.61	3.98	-0.10	0.04	0.17	97

Panel C: Error sample for earnings management analyses

	Mean	Std. Deviation	Lower quartile	Median	Upper quartile	N
SIZE [Mio.]	5,323.20	26,614.10	52.70	222.52	1,140.97	180
GROWTH	0.13	0.46	-0.06	0.05	0.17	180
LEV	0.65	0.43	0.51	0.61	0.76	180
EISSUE	0.16	1.06	0.00	0.00	0.00	180
DISSUE	0.11	0.63	-0.08	0.02	0.14	180
OCF [Mio.]	0.03	0.12	0.00	0.06	0.09	180
TURN	1.38	0.98	0.71	1.14	1.76	180

Notes: Panel A and B depict the descriptive statistics for the control variables of the multivariate analyses of audit firm or auditor change, separately for the error and control sample. Panel C shows the descriptive statistics for the control variables of the multivariate analyses of earnings management activities, covering 4 years per error company (1 year prior to two years after the error announcement). Since data availability is required for all variables, Panel C exhibits comparatively few firm-year observations due to restricted data coverage.

Table 4. Correlation matrix

Panel A: Correlations for analyses of auditor change

	ERROR	EXPERT	LTTNR	STTNR	SEG	SIZE	LEV	ROA	LOSS	GROWTH
ERROR		-0.07	-0.11	0.00	0.03	0.00	0.12	-0.05	**0.14**	-0.09
EXPERT	-0.06		0.08	0.02	0.09	**0.20**	-0.09	0.12	-0.04	-0.05
LTTNR	-0.10	0.09		**0.68**	0.10	**0.28**	-0.10	**0.18**	-0.11	-0.11
STTNR	-0.02	0.08	**0.68**		-0.06	**0.17**	-0.13	0.06	-0.06	-0.04
SEG	0.09	0.11	0.15	0.04		**0.41**	0.01	**0.17**	-0.12	-0.10
SIZE	0.03	**0.19**	**0.27**	**0.20**	**0.46**		-0.06	**0.28**	**-0.25**	0.03
LEV	**0.24**	-0.03	-0.09	-0.13	**0.38**	**0.30**		**-0.49**	**0.29**	0.03
ROA	-0.12	0.03	0.16	**0.22**	0.02	**0.18**	**-0.32**		**-0.49**	-0.05
LOSS	**0.17**	0.01	-0.14	-0.16	-0.04	**-0.21**	**0.20**	**-0.76**		0.12
GROWTH	0.07	-0.07	0.02	0.07	0.05	0.15	0.00	**0.32**	**-0.21**	

Panel B: Correlations for analyses of earnings management activities

	FIRM-CHANGE[0;2]	TEAM-CHANGE[0;2]	SIZE	GROWTH	LEVERAGE	EISSUE	DISSUE	OCF	TURN
FIRMCHANGE[0;2]		**0.60**	**-0.28**	0.02	0.11	0.10	-0.01	**-0.31**	**0.17**
TEAMCHANGE[0;2]	**0.60**		-0.07	0.03	0.09	0.06	-0.02	**-0.15**	-0.10
SIZE	**-0.24**	-0.06		0.08	-0.15	0.04	0.05	**0.26**	-0.08
GROWTH	-0.03	0.05	0.13		-0.01	0.12	**0.55**	0.03	0.11
LEV	-0.08	0.02	0.15	0.00		0.00	0.01	**-0.44**	**0.24**
EISSUE	**0.18**	0.07	0.04	**0.16**	0.14		-0.01	**-0.22**	0.01
DISSUE	-0.06	-0.02	0.12	**0.41**	0.08	**0.18**		0.13	0.00
OCF	**-0.23**	-0.10	**0.17**	0.04	**-0.35**	**-0.27**	0.01		-0.10
TURN	0.09	**-0.17**	0.07	0.09	**0.22**	0.10	-0.03	-0.04	

Notes: Panel A denotes Pearson correlations (above the diagonal) and Spearman correlations (below the diagonal) for the error and control sample, covering 4 years per company (1 year prior to 2 years after the error announcement); Panel B covers the error sample only. Marked correlations indicate two-tailed statistical significance at the 5% level.

Table 5. Univariate results - change of audit firm and audit team

Panel A: Change of audit firm

	CHANGEFIRM[-1;0]			CHANGEFIRM[0;1]			CHANGEFIRM[0;2]		
	N	Mean	Std. Err.	N	Mean	Std. Err.	N	Mean	Std. Err.
Error Sample	99	0.081	0.274	99	0.141	0.350	96	0.229	0.423
Control Sample	99	0.111	0.316	99	0.141	0.350	95	0.242	0.431
Difference	198	-0.030		198	0.000		191	-0.013	
p-value (2-tailed)		0.472			1.000			0.834	
p-value (1-tailed)		0.764			0.500			0.583	

Panel B: Change of audit team

	CHANGETEAM[-1;0]			CHANGETEAM[0;1]			CHANGETEAM[0;2]		
	N	Mean	Std. Err.	N	Mean	Std. Err.	N	Mean	Std. Err.
Error Sample	91	0.198	0.401	91	0.220	0.416	89	0.360	0.483
Control Sample	92	0.130	0.339	92	0.185	0.390	85	0.329	0.473
Difference	183	0.067		183	0.035		174	0.030	
p-value (2-tailed)		0.221			0.558			0.678	
p-value (1-tailed)		0.110			0.279			0.339	

Notes: The companies of the control sample are best matches of the error companies in terms of ICB industry classification and total assets.

Table 6. Univariate results - change of earnings management

Panel B: CHANGETEAM[0;2]

Measure	Sample		Pre-detect year		Post-detect / Pre-change year		Post-change year		Difference 1 (Post detect - pre detect)	p-value (2-tailed)	p-value (1-tailed)	Difference 2 (Post change - pre change)	p-value (2-tailed)	p-value (1-tailed)
		N	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error						
Non-signed DA	Treatment	17	0.095	0.098	0.063	0.043	0.053	0.045	-0.033	0.217	0.108	-0.010	0.532	0.266
(Jones 1991)	Control	28	0.076	0.085	0.069	0.064	0.091	0.099	-0.006	0.748	0.374	0.022	0.326	0.837
	Difference		0.020		-0.007		-0.038		-0.026	0.329	0.164	-0.032	0.315	0.158
	p-value (2-tailed)		0.480		0.709		0.142		0.329			0.315		
Non-signed DA	Treatment	17	0.094	0.100	0.062	0.043	0.054	0.048	-0.032	0.241	0.121	-0.009	0.577	0.288
(Dechow et al. 1995)	Control	28	0.083	0.084	0.065	0.067	0.087	0.099	-0.018	0.377	0.188	0.023	0.321	0.840
	Difference		0.011		-0.002		-0.034		-0.013	0.578	0.289	-0.031	0.352	0.176
	p-value (2-tailed)		0.690		0.901		0.195		0.578			0.352		
Non-signed DA	Treatment	17	0.080	0.073	0.065	0.051	0.039	0.032	-0.015	0.490	0.245	-0.026	0.089	0.044
(Kothari et al. 2005)	Control	28	0.080	0.068	0.058	0.054	0.064	0.074	-0.022	0.190	0.095	0.006	0.743	0.629
	Difference		0.000		0.006		-0.025		0.007	0.732	0.634	-0.031	0.202	0.101
	p-value (2-tailed)		0.988		0.700		0.194		0.732			0.202		
Signed DA	Treatment	17	-0.036	0.134	0.000	0.078	-0.015	0.069	0.036	0.352	0.824	-0.015	0.565	0.282
(Jones 1991)	Control	28	-0.012	0.114	0.024	0.092	0.011	0.136	0.037	0.188	0.906	-0.013	0.676	0.338
	Difference		-0.023		-0.025		-0.026		-0.001	0.973	0.486	-0.002	0.973	0.486
	p-value (2-tailed)		0.535		0.359		0.460		0.973			0.973		
Signed DA	Treatment	17	-0.033	0.135	-0.003	0.078	-0.018	0.071	0.031	0.421	0.789	-0.015	0.552	0.276
(Dechow et al. 1995)	Control	28	-0.012	0.119	0.036	0.087	0.017	0.132	0.048	0.089	0.956	-0.020	0.506	0.253
	Difference		-0.022		-0.039		-0.034		-0.017	0.624	0.312	0.005	0.920	0.540
	p-value (2-tailed)		0.576		0.135		0.328		0.624			0.920		
Signed DA	Treatment	17	0.027	0.106	0.004	0.084	-0.008	0.051	-0.023	0.487	0.244	-0.012	0.610	0.305
(Kothari et al. 2005)	Control	28	0.009	0.106	0.034	0.073	0.026	0.095	0.025	0.311	0.845	-0.008	0.728	0.364
	Difference		0.018		-0.029		-0.034		-0.048	0.150	0.075	-0.004	0.905	0.453
	p-value (2-tailed)		0.575		0.220		0.184		0.150			0.905		

Note: The earnings management metrics are winsorized at the 1st and 99th percentile.

Table 7. Multivariate results - drivers of auditor turnover

	CHANGEFIRM[0;1]	CHANGEFIRM[0;2]	CHANGETEAM[0;1]	CHANGETEAM[0;2]
Intercept	-0.97	1.55	0.35	0.83
	(-0.77)	(1.33)	(0.27)	(0.76)
ERROR	0.23	-0.15	0.63	0.05
	(0.37)	(-0.29)	(1.08)	(0.12)
EXPERT	0.16	0.29	0.41	0.31
	(0.20)	(0.48)	(0.68)	(0.66)
LTTNR	-0.83	-0.48	-0.07	0.23
	(-1.10)	(-0.76)	(-0.10)	(0.39)
STTNR	0.95	0.58	0.77	0.57
	(1.11)	(0.84)	(0.99)	(0.89)
SEG	0.31	0.23	0.17	0.18
	(1.54)	(1.61)	(1.10)	(1.36)
SIZE	-0.19	-0.31***	-0.30**	-0.21**
	(-1.37)	(-2.92)	(-2.40)	(-2.22)
LEV	-0.58	-0.24	0.03	-0.27
	(-0.93)	(-0.48)	(0.06)	(-0.61)
ROA	-3.17	-1.40	0.36	-1.87
	(-1.04)	(-0.67)	(0.17)	(-1.09)
LOSS	0.18	0.36	0.62	0.07
	(0.23)	(0.54)	(0.97)	(0.12)
GROWTH	0.01	-0.04	-0.03	-0.13
	(0.15)	(-0.53)	(-0.32)	(-0.90)
Pseudo-R^2	0.08	0.09	0.09	0.06
Chi^2	7.42	13.73	7.23	9.94
Prob > Chi^2	0.69	0.19	0.70	0.45
N	139	135	130	124

Notes: This table shows results from logistic regressions of auditor change in one and two subsequent years after an error announcement on the variables of interest and control variables. *, ** and *** denote two-tailed statistical significance on the 10%, 5% and 1% level, respectively.

Table 8. Multivariate results - drivers of earnings management

Panel A: Impact of CHANGEFIRM[0;2] on earnings management

	Non-signed DA (Jones 1991)	Non-signed DA (Dechow et al. 1995)	Non-signed DA (Kothari et al. 2005)	Non-signed DA (Jones 1991)	Non-signed DA (Dechow et al. 1995)	Non-signed DA (Kothari et al. 2005)
Intercept	0.02	0.07	-0.00	0.28**	0.27**	0.17**
	(0.17)	(0.80)	(-0.05)	(2.62)	(2.54)	(2.42)
FIRMCHANGE[0;2]	0.01	-0.00	0.02	-0.04*	-0.04	-0.02
	(0.14)	(-0.08)	(0.67)	(-1.74)	(-1.50)	(-0.72)
POST_DETECT	-0.01	-0.02	-0.01			
	(-0.40)	(-1.13)	(-0.70)			
POST_DETECTx FIRMCHANGE[0;2]	-0.02	-0.01	-0.03			
	(-0.42)	(-0.15)	(-0.71)			
POST_CHANGE				0.01	0.02	0.00
				(0.81)	(1.13)	(0.19)
POST_CHANGEx FIRMCHANGE[0;2]				0.03	0.03	-0.00
				(1.08)	(0.86)	(-0.18)
SIZE	-0.01**	-0.01**	-0.00	-0.01*	-0.01*	-0.01**
	(-2.05)	(-2.42)	(-1.43)	(-1.95)	(-1.93)	(-2.58)
GROWTH	-0.00	-0.01	0.01	0.06**	0.01	0.02
	(-0.04)	(-0.37)	(0.31)	(2.28)	(0.30)	(0.83)
LEV	0.06	0.04	0.02	-0.02	-0.02	-0.01
	(1.64)	(1.31)	(0.89)	(-1.11)	(-1.36)	(-0.63)
EISSUE	0.00	0.01	0.01	0.01	0.02***	0.02***
	(0.57)	(0.73)	(1.19)	(1.27)	(5.84)	(4.13)
DISSUE	0.03*	0.03*	0.01	0.00	-0.02	0.00
	(1.79)	(1.77)	(1.10)	(0.01)	(-0.45)	(0.14)
OCF	-0.11	-0.08	-0.07	-0.20	-0.19	-0.10
	(-1.03)	(-0.81)	(-1.02)	(-1.60)	(-1.53)	(-0.99)
TURN	-0.00	-0.00	-0.00	-0.01	-0.01	-0.01
	(-0.02)	(-0.06)	(-0.05)	(-0.81)	(-0.58)	(-1.47)
Industry fixed effects	YES	YES	YES	YES	YES	YES
R^2	0.29	0.26	0.26	0.23	0.28	0.27
Adj. R^2	0.14	0.11	0.12	0.08	0.14	0.13
F-statistic	1.77	1.75	1.81	3.55	8.61	14.29
Prob > F	0.06	0.06	0.05	0.00	0.00	0.00
N	90	90	90	90	90	90

Table 8. continued

Table 8. Multivariate results - drivers of earnings management

Panel B: Impact of CHANGETEAM[0;2] on earnings management

	Non-signed DA (Jones 1991)	Non-signed DA (Dechow et al. 1995)	Non-signed DA (Kothari et al. 2005)	Non-signed DA (Jones 1991)	Non-signed DA (Dechow et al. 1995)	Non-signed DA (Kothari et al. 2005)
Intercept	0.00	0.05	0.02	0.27**	0.25**	0.15**
	(0.03)	(0.84)	(0.39)	(2.54)	(2.39)	(2.42)
TEAMCHANGE[0;2]	0.01	0.00	-0.01	-0.02	-0.01	0.00
	(0.45)	(0.07)	(-0.49)	(-1.07)	(-0.73)	(0.17)
POST_DETECT	-0.00	-0.02	-0.02			
	(-0.10)	(-1.00)	(-1.52)			
POST_DETECTx TEAMCHANGE[0;2]	-0.02	-0.00	0.02			
	(-0.64)	(-0.14)	(0.70)			
POST_CHANGE				0.03	0.03	0.01
				(1.40)	(1.66)	(0.87)
POST_CHANGEx TEAMCHANGE[0;2]				-0.02	-0.02	-0.03
				(-0.78)	(-0.85)	(-1.43)
SIZE	-0.01**	-0.01***	-0.00	-0.01**	-0.01*	-0.01**
	(-2.30)	(-2.67)	(-1.63)	(-2.01)	(-1.94)	(-2.62)
GROWTH	-0.00	-0.01	0.01	0.05**	0.01	0.02
	(-0.06)	(-0.36)	(0.37)	(2.26)	(0.21)	(0.87)
LEV	0.05	0.04	0.02	-0.01	-0.02	-0.00
	(1.57)	(1.28)	(0.75)	(-0.71)	(-0.99)	(-0.27)
EISSUE	0.00	0.01	0.01	0.01	0.02***	0.02***
	(0.54)	(0.71)	(1.56)	(1.19)	(5.76)	(4.14)
DISSUE	0.03*	0.03*	0.01	0.01	-0.01	0.01
	(1.83)	(1.79)	(1.16)	(0.15)	(-0.29)	(0.21)
OCF	-0.10	-0.08	-0.08	-0.18*	-0.17	-0.08
	(-1.07)	(-0.79)	(-1.02)	(-1.70)	(-1.54)	(-0.85)
TURN	0.00	-0.00	-0.00	-0.01	-0.01	-0.01
	(0.02)	(-0.07)	(-0.21)	(-1.00)	(-0.74)	(-1.55)
Industry fixed effects	YES	YES	YES	YES	YES	YES
R^2	0.29	0.26	0.26	0.26	0.29	0.29
Adj. R^2	0.15	0.11	0.11	0.10	0.15	0.14
F-statistic	1.71	1.71	2.02	3.21	7.02	8.17
Prob > F	0.07	0.07	0.02	0.00	0.00	0.00
N	90	90	90	90	90	90

Notes: This table shows OLS regression results of earnings management measures on the variables of interest and control variables. All earnings management metrics are winsorized at the 1st and 99th percentile. The regressions are estimated using White heteroscedasticity-robust standard errors. *, ** and *** denote two-tailed statistical significance on the 10%, 5% and 1% level, respectively.

Table 9. Robustness test - univariate results of auditor turnover

Panel A: Change of audit firm - Control sample 2

	CHANGEFIRM[-1;0]			CHANGEFIRM[0;1]			CHANGEFIRM[0;2]		
	N	Mean	Std. Err.	N	Mean	Std. Err.	N	Mean	Std. Err.
Error Sample	94	0.074	0.264	94	0.128	0.335	91	0.209	0.409
Control Sample	94	0.085	0.281	94	0.106	0.310	90	0.244	0.432
Difference		-0.011			0.021			-0.036	
p-value (2-tailed)		0.789			0.652			0.569	
p-value (1-tailed)		0.605			0.326			0.715	

Panel B: Change of audit team - Control sample 2

	CHANGETEAM[-1;0]			CHANGETEAM[0;1]			CHANGETEAM[0;2]		
	N	Mean	Std. Err.	N	Mean	Std. Err.	N	Mean	Std. Err.
Error Sample	92	0.196	0.399	92	0.196	0.399	90	0.344	0.478
Control Sample	93	0.118	0.325	93	0.129	0.337	86	0.267	0.445
Difference		0.077			0.067			0.077	
p-value (2-tailed)		0.149			0.221			0.271	
p-value (1-tailed)		0.075			0.111			0.135	

Panel C: Change of audit firm - Control sample 3

	CHANGEFIRM[-1;0]			CHANGEFIRM[0;1]			CHANGEFIRM[0;2]		
	N	Mean	Std. Err.	N	Mean	Std. Err.	N	Mean	Std. Err.
Error Sample	93	0.065	0.247	93	0.129	0.337	90	0.211	0.410
Control Sample	93	0.151	0.360	93	0.183	0.389	92	0.272	0.447
Difference		-0.086			-0.054			-0.061	
p-value (2-tailed)		0.059			0.315			0.342	
p-value (1-tailed)		0.971			0.843			0.829	

Panel D: Change of audit team - Control sample 3

	CHANGETEAM[-1;0]			CHANGETEAM[0;1]			CHANGETEAM[0;2]		
	N	Mean	Std. Err.	N	Mean	Std. Err.	N	Mean	Std. Err.
Error Sample	91	0.187	0.392	91	0.209	0.409	89	0.360	0.483
Control Sample	92	0.130	0.339	92	0.185	0.390	91	0.319	0.469
Difference		0.056			0.024			0.041	
p-value (2-tailed)		0.299			0.685			0.565	
p-value (1-tailed)		0.149			0.342			0.283	

Table 9. continued

Table 9. Robustness test - univariate results of auditor turnover

Panel E: Change of audit firm - Control sample 4

	CHANGEFIRM[-1;0]			CHANGEFIRM[0;1]			CHANGEFIRM[0;2]		
	N	Mean	Std. Err.	N	Mean	Std. Err.	N	Mean	Std. Err.
Error Sample	93	0.075	0.265	93	0.129	0.337	91	0.209	0.409
Control Sample	93	0.108	0.311	93	0.183	0.389	92	0.315	0.467
Difference		-0.032			-0.054			-0.106	
p-value (2-tailed)		0.448			0.315			0.103	
p-value (1-tailed)		0.776			0.843			0.949	

Panel F: Change of audit team - Control sample 4

	CHANGETEAM[-1;0]			CHANGETEAM[0;1]			CHANGETEAM[0;2]		
	N	Mean	Std. Err.	N	Mean	Std. Err.	N	Mean	Std. Err.
Error Sample	91	0.209	0.409	91	0.198	0.401	90	0.344	0.478
Control Sample	92	0.174	0.381	92	0.141	0.350	90	0.289	0.456
Difference		0.035			0.056			0.056	
p-value (2-tailed)		0.551			0.311			0.426	
p-value (1-tailed)		0.276			0.155			0.213	

Notes: Compared with the error sample, control sample 2 exhibits the best match in terms of ICB industry classification and market capitalization, control sample 3 exhibits the best match in terms of Fama-French 12-industry classification and total assets, and control sample 4 exhibits the best match in terms of Fama-French 12-industry classification and market capitalization.

Table 10. Robustness test - univariate results of earnings management

Panel A: CHANGEFIRM[0;2]

Measure	Sample		Pre-detect year		Post-detect / Pre-change year		Post-change year		Difference 1 (Post detect - pre detect)	p-value (2-tailed)	p-value (1-tailed)	Difference 2 (Post change - pre change)	p-value (2-tailed)	p-value (1-tailed)
		N	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error						
Non-signed DA	Treatment	8	0.153	0.096	0.057	0.054	0.101	0.087	-0.096	0.027	0.013	0.044	0.248	0.876
(Dechow/Dichev 2002)	Control	37	0.084	0.096	0.063	0.061	0.058	0.086	-0.021	0.259	0.130	-0.005	0.778	0.389
	Difference		0.069		-0.006		0.043		-0.075	0.024	0.012	0.049	0.256	0.872
	p-value (2-tailed)		0.071		0.810		0.210		0.024			0.256		
Non-signed DA	Treatment	8	0.128	0.100	0.036	0.036	0.084	0.073	-0.092	0.028	0.014	0.048	0.118	0.941
(McNichols 2000)	Control	37	0.067	0.091	0.070	0.071	0.051	0.070	0.003	0.857	0.571	-0.019	0.237	0.119
	Difference		0.061		-0.034		0.033		-0.096	0.021	0.011	0.068	0.085	0.957
	p-value (2-tailed)		0.097		0.192		0.231		0.021			0.085		
Signed DA	Treatment	8	-0.038	0.185	-0.021	0.078	-0.031	0.135	0.017	0.810	0.595	-0.010	0.858	0.429
(Dechow/Dichev 2002)	Control	37	-0.008	0.128	0.011	0.087	-0.003	0.104	0.018	0.471	0.765	-0.014	0.538	0.269
	Difference		-0.031		-0.032		-0.028		-0.001	0.981	0.491	0.004	0.949	0.526
	p-value (2-tailed)		0.575		0.349		0.519		0.981			0.949		
Signed DA	Treatment	8	-0.068	0.153	0.001	0.053	-0.017	0.114	0.069	0.246	0.877	-0.018	0.687	0.344
(McNichols 2000)	Control	37	-0.022	0.111	0.007	0.100	-0.001	0.087	0.029	0.249	0.875	-0.008	0.719	0.359
	Difference		-0.046		-0.006		-0.016		0.041	0.366	0.817	-0.010	0.854	0.427
	p-value (2-tailed)		0.323		0.879		0.656		0.366			0.854		

Table 10. Robustness test - univariate results of earnings management

Panel B: CHANGETEAM[0;2]

Measure	Sample		Pre-detect year		Post-detect / Pre-change year		Post-change year		Difference 1	p-value	p-value	Difference 2	p-value	p-value
		N	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error	(Post detect - pre detect)	(2-tailed)	(1-tailed)	(Post change - pre change)	(2-tailed)	(1-tailed)
Non-signed DA	Treatment	17	0.117	0.108	0.067	0.053	0.064	0.072	-0.050	0.096	0.048	-0.003	0.884	0.442
(Dechow/Dichev 2002)	Control	28	0.084	0.093	0.058	0.063	0.066	0.096	-0.025	0.238	0.119	0.008	0.717	0.642
	Difference		0.033		0.009		-0.003		-0.025	0.356	0.178	-0.011	0.744	0.372
	p-value (2-tailed)		0.279		0.644		0.924		0.356			0.744		
Non-signed DA	Treatment	17	0.112	0.111	0.057	0.048	0.051	0.060	-0.056	0.066	0.033	-0.005	0.778	0.389
(McNichols 2000)	Control	28	0.057	0.077	0.069	0.077	0.060	0.077	0.012	0.559	0.721	-0.009	0.672	0.336
	Difference		0.056		-0.012		-0.009		-0.068	0.038	0.019	0.003	0.913	0.544
	p-value (2-tailed)		0.053		0.560		0.692		0.038			0.913		
Signed DA	Treatment	17	-0.056	0.151	-0.027	0.083	-0.024	0.095	0.030	0.482	0.759	0.003	0.925	0.538
(Dechow/Dichev 2002)	Control	28	0.013	0.125	0.024	0.083	0.001	0.118	0.011	0.690	0.655	-0.023	0.404	0.202
	Difference		-0.069		-0.051		-0.025		0.018	0.587	0.707	0.026	0.575	0.712
	p-value (2-tailed)		0.103		0.052		0.460		0.587			0.575		
Signed DA	Treatment	17	-0.077	0.139	-0.013	0.074	-0.012	0.079	0.065	0.101	0.949	0.000	0.995	0.502
(McNichols 2000)	Control	28	-0.001	0.096	0.017	0.103	0.001	0.098	0.018	0.494	0.753	-0.016	0.561	0.280
	Difference		-0.076		-0.030		-0.014		0.046	0.190	0.905	0.016	0.723	0.639
	p-value (2-tailed)		0.036		0.308		0.631		0.190			0.723		

Note: The earnings management metrics are winsorized at the 1st and 99th percentile.

Table 11. Robustness test - multivariate results of auditor turnover

Panel A: Error sample and Control sample II

	CHANGEFIRM[0;1]	CHANGEFIRM[0;2]	CHANGETEAM[0;1]	CHANGETEAM[0;2]
Intercept	1.54	2.30*	1.11	0.01
	(1.03)	(1.68)	(0.63)	(0.01)
ERROR	-0.17	-0.76	1.01*	0.44
	(-0.23)	(-1.46)	(1.75)	(0.91)
EXPERT	1.29**	0.81	1.65**	1.01**
	(1.98)	(1.52)	(2.48)	(2.03)
LTTNR	-0.86	-0.79	0.32	0.32
	(-0.83)	(-1.08)	(0.38)	(0.48)
STTNR	1.50	1.85**	0.94	1.61**
	(1.51)	(2.24)	(1.03)	(2.09)
SEG	0.42**	0.17	0.30	0.20
	(1.96)	(1.01)	(1.62)	(1.19)
SIZE	-0.43***	-0.40***	-0.51***	-0.28**
	(-2.80)	(-3.27)	(-2.63)	(-2.18)
LEV	-0.41	-0.31	0.33	-0.31
	(-0.57)	(-0.58)	(0.62)	(-0.67)
ROA	-2.68	-0.94	1.64	-1.57
	(-0.94)	(-0.48)	(0.85)	(-0.90)
LOSS	-1.39	0.19	0.64	0.56
	(-1.25)	(0.29)	(0.94)	(1.00)
GROWTH	0.49	0.68	0.12	0.15
	(0.58)	(0.99)	(0.16)	(0.28)
Pseudo-R^2	0.16	0.14	0.17	0.14
Chi^2	13.65	19.60	12.26	15.66
Prob > Chi^2	0.19	0.03	0.27	0.11
N	137	132	136	130

Table 11. continued

Table 11. Robustness test - multivariate results of auditor turnover

Panel B: Error sample and Control sample III

	CHANGEFIRM[0;1]	CHANGEFIRM[0;2]	CHANGETEAM[0;1]	CHANGETEAM[0;2]
Intercept	0.30	1.31	-0.35	0.46
	(0.18)	(1.00)	(-0.25)	(0.45)
ERROR	-0.81	-0.50	-0.34	-0.13
	(-1.51)	(-1.09)	(-0.69)	(-0.32)
EXPERT	-0.97	-0.71	0.02	0.06
	(-0.93)	(-0.84)	(0.03)	(0.10)
LTTNR	0.75	0.60	0.71	0.60
	(0.99)	(0.89)	(1.11)	(1.09)
STTNR	1.35	0.35	1.91**	1.21*
	(1.38)	(0.47)	(2.18)	(1.96)
SEG	0.20	0.23	0.13	0.15
	(1.07)	(1.54)	(0.82)	(1.13)
SIZE	-0.29**	-0.29**	-0.32**	-0.25**
	(-1.96)	(-2.43)	(-2.56)	(-2.47)
LEV	-0.38	-0.32	0.65	0.06
	(-0.46)	(-0.48)	(1.02)	(0.10)
ROA	1.22	0.37	3.72	0.95
	(0.35)	(0.12)	(1.25)	(0.32)
LOSS	0.58	0.60	1.13*	1.00*
	(0.76)	(0.90)	(1.71)	(1.76)
GROWTH	0.04	-0.03	0.06	0.00
	(0.45)	(-0.38)	(0.78)	(0.03)
Pseudo-R^2	0.14	0.11	0.14	0.11
Chi^2	14.83	16.77	21.01	17.32
Prob > Chi^2	0.14	0.08	0.02	0.07
N	130	129	129	129

Table 11. continued

Table 11. Multivariate results - drivers of auditor turnover

Panel C: Error sample and Control sample IV

	CHANGEFIRM[0;1]	CHANGEFIRM[0;2]	CHANGETEAM[0;1]	CHANGETEAM[0;2]
Intercept	1.08	0.76	0.14	-0.44
	(0.52)	(0.49)	(0.07)	(-0.34)
ERROR	-1.06*	-1.19**	0.52	0.14
	(-1.89)	(-2.45)	(0.95)	(0.31)
EXPERT	-0.42	0.10	0.72	0.55
	(-0.58)	(0.17)	(1.05)	(1.09)
LTTNR	-0.25	-0.71	0.86	0.72
	(-0.30)	(-1.12)	(1.10)	(1.19)
STTNR	1.38	1.97**	0.81	1.03
	(1.37)	(2.47)	(0.83)	(1.43)
SEG	0.13	-0.08	-0.01	-0.03
	(0.54)	(-0.42)	(-0.03)	(-0.15)
SIZE	-0.19	-0.18	-0.30*	-0.15
	(-1.09)	(-1.41)	(-1.74)	(-1.32)
LEV	-1.63**	-0.56	0.04	-0.33
	(-2.30)	(-0.83)	(0.06)	(-0.62)
ROA	-7.62***	-2.03	1.00	-1.00
	(-2.63)	(-0.68)	(0.27)	(-0.43)
LOSS	-1.70*	0.33	0.59	0.68
	(-1.88)	(0.45)	(0.73)	(1.10)
GROWTH	1.46	1.15	0.78	0.65
	(1.47)	(1.58)	(1.06)	(1.15)
Pseudo-R^2	0.16	0.14	0.12	0.11
Chi^2	17.62	17.88	12.62	13.47
Prob > Chi^2	0.06	0.06	0.25	0.20
N	133	131	132	131

Notes: This table shows results from logistic regressions of auditor change in one and two subsequent years after an error announcement on the variables of interest and control variables. *, ** and *** denote two-tailed statistical significance on the 10%, 5% and 1% level, respectively.

Table 12. Robustness test - multivariate results of earnings management

Panel A: Impact of CHANGEFIRM[0;2] on earnings management

	Non-signed DA (Dechow/Dichev 2002)	Non-signed DA (McNichols 2002)	Non-signed DA (Dechow/Dichev 2002)	Non-signed DA (McNichols 2002)
Intercept	-0.03	-0.05	0.10	0.11
	(-0.29)	(-0.48)	(1.06)	(1.17)
FIRMCHANGE[0;2]	0.04	0.04	-0.03	-0.04**
	(1.04)	(1.16)	(-1.23)	(-2.19)
POST_DETECT	-0.02	0.01		
	(-1.11)	(0.42)		
POST_DETECTx FIRMCHANGE[0;2]	-0.05	-0.07*		
	(-1.51)	(-1.91)		
POST_CHANGE			0.00	-0.01
			(0.09)	(-0.91)
POST_CHANGEx FIRMCHANGE[0;2]			0.06*	0.07**
			(1.72)	(2.49)
SIZE	-0.00	-0.00	-0.01	-0.00
	(-1.35)	(-0.75)	(-1.08)	(-0.99)
GROWTH	0.03	0.02	0.02	0.05*
	(1.00)	(0.70)	(0.94)	(1.86)
LEV	0.08**	0.08**	-0.02	-0.02
	(2.34)	(2.11)	(-0.72)	(-1.02)
EISSUE	0.01*	0.01***	0.02***	0.01
	(1.91)	(3.02)	(4.90)	(1.01)
DISSUE	0.00	0.01	-0.03	0.04
	(0.24)	(0.42)	(-0.76)	(0.90)
OCF	-0.12	-0.04	-0.22*	-0.17*
	(-1.38)	(-0.42)	(-1.96)	(-1.80)
TURN	0.00	-0.00	-0.00	-0.00
	(0.43)	(-0.34)	(-0.36)	(-0.29)
Industry fixed effects	YES	YES	YES	YES
R^2	0.44	0.32	0.29	0.27
Adj. R^2	0.32	0.18	0.15	0.12
F-statistic	2.62	3.42	8.22	6.55
Prob > F	0.00	0.00	0.00	0.00
N	90	90	90	90

Table 12. continued

Table 12. Robustness test - multivariate results of earnings management

Panel B: Impact of CHANGETEAM[0;2] on earnings management

	Non-signed DA (Dechow/Dichev 2002)	Non-signed DA (McNichols 2002)	Non-signed DA (Dechow/Dichev 2002)	Non-signed DA (McNichols 2002)
Intercept	-0.02	-0.06	0.09	0.10
	(-0.35)	(-0.78)	(0.99)	(1.15)
TEAMCHANGE[0;2]	0.01	0.04	0.00	-0.01
	(0.48)	(1.18)	(0.20)	(-0.67)
POST_DETECT	-0.02	0.01		
	(-1.55)	(0.74)		
POST_DETECTx TEAMCHANGE[0;2]	-0.00	-0.05		
	(-0.15)	(-1.42)		
POST_CHANGE			0.02	-0.00
			(0.78)	(-0.10)
POST_CHANGEx TEAMCHANGE[0;2]			-0.01	0.00
			(-0.34)	(0.03)
SIZE	-0.01	-0.00	-0.01	-0.00
	(-1.40)	(-0.76)	(-1.13)	(-1.01)
GROWTH	0.03	0.02	0.02	0.04
	(0.99)	(0.62)	(0.63)	(1.53)
LEV	0.07**	0.08*	-0.01	-0.01
	(2.03)	(1.87)	(-0.57)	(-0.59)
EISSUE	0.01**	0.01***	0.02***	0.01
	(2.27)	(3.53)	(4.29)	(0.86)
DISSUE	0.00	0.01	-0.02	0.05
	(0.37)	(0.57)	(-0.51)	(1.08)
OCF	-0.13	-0.04	-0.21*	-0.16*
	(-1.40)	(-0.45)	(-1.89)	(-1.71)
TURN	0.00	-0.00	-0.00	-0.00
	(0.42)	(-0.27)	(-0.16)	(-0.19)
Industry fixed effects	YES	YES	YES	YES
R^2	0.43	0.31	0.27	0.24
Adj. R^2	0.31	0.18	0.12	0.08
F-statistic	2.76	4.27	9.80	8.15
Prob > F	0.00	0.00	0.00	0.00
N	90	90	90	90

Notes: This table shows regression results of earnings management measures on the variables of interest and control variables. All earnings management metrics are winsorized at the 1st and 99th percentile. The regressions are estimated using White heteroscedasticity-robust standard errors. *, ** and *** denote two-tailed statistical significance on the 10%, 5% and 1% level, respectively.