Targeted company CEO Retention and Earnings Management under Friendly Takeover

Abstract:

Research Question/Issue: This study seeks to understand whether the earnings management of targeted firms in friendly mergers and acquisitions (M&As) deals is related to the targeted CEOs' retention rates.

Research Findings/Insights: Using archival data from a European sample of 174 M&As, over the period 2005–2015, the empirical analysis documents first an income-decreasing manipulation for target firms the year before the M&A announcement. Second, downward accruals earnings management is associated with higher CEO retention, but for acquisitions that were completed eventually. However, the results do not exhibit that targeted company managers manipulate downward to trade-off their position relative to acquisition premium.

Theoretical/Academic Implications: The results seem to suggest that CEOs of target firms select accounting procedures that please the acquirer, thereby increasing the likelihood of retaining their CEO position, but do not harm the targeted shareholders.

Practitioner/Policy Implications: This study cautiously warns policymakers interested in tightening control of and regulating suspicious earnings management behaviour with respect to M&As. The evidence seems to suggest that the market participants involved in the M&A transaction are able to detect earnings management (EM) and distinguish between real activity manipulation and accruals manipulation. Moreover, the high scrutiny around M&As seems to discourage opportunistic EM strategies.

1. Introduction

Several studies have investigated managers' incentives to manage earnings before mergers and acquisitions (M&A) transactions. The literature suggests that the type of acquisition (hostile versus friendly) mainly drives the earnings management (EM) policy. In the case of hostile takeovers, as managers do not agree with the acquisition, they strive to convince the current shareholders that the firm's performance is sufficient given the market expectation. In doing so, they opt for income-increasing accounting procedures (DeAngelo 1986; Easterwood 1998; Erickson and Wang 1999). EM policy alternatives raise more debate in the case of friendly takeovers. The literature observes that managers of target firms may act opportunistically and decide to trade existing shareholders' wealth for private benefits (Shleifer and Vishny 2003; Hartzell et al. 2004; Wulf 2004; Moeller 2005; Fich et al. 2011, 2013; Qiu et al. 2014). Some authors advocate that targeted managers strive to decrease the premium for acquirers. They are therefore more likely to choose an income-decreasing procedure (Perry and Williams 1994; Shleifer and Vishny 2003; Ben-Amar and Missonier-Piera 2008), as done in the case of a management buyout (MBO) (Perry and Williams 1994; Wu 1997; Begley et al. 2003; Fischer and Louis 2008; Mao and Renneboog 2015). Alternatively, some authors argue that targeted managers may choose to downward manipulate in order to set up fictitious performance in the post-acquisition period (Ben-Amar and Missonier-Piera 2008; Chen et al. 2016) or to mitigate litigation risks (Abbott et al. 2006). These motivations to manage the earnings downward can ease the transaction and increase the likelihood of their retention in the combined firm. Few studies consider that management may try to maximise the wealth of targeted shareholders, and then select an income-increasing accounting procedure to increase the acquisition premium (Erickson and Wang 1999; Campa and Hajbaba 2016; Vasilescu and Millo 2016). Moreover, some authors find evidence against the opportunism of targeted managers when they analyse the trade-off between management retention and targeted shareholders' wealth (Agrawal and Walkling 1994; Bargeron et al. 2010, 2017). Since previous literature does not agree on the motivations for EM before friendly takeover, and because the consequences of EM are not completely clear in the context of a friendly M&A, this study aims at investigating the impact of EM practices on the CEOs' retention rate in the case of friendly acquisitions. First, we assume that target firms in a friendly takeover are likely to choose income-decreasing accounting choices, consistent with most of the existing literature on MBOs and friendly takeovers. Second, we hypothesise the downward EM of target firms is aimed at meeting

acquirers' expectations (i.e. to reduce litigation risks and to create artificial future performance), so EM should lead to a higher retention rate.

The study is based on a sample of 174 European firms that have been subject to an acquisition or an acquisition attempt during the period 2005–2015. The relevant EM is inspected for abnormal accruals and real earnings management in the annual report immediately preceding the acquisition announcement. First, the empirical results indicate that European target firms select income-decreasing accounting choices before the M&A announcement compared to a control sample of non-target firms. Second, for completed transactions only, downward accruals earnings management is associated with higher CEO retention. Moreover, the acquisition premium seems unrelated to CEO retention, neither for firms that manage earnings nor for firms that do not manipulate earnings. These latter results suggest that managers of target firms select efficient accounting procedures that can increase earnings in the post-acquisition period through the accruals reversal effect. Moreover, these accounting choices seem to be rewarded by the acquirer with a higher retention rate, but they do not harm the targeted shareholders' wealth. Lastly, we contribute to the literature on the differential effect of manipulation techniques. While accruals EM is rewarded for a completed deal, real activity manipulation is punished because of the suspected negative effect on long-term performance.

Our study's findings suggest that (1) targeted managers in friendly acquisitions manage earnings downward. (2) CEOs of completed (cancelled) deals, who manipulate earnings downward, are more (less) likely to retain their jobs. (3) CEOs seem not to bargain their position with the target shareholders' wealth, independently of the level of EM. As a whole, CEOs seem to manage earnings in order to please the acquirer, while not harming the target shareholders.

The remainder of this paper is organised as follows. Section 2 summarises the previous literature that deals with EM in an M&A context. Section 3 presents the study's research design. The empirical results are discussed in section 4, followed by the conclusion in the last section.

2. Literature review and hypothesis

2.1 Managerial Opportunism during M&As

CEO and top executives are particularly concerned with M&A, especially those from the targeted companies. Indeed, literature exhibits that managers of target firms experience higher turnover compared to non-target firms (Walsh 1988, 1989; Martin and McConnell 1991; Hambrick and Cannella 1993; Kennedy and Limmack 1996; Denis et al. 1997; Dahya and Powell 1998). Although departure can be the result of a lack of performance, the loss of autonomy in the post-acquisition entity (Hayes, 1979) or a downgraded post-acquisition social status (Hambrick and Cannella, 1993) can trigger CEO voluntary decision also.[1]

Hence, some authors investigate the motivations of targeted managers to collude with the acquirer in order to receive a higher compensation or to maintain power inside the combined entity (e.g. Hartzell et al., 2004; Wulf, 2004; Moeller, 2005; Fich et al., 2011, 2013; Qiu et al., 2014). Wulf (2004) observes that there is a trade-off between target manager power in the post-merger entity and the wealth of the targeted shareholders. CEOs seem to lower the acquisition price at the expense of shareholders in order to maintain a position of power in the post-acquisition firm. Similarly, Qiu et al. (2014), in a large sample of US transactions between 1994 and 2010, observe that the retention of the target firm's CEO is related to a 6% lower premium. [2] Hartzell et al. (2004) find that CEOs trade large side payments (or bonuses) for a top position in the new company. CEOs that are likely to act with such opportunistic behaviour are those who have the highest abnormal compensation during the pre-acquisition period. Fich et al. (2011) observe the trade-off between the acquisition premium and unscheduled stock options, and similarly Fich et al. (2013) observed that between the premium and golden parachutes.[3]

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[1] This concern has interested both academics and the press, which has exposed the argument for targeted managers' opportunistic behaviours with anecdotal evidence (Sorkin 2002; Maremont 2009). For example, the targeted CEO of J.P. Morgan received an extraordinary bonus of $20 million (including regular salary bonuses of $6 million) for the deal completion with Chase Manhattan Corporation. The targeted CEO of Compaq was offered $14.4 million for the deal completion with Hewlett-Packard.

[2] Moreover, they show that when the targeted CEO is not retained, the side payments are negatively related to the premium.

[3] An alternative explanation, which partly matches these evidences, is that such findings may be driven by endogeneity (Fich et al. 2013; Qiu et al. 2014; Broughman 2017). High synergistic acquisitions are related to a higher premium. However, for low-synergy acquisitions, managers must be incentivized to compensate for the lower premium extracted via personal ownership to support the merger.

Other studies find opposite results. Agrawal and Walkling (1994) observe that CEOs who remain in place after a deal do not have a significantly higher salary than the CEOs of non-target peer firms. Additionally, the completion of the deal or the attitude of the transaction (friendly versus hostile) also does not influence the retention rate. Bargeron et al. (2010) investigate the relationship between the acquisition premium and the private benefits of CEOs. In terms of staff turnover, their results show that there is no association with the premium, but they find an association with the skills and knowledge of CEOs (proxied by variables relating to performance in the pre-acquisition period, specialised firm, diversified acquisition). Furthermore, they find that CEOs with abnormally high compensation before the deal are less likely to be retained in the firm after the deal (suggesting a disciplinary effect by the acquirer). However, they also find that the likelihood of retaining a job is lower when there are multiple bidders; hence, when there is more competition for the firm, there is more likelihood to bargain for retention. Finally, Bargeron et al. (2017) observe that the retention rate is higher when it is a private equity acquisition. Private equity acquirers that retain the CEO gain an additional 10-18% of pre-acquisition value. They motivate their findings by the fact that private equity firms typically do not have managers readily available that can replace the target company's managers, and also because the existing CEO can valuably provide strategic continuity for the firm.

2.2 Earnings Management and Takeovers

The type of acquisition (hostile, MBO, friendly) may impact the direction of earnings management in targeted firms. In the case of hostile takeovers, managers can select income-increasing accounting practices to convince current shareholders to reject the takeover offer and make the deal more expensive for the bidder (DeAngelo 1986; Easterwood 1998; Erickson and Wang 1999; Guan et al. 2004). The literature also especially focuses on MBO transactions because of their highly suspected opportunistic characteristics. The results confirm an income-decreasing manipulation before the announcement to facilitate the transaction[4] (Perry and Williams 1994; Wu 1997; Begley et al. 2003; Fischer and Louis 2008; Mao and Renneboog 2015).

Friendly takeovers have received less attention in the EM literature, especially with respect to their motivations and consequences. These transactions usually involve long negotiations

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[4] Excepting DeAngelo (1986) who does not find any evidence of downward manipulation. Moreover, external financing mitigates the use of EM in the context of MBOs (Fischer and Louis 2008).

between the two managements.[5] The presence and motivation for EM before friendly announcements are not completely clear in the literature. Some authors assume that target firms engage in income-increasing accounting practices prior to the acquisition, in order to maximise the premium for shareholders and/or attract more potential bidders (Erickson and Wang 1999; Campa and Hajbaba 2016; Vasilescu and Millo 2016). Another stream of literature supports the hypothesis of downward manipulation to facilitate the transaction (for example via a lower stock price), to create fictive accrual reversals in the post-acquisition period, to decrease the risks of litigation in the highly scrutinised M&A context, or to influence other stakeholders that could be affected by the M&A (e.g., employees) (Perry and Williams 1994; Shleifer and Vishny 1997; Eddey and Taylor 1999; Abbott et al. 2006; Ben-Amar and Missonier-Piera 2008; Anagnostopoulou and Tsekrekos 2013; Chen et al. 2016).

Hence, we may consider that in the case of friendly takeovers, target managers have incentives to satisfy the acquirers expectations, in terms of cleaning up the balance sheet (i.e. record all necessary deprecations, provisions and bad debt expenses) to mitigate the risks of litigation. Meanwhile, as this accounting procedure triggers to an accrual reversal effects the year following the acquisition, it increases earnings in subsequent years. As both impacts (i.e. litigation risks and subsequent earnings) satisfy the acquirer, they positively affect the CEO retention rate. This leads to the following hypothesis:[6]

H1: Downward earnings management by the target firm is positively associated with the CEO retention rate.

Alternatively, consistent with the literature related to aggressive accounting choices and management turnover, EM may be perceived badly and punished by a higher turnover of target executives (e.g. Arthaud-Day et al., 2006; Desai et al., 2006; Land, 2010).

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[5] The literature diverges about the timing allowed to manipulate the earnings prior to a takeover. Erickson and Wang (1999), Skaife and Wangerin (2013), and Anagnostopoulou and Tsekrekos (2013) suggest that the executive management might have insufficient time to prepare the manipulation starting from the acquisition bid date. However, Boone and Mulherin (2007) found that almost half of the friendly acquisition processes started from the target company's side, which implies that these target firms potentially have sufficient time to manage their earnings. Moreover, targeted managers may anticipate possible bids by "toehold purchases" (i.e. when potential acquirers acquire less than 5% of a target company) as suggested by Grossman and Hart (1980). Cai and Sevilir (2012) detect a board connection between target firm and acquiring firm in around 10% of M&A transactions. These social ties can informally warn target company managers about incoming bids. Moreover, because of their knowledge of the market, targeted managers are likely to anticipate when the firm is a potential target (e.g., via factors such as merger wave, interest rate, industry need of concentration, industry crisis, undervaluation of the stock price).

[6] In this study, we assume that managers, on average, want to retain their positions because the loss of the CEO position has a negative effect on their wealth (salary and bonuses) and on their social status (power).

3. Research design

3.1 Sample selection

The sample is composed of target firms arising from a takeover (or a takeover attempt) in the European market during the 2005–2015 period. We retain only M&As that are friendly transactions, have a transaction value greater than or equal to 100 million euros, and with the bidder seeking the majority of the voting rights. We exclude all firms without enough accounting data, firms active in financial services (i.e., SIC codes 6000–6999), firms that are targeted in two consecutive years, firms with negative common equity value, and firms without comparable enterprises in the same industry in order to compute EM measures. The final sample contains 174 acquisitions or attempted acquisitions (see Table 1a). The financial data are extracted from *the Factset MergerMetrics* and *Factset* databases. The retention rates and CEO characteristics are manually collected from annual reports, company website, press, and the LinkedIn employment-oriented social network.

- Insert Table 1a -

To test for the presence of EM, we construct a control sample based on firms nottargeted for M&A. First, we consider all European listed firms with available data in order to have sufficient (at least 10) comparable in each industry to compute abnormal accruals, abnormal operating cash flows, abnormal production costs, and abnormal discretionary expenses. The sample we use to compute the EM contains 2,820 firms. Then, we employ the propensity score matching technique to match the closest firms in terms of size, debt levels, performance, and common industry with the target firms. This allows for a control sample of 174 matched firms that are not subject to M&A.

3.2 Data definition and models

We consider the year of suspected manipulation—that most likely to capture EM—as the fiscal year ending immediately before the acquisition announcement (Perry and Williams 1994). Among the wide numbers of models used in the literature to detect accruals EM, we select the model proposed by Kothari et al. (2005). Similar to Subramanyam (1996), we compute total accruals as the difference between net income before extraordinary items and operating cash flows. This indirect calculation of total accruals is preferred because it allows for a larger sample. The model of Kothari et al. (2005) includes three explanatory variables: changes in

sales net of the change of accounts receivable ($\Delta SALES_{i,t} - \Delta AR_{i,t}$); gross property, plant and equipment ($PPE_{i,t}$); and return on assets ($ROA_{i,t}$) as a control for performance. All the variables are deflated by total assets of the previous year in order to reduce the heteroskedasticity in the residuals (White 1980). The model also includes a constant because it mitigates the heteroskedasticity problem (Kothari et al. 2005). Furthermore, as suggested by Brown et al. (1999), it mitigates the problem from the omitted size variable. Formally, the equation is as follows:

$$\frac{TA_{i,t}}{A_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{\Delta SALES_{i,t} - \Delta AR_{i,t}}{A_{i,t-1}} + \beta_3 \frac{PPE_{i,t}}{A_{i,t-1}} + \beta_4 ROA_{i,t} \qquad (1)$$
$$+ \varepsilon_{i,t}$$

where:

$TA_{i,t} =$ total accruals in the year t for the firm i;

$A_{i,t-1} =$ total assets at year-end t-1 for firm i;

$\Delta SALES_{i,t} - \Delta AR_{i,t} =$ change in sales minus change in accounts receivable for firm i;

$PPE_{i,t} =$ gross property, plant, and equipment for firm i;

$ROA_{i,t} =$ return on asset in year t for firm i;

$\varepsilon_{i,t} =$ error term in year t for firm i;

$i =$ 1,…, N firms;

$t =$ year of suspected manipulation.

We label the residuals of the model as the abnormal accruals (AEM).

Moreover, Graham et al. (2005) suggest that real earnings management (REM) is also present among managers' options to manipulate. Hence, similar to other studies that analyse the EM related to corporate events, or more specifically to M&As (Cohen and Zarowin 2010; Mao and Renneboog 2015; Campa and Hajbaba 2016), we also investigate real earnings manipulation before the deal announcement. As suggested by some authors (Cohen et al. 2008; Osma 2008; Cohen and Zarowin 2010; Zang 2012), REM is more difficult to detect, but it needs more time to be implemented, and its reversal may negatively impact the performance of the firm in the long term (e.g., by cutting research and development expenses). On the other hand, Gunny (2010) finds a positive association between REM and future operating performance.

Roychowdhury (2006) proposes three ways to implement REM, which are described hereafter. The acceleration of the timing of sales through discounts and lenient credit terms to increase current period earnings. The increase in production lowers the cost of goods sold. It also allows the spread of fixed production costs over a larger number of units, thereby decreasing the unitary cost. Finally, the discretionary expenses, such as advertising, selling, general and administrative expenses, and research and development, boost the earnings of the current period.

The REM proxies are calculated as the residuals of the three models. Hereunder, we present the models that allow the computation of abnormal operating cash flows, abnormal production costs, and abnormal discretionary expenses.

$$\frac{OCF_{i,t}}{A_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{SALES_{i,t}}{A_{i,t-1}} + \beta_3 \frac{\Delta SALES_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t} \tag{2}$$

$$\frac{PROD_{i,t}}{A_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{SALES_{i,t}}{A_{i,t-1}} + \beta_3 \frac{\Delta SALES_{i,t}}{A_{i,t-1}} + \beta_4 \frac{\Delta SALES_{i,t-1}}{A_{i,t-1}} + \varepsilon_{i,t} \tag{3}$$

$$\frac{DISEXP_{i,t}}{A_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{SALES_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t} \tag{4}$$

where:

$OCF_{i,t} =$ operating cash flow for the firm i;

$PROD_{i,t} =$ cost of goods sold plus the change in inventories for firm i;

$DISEXP_{i,t} =$ discretionary expenses for firm i;

$SALES_{i,t} =$ sales for firm i;

$\Delta SALES_{i,t} =$ change in sales for firm i;

$\Delta SALES_{i,t-1} =$ change in sales for firm i;

$A_{i,t-1} =$ total assets at year-end t-1 for firm i;

$\varepsilon_{i,t} =$ error term for firm i;

$i =$ 1,…, N firms;

$t =$ year of suspected manipulation.

We label the residuals of abnormal OCF as REM1, and the residuals of abnormal production as REM2. Finally, we multiply the residuals of the abnormal discretionary expenses by minus one, in order that higher abnormal discretionary expenses decrease earnings, in the same way as the other two real EM proxies (Zang 2012), which we label as REM3.

Equation 5 presents the binary regression for the retention rate examination. The retention rate considered is for the year after the suspected manipulation, that is, the year of M&A announcement for target firms. Among the explanatory variables of interest, we examine the EM proxies (the measures for accounting choices), the premium (the measure for target shareholders' wealth), and the interaction term between EM and the acquisition premium. The probit model takes the following form:

$$\text{RETENTION } 1y_{i,t+1} = \alpha_0 + \alpha_1 \text{ EM}_{i,t} + \alpha_2 \text{ COMPLETED}_{i,t} + \alpha_3 \text{ EM x COMPLETED}_{i,t} +$$
$$\alpha_4 \text{ PREMIMUM}_{i,t} + \alpha_5 \text{ EM x PREMIUM}_{i,t} + \tag{5}$$
$$\alpha_6 \text{ Firm's characteristics}_{i,t} + \alpha_7 \text{ Deal's characteristics}_{i,t} +$$
$$\alpha_8 \text{ CEO's characteristics}_{i,t} + \alpha_9 \text{ Fixed Effects}_{i,t} + \varepsilon_{i,t}$$

where:

$RETENTION\ 1y_{i,t+1} =$ dummy variable indicating whether the CEO still holds the position the year after the suspected manipulation;

$EM_{i,t} =$ earnings management measure following equations 1, 2, 3 or 4;

$COMPLETED_{i,t} =$ variable indicating 1 when the acquisition is completed

$PREMIUM_{i,t} =$ ratio of the acquirer's initial offer price to the target share price 30 days prior to the announcement date minus one.

$Firm's\ characteristics_{i,t} =$ set of variables controlling for firms' characteristics;

$Deal's\ characteristics_{i,t} =$ set of variables controlling for deals' characteristics;

$CEO's\ characteristics_{i,t} =$ set of variables controlling for CEOs' characteristics;

$INDUSTRY\ FE_{i,t} =$ industry fixed effects;

$COUNTRY\ FE_{i,t} =$ country fixed effects;

$YEAR\ FE_{i,t} =$ year fixed effects;

$\varepsilon_{i,t} =$ error term for firm i;

$t =$ year of the suspected manipulation;

$i =$ 1,…, N firms.

A set of control variables control target firms' characteristics (size, performance, etc.), deal characteristics (cross-border bid, stock payment, percentage sought by the bidder, toehold, etc.), and CEO characteristics (tenure, age, and dual position). Moreover, the equation also controls for the industry in which the target firm operates, the country of residence, and the year of the supposed EM. More specifically, in terms of CEO characteristics, we manually collected data on CEO tenure, age, ownership share in the firm, and whether the CEO holds the dual position of CEO and Chairman. Consistent with prior literature, we expect a negative relationship between CEO age and retention rate (Murphy 1999; Desai et al. 2006). Moreover, CEOs with a dual position are more difficult to remove; hence, we expect a positive relation with the retention rate (Desai et al. 2006; Hazarika et al. 2012). Similarly, for CEO tenure, we expect that higher tenure is linked to higher CEO power because tenure could proxy entrenchment. The alternative outcome is also likely, the tenure could be negatively related to CEO retention because, for highly tenured CEOs, retirement is preferable to staying as a subordinate executive (Hadlock et al. 1999). Because age and tenure are likely to be correlated, it could be difficult to distinguish between the two effects (Hadlock et al. 1999).

4. Results

4.1 Descriptive statistics

Descriptive statistics are provided in Tables 2a and 2b. Table 2a provides information about the EM proxies and retention rates. First, there are no significant differences between the EM proxies from the target sample compared to the control sample.[7] Second, as expected, the retention rate of the control sample is higher than that of the target sample. In the year of the M&A announcement, the retention rate for CEOs of target firms is around 62%, while the retention rate of control firms is 89%. The second year after the announcement, it decreases to 50% (81% for the control), and in the third year it decreases further to 43% (70% for the control). Table 2b presents the descriptive statistics of the CEO characteristics. The tenure of the target firms' CEOs seems to be lower than that of non-target CEOs. Similarly, for CEO ownership, targeted CEOs have only 3% of voting rights, while non-target CEOs have around 10%. Nevertheless, the medians are much closer to each other. The age of the CEO and the percentage of dual position (CEO–chairman) are similar in both samples. Finally, Table 2c presents the transaction characteristics of the target sample only. None of these data appear to be noteworthy.

- Insert Tables 2a, b, c -

Table 3 presents the Pearson correlation matrix between the main variables in the target sample. Concerning the EM proxies, abnormal accruals are negatively associated with abnormal OCF, but positively associated with abnormal discretionary expenses. The only correlation between an EM proxy and the retention rate is observed between the abnormal discretionary expenses and the retention rate after one year (positive correlation). Concerning the retention rates with different time frames, we observe a high positive correlation between the three variables. Finally, the acquisition premium is negatively related to the retention rates after two and three years, and it is only negatively associated with abnormal OCF and abnormal discretionary expenses.

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[7] Appendix 1 provides additional information about the year, the industry, and the country distribution of the target sample.

4.2 Earnings management of target firm

Table 4 compares the accruals EM and real EM measures of the target and control samples with parametric (t-test) and non-parametric (Mann-Whitney U-test) tests. Despite the small sample size, we still observe results consistent with downward manipulation. The univariate analysis for abnormal accruals (Panel A) shows that target firms select accounting procedures that decrease their earnings compared with control firms (statistically significant at the 10% level). Panel B presents the univariate tests for the REM models. The only model showing downward manipulation is the abnormal production costs model (statistically significant at the 10% level). The other two models do not show any statistically significant difference between the accounting choices of target and control firms. This lack of results for the real activity models may be explained by the fact that REM takes more time to be implemented compared to accruals manipulation. These results are consistent with the literature on MBOs and friendly takeovers (e.g. Perry and Williams (1994), Wu (1997), Fischer and Louis (2008), Ben-Amar and Missonier-Piera (2008); Anagnostopoulou and Tsekrekos (2013).

- Insert Table 4 -

4.3 CEO Earnings management, Premium and Retention Rate

In this section, we examine Equation 5, focusing only on target firms in order to test whether EM measures and the acquisition premium affect the CEOs' retention rates. The results are presented in Table 5. The EM measures considered are only abnormal accruals and abnormal production costs (see Table 4).

The first regression considers AEM as a proxy for EM. This shows that the accruals EM measure is positive and statistically significant, confirming that downward EM of non-completed deals is linked to a higher turnover. The sum of the coefficients α_1 and α_3 (i.e. respectively for the EM and EM x COMPLETED) suggest a small negative relationship between the EM of completed deals and the CEO turnover rate (i.e. $14.70 + [-17.37]$). This latter result suggests that CEOs are rewarded for downward manipulation that please the acquirer with a higher retention rate only if the transaction is completed. The variables considering the acquisition premium do not seem to affect the retention rate of the CEO. The results of a trade-off between premium and retention rate observed by Wulf (2004) and Qiu et

al. (2014) are not confirmed. Independent of the EM level, CEOs seem not to bargain their retention with the target shareholders' wealth.

Firms' characteristics, such as performance and size, seem to be important determinants of CEO retention. Past and actual performance seem to positively affect retention, while size seems to be negatively associated with the retention rate, suggesting that more visible CEOs are less likely to be retained. The CEOs' characteristics also seem to affect the retention rate. We observe a negative relationship between tenure and retention rate. In this case, we may assume that high-tenured CEOs are close to retirement or are entrenched CEOs that the acquirer does not want to retain. Furthermore, the age of the CEO is positively related to retention. We may assume that age may represent the experience, a CEO's quality that bidders want to retain. Overall, after controlling for the firms', deals', and CEOs' characteristics, the results suggest that accounting choices made before the M&A announcement affect CEO retention depending on whether the transaction is completed or not.

The second regression, which considers REM as a proxy for EM, yields different results. The abnormal production costs measure is negative but not statistically significant. However, the variable considering the deal completion and the interaction term between deal completion and the EM measure is both statistically significant and positive, suggesting that downward real activity manipulation for completed deals decreases the CEO retention rate. This result is different from the AEM measure observed. This can be explained by the fact that REM can have a negative effect on the long-term performance of the firm (Cohen et al. 2008; Cohen and Zarowin 2010; Zang 2012). For example, a decrease in the production level can delay the delivery of products and consequently client satisfaction measures over the long term. In the second regression, the acquisition premium and the premium of firms that manipulate do not affect the retention rate.

-Insert Table 5-

The results are qualitatively the same when we use the accruals EM with the model of Dechow et al. (1995) (not tabulated for parsimony).

Overall, the results observed seem to confirm the effect of downward EM on the retention rate for CEOs of completed transactions, but they do not suggest a trade-off between the premium

and the retention rate. CEOs seem to downward manipulate though accruals EM without negatively affecting the target shareholders' wealth. Hence, downward accruals EM seems efficient, confirming hypothesis *H1b*. On the other hand, the second hypothesis (*H2*) seems to be true, but for real EM only. Because of the negative long-term effect of real manipulation, this kind of manipulation is not rewarded by the acquirer. Finally, it seems crucial to distinguish the deal completeness to correctly understand the consequences related to EM.

5. Robustness Tests

5.1 Longer Timeframe for Retention Rate Calculation

This section discusses the results based on Equation 5 with the retention rate calculated over two and three years after the suspected year of manipulation. Table 6 presents the results with a retention rate of two years after the suspected year of manipulation. The first result is that the EM measures are no longer statistically significant, suggesting that the effect of the manipulation on the retention rate lasts one year. Second, the variable PREMIUM is negative and statistically significant, suggesting a trade-off between the retention rate and the premium. CEOs that last more than one year after the deal are likely to bargain their position in the combined firm relative to the target shareholders' wealth. Nevertheless, the interaction term between the EM and the premium is not statistically significant, suggesting that the EM strategy is not related to this trade-off. The EM strategy seems to be independent of CEOs' opportunism to retain their positions. The results are qualitatively the same when we consider the retention rate of CEOs three years after the suspected manipulation (not tabulated for parsimony).

-Insert Table 6-

5.2 CEO Entrenchment and Opportunism around M&As

We further focus our analysis on CEOs suspected to be the most likely to act opportunistically. In this section, we examine whether CEO entrenchment can first influence the EM magnitude and whether it can also influence the premium. Entrenched CEOs are the most likely to act opportunistically because they are very powerful in the firm and because they are typically in place over a long period. The literature suggests that they are less efficient in their choices and

are more likely to abuse perks (e.g. Weisbach, 1988; Jensen, 1993; Finkelstein and D'Aveni, 1994). Because entrenched CEOs have more to lose, we assume that they are also more likely to bargain with respect to the M&A. Then, we can hypothesise that entrenched CEOs will downward manipulate more compared to non-entrenched CEOs. Second, entrenched CEOs can obtain a lower premium (eventually combined with their EM choices) because they bargain target shareholders' wealth relative to their own.

We measure CEO entrenchment with two variables, namely the dual position CEO–Chairman and CEO tenure (e.g. Hadlock et al., 1999; Desai et al., 2006; Hazarika et al., 2012). Tables 7a and 7b summarise the results. Table 7a shows the effects of CEO entrenchment on the magnitude of EM. In the first regression (considering AEM as proxy for EM), both variables of interest are not significant, and, more importantly, the interaction term between tenure and the CEO holding the dual position (i.e. the most likely to be entrenched) is also not statistically significant. The only variables affecting the level of EM are firm characteristics. ROE is positively associated with EM. LOSS.PROP positively impacts the abnormal accruals measure, consistent with the idea that poorly performing firms in the past need upward manipulation. DEBT negatively affects the EM, consistent with the monitoring effect of lenders. Finally, the proportion of international sales (INT. SALES), which is a proxy for the complexity of the firm's operations, positively affects the EM proxy. The results of the real EM measure show a weak effect of CEO duality on EM, but the regression is not statistically significant.

-Insert Table 7a-

Even though previous results do not support the hypothesis that entrenched CEOs manipulate more than non-entrenched CEOs, they can use their power to bargain more private benefits compared to non-entrenched CEOs. Therefore, we investigate the effect of entrenchment on the acquisition premium (see Table 7b). In both regressions, the interaction term between CEO duality and tenure is negatively associated with the premium, suggesting that entrenched CEOs negotiate lower premiums. Moreover, it seems that downward accruals manipulation of firms where the CEO is also the Chairman, negatively affects the premium, which is consistent with the hypothesis that entrenched CEOs bargain their position relative to a lower acquisition premium using AEM. Finally, downward accruals EM of non-entrenched CEOs seems to positively affect the premium, suggesting an efficient employment of EM by non-entrenched CEOs.

Overall, weak evidence suggests that downward manipulation through accruals EM can be used to decrease the premium in exchange for a higher retention, but this applies for entrenched CEOs only.

-Insert Table 7b-

5.3 CEO ownership to mitigate opportunistic EM

With this additional analysis, we seek to control whether the CEO ownership for the year of the suspected manipulation has an impact on the level of EM. If downward EM is deemed to be opportunistic to mislead targeted shareholders and to please the acquirer, then managerial ownership should mitigate this opportunistic behaviour. Indeed, the higher the CEO ownership level, the lower the likelihood that she/he will opportunistically manipulate and penalise herself/himself. Table 8 shows the analysis of the mitigating effect of CEO ownership on EM. The results do not support the opportunism hypothesis; the variable of interest is not statistically significant, suggesting that EM is not affected by CEO ownership level. The mitigating effect of managerial ownership on opportunistic downward manipulation is not supported by our investigation, either because there is no opportunistic downward manipulation or because of the limited sample size. The regression when REM serves as the EM proxy is not statistically significant; hence, it is not interpretable.

-Insert Table 8-

We re-run the analysis where the variable of interest is replaced by a dummy variable that takes the value of 1 if the CEO holds shares in the firm, respectively, more than 5% and 10%, and 0 otherwise. For these additional tests, the variables of interest are not statistically significant (not tabulated for parsimony).

6. Conclusion

This study examines EM under friendly takeover targets in Europe during the period 2005–2015, and its consequences on the retention rate of target company CEOs. We compute four EM detection models controlling for both accrual and real EM. The results of the univariate analyses (two of the four detection models) appear to confirm the downward manipulation for target firms the year prior to the M&A announcement compared to non-target firms. The results of downward manipulation are consistent with most of the previous literature related principally to friendly takeovers and MBOs (e.g. Perry and Williams (1994), Wu (1997), Ben-Amar and Missonier-Piera (2008), and Anagnostopoulou and Tsekrekos (2013).

This study investigates whether the level of EM influences the CEOs' retention rates and whether the manipulation is opportunistic or not. First, we observe that downward accruals of completed deals are associated with a higher retention rate. Alternatively, when we consider the real EM measure, the result changes. Downward real earnings management of completed deals is punished by the acquirer with a lower retention rate. We explain the differences by the different consequences of the two manipulation techniques. While downward accruals EM can create a fictitious performance in the post-acquisition period, the real EM can have negative effects on the long-term performance of the firm. Second, we do not observe any evidence of an opportunistic trade-off between CEO retention and the acquisition premium, neither for firms that do not manipulate nor for firms that manage their earnings, which does not support the results of Wulf (2004) and Qiu et al. (2014).

Overall, the main results advocate that the downward AEM of target firms that completed the deal positively affects the retention rate of their CEOs in an efficient way, without negatively affecting the target shareholders' wealth. Otherwise, downward REM is punished by a lower retention rate because of its possible negative consequences for company performance or reputation.

In additional analyses, we observe weak evidence of entrenched CEOs negotiating lower premiums for their shareholders using EM. These latter results may suggest that entrenched CEOs are likely to negotiate some private benefits with the acquirers in exchange for a lower premium, but most CEOs seem to act differently.

Overall, the non-results of CEO opportunism seem to suggest an interpretation that is different from managerial opportunism. CEOs that downward manipulate through accruals before the M&A announcement are able to obtain a higher premium for the targeted shareholders, and in case of deal completion, a higher retention. We suggest that one possible interpretation could be that CEOs are afraid of litigation around the M&A process and select conservative accounting choices before the deal announcement. If the transaction is completed, the acquirer profits from both the accrual reversals and the reduced risk of litigation related to the M&A. On the other hand, CEOs that select downward REM seem not to be rewarded by a higher retention rate because of the possible long-term effects of real activity manipulation on the performance of the firm. Further studies should deepen the analyses of the effects of EM on the premium to understand whether the results observed coincide with the efficient hypothesis. Moreover, further studies should focus on the effects of having entrenched CEOs as targeted shareholders around M&As.

The limitation of this study is that our only proxy for CEO wealth is the retention rate. Nevertheless, CEO compensation could also determine their accounting choices. Moreover, it could be interesting to control for the effects on the CFOs' wealth relative to M&As because they are directly responsible for accounting choices. Nevertheless, the difficulty in collecting data limits the number of analyses and allows us to only examine a small sample.

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8. Tables

Table 1. Sample selection

Sample selection	
Initial sample (merger & majority stake, transaction value > €100 M)	1575
Accounting standards different from IAS/IFRS	−305
Firms with missing data or incomplete data	−477
Firms with a SIC code ranging among 6000−6999	−321
Firms in industries without enough comparable peers	−167
Firms targeted in two successive years or targeted by multiple acquirers	−24
Firms with negative equity	−16
Hostile takeovers	−66
Firms with missing data or incomplete data about CEO characteristics	−23
Matching sample	−2
Final sample	**174**

Table 2a Sample description: EM and retention rate

Target	Mean	Median	Minimum	Maximum	Std. Dev.	Count	Count null
AEM	−0.0142	−0.0077	−0.4771	0.7227	0.1003	174.00	0.00
REM1	0.0235	0.0134	−0.2822	0.6541	0.1097	174.00	0.00
REM2	−0.0659	−0.1491	−1.0917	1.4823	0.4495	169.00	0.00
REM3	−0.0063	0.0056	−0.4881	0.1161	0.0648	154.00	0.00
RETENTION 1y	0.6264	1.0000	0.0000	1.0000	0.4851	174.00	65.00
RETENTION 2y	0.5057	1.0000	0.0000	1.0000	0.5014	174.00	86.00
RETENTION 3y	0.4310	0.0000	0.0000	1.0000	0.4967	174.00	99.00
Control							
AEM	−0.0212	0.0028	−2.0427	0.3080	0.2002	174.00	0.00
REM1	0.0185	0.0020	−0.9080	1.4060	0.1721	174.00	0.00
REM2	0.0116	−0.1202	−1.2079	2.6988	0.5565	172.00	0.00
REM3	−0.0001	0.0049	−0.4170	0.2880	0.0659	141.00	0.00
RETENTION 1y	0.8908	1.0000	0.0000	1.0000	0.3128	174.00	19.00
RETENTION 2y	0.8103	1.0000	0.0000	1.0000	0.3932	174.00	33.00
RETENTION 3y	0.7011	1.0000	0.0000	1.0000	0.4591	174.00	52.00

Notes**:** AEM denotes the abnormal accruals calculation based on Kothari et al. (2005). REM1 denotes the abnormal OCF calculation based on Roychowdhury (2006). REM2 denotes the abnormal production calculation based on Roychowdhury (2006). REM3 denotes the abnormal discretionary expenses calculation based on Roychowdhury (2006). RETENTION 1y denotes a dummy variable indicating whether the CEO still holds the position the year after the suspected manipulation. RETENTION 2y denotes a dummy variable indicating whether the CEO still holds the position two years after the suspected manipulation. RETENTION 3y denotes a dummy variable indicating whether the CEO still holds the position three years after the suspected manipulation.

Table 2b. Sample descriptions: CEO characteristics

Target	Mean	Median	Minimum	Maximum	Std. Dev.	Count	Count null
TENURE	5.8046	4.0000	0.0000	36.0000	6.3643	174.00	17.00
AGE	52.4540	53.0000	34.0000	72.0000	6.7074	174.00	0.00
CHAIRMAN	0.0920	0.0000	0.0000	1.0000	0.2898	174.00	158.00
CEOown	0.0361	0.0022	0.0000	0.5785	0.0977	121.00	13.00

Control	Mean	Median	Minimum	Maximum	Std. Dev.	Count	Count null
TENURE	7.0471	5.0000	0.0000	42.0000	6.8645	170.00	14.00
AGE	52.0833	51.0000	35.0000	77.0000	7.7896	144.00	0.00
CHAIRMAN	0.1284	0.0000	0.0000	1.0000	0.3356	148.00	129.00
CEOown	0.1002	0.0049	0.0000	0.7440	0.1947	110.00	7.00

Notes: TENURE denotes the number of years of tenure of the CEO in the firm as CEO. AGE denotes the age of the CEO. CHAIRMAN denotes a dummy variable that takes 1 if the CEO is also the chairman of the board. CEOown denotes the percentages of voting right that the CEO holds the year of the suspected manipulation.

Table 2c. Sample description: Transaction characteristics

Target	Mean	Median	Minimum	Maximum	Std. Dev.	Count	Count null
PREMIUM	0.3414	0.2930	-0.2541	2.3333	0.3380	174.00	0.00
COMPLETED	0.7931	1.0000	0.0000	1.0000	0.4062	174.00	36.00
SAME.INDUSTRY	0.4138	0.0000	0.0000	1.0000	0.4939	174.00	102.00
MULTIBID	0.1552	0.0000	0.0000	1.0000	0.3631	174.00	147.00
TENDER.OFF	0.4943	0.0000	0.0000	1.0000	0.5014	174.00	88.00
GO.PRIVATE	0.1264	0.0000	0.0000	1.0000	0.3333	174.00	152.00
STRATEGIC	0.7989	1.0000	0.0000	1.0000	0.4020	174.00	35.00
%SOUGHT	84.6873	100.0000	3.9400	100.0000	24.0728	174.00	0.00
STCK.PAY	0.2299	0.0000	0.0000	1.0000	0.4220	174.00	134.00
CROSS.BORDER	0.6724	1.0000	0.0000	1.0000	0.4707	174.00	57.00

Notes: PREMIUM denotes the ratio of the acquirer's initial offer price to the target firm's share price 30 days prior to the announcement date, minus one. COMPLETED indicates whether the transaction is completed. SAME.INDUSTRY indicates whether the acquirer has the same two-digit SIC code as the target firm. MULTIBID indicates whether there are multiple bidders. TENDER.OFFER indicates whether the type of the bid is a tender offer. GO.PRIVATE indicates whether the firm is delisted after the transaction. STRATEGIC indicates whether the transaction is strategic or financial. %SOUGHT indicates the share percentage the bidder is seeking to buy. STCK.PAY indicates whether the acquisition is paid partially or completely with stocks. CROSS.BORDER takes the value one if the headquarters of the bidder is different from the headquarters of the target.

Table 3. Correlation matrix

	AEM	REM1	REM2	REM3	RET. 1y	RET. 2y	RET. 3y	PREM.
AEM	1	**−0.47**	−0.02	**0.59**	0.03	−0.02	−0.03	−0.12
REM1		1	−0.01	0.07	0.04	0.06	0.06	**−0.13**
REM2			1	−0.02	0.01	−0.02	0.02	0.04
REM3				1	**0.15**	0.12	0.07	**−0.31**
RETENTION 1y					1	**0.78**	**0.67**	−0.06
RETENTION 2y						1	**0.86**	**−0.13**
RETENTION 3y							1	**−0.13**
PREMIUM								1

Notes**:** Pearson correlation coefficients are reported in the upper right portion of the table. Bold text indicates correlations are statistically significant at p-value < 0.10. AEM denotes the abnormal accruals calculation based on Kothari et al. (2005). REM1 denotes the abnormal OCF calculation based on Roychowdhury (2006). REM2 denotes the abnormal production calculation based on Roychowdhury (2006). REM3 denotes the abnormal discretionary expenses calculation based on Roychowdhury (2006). RETENTION 1y denotes a dummy variable indicating whether the CEO still holds the position the year after the suspected manipulation. RETENTION 2y denotes a dummy variable indicating whether the CEO still holds the position two years after the suspected manipulation. RETENTION 3y denotes a dummy variable indicating whether the CEO still holds the position three years after the suspected manipulation. PREMIUM denotes the ratio of the acquirer's initial offer price to the target firm's share price 30 days prior to the announcement date, minus one.

Table 4. Panel A: Accruals EM comparison

Model	Mean	Median	Tests
AEM	$\mu 0 = -0.0212$	*M0* = 0.0028	$t = 0.4136$
	$\mu 1 = -0.0142$	*M1* = -0.0077	$Z = 13'610$ †

Notes: Significance threshold levels: '***' 0.001 '**' 0.01 '*' 0.05 '†' 0.1 respectively. Subscript 0 correspond to control firms, and subscript 1 to target firms. The t-values and Z-values are those resulting from the tests (i.e. the Student t test and Mann-Whitney U test) of the hypothesis that there is no difference between target and control firms. AEM denotes the abnormal accruals calculation based on Kothari et al. (2005).

Table 4 Panel B: Real EM comparison

Model	Mean	Median	Tests
REM1	$\mu 0 = 0.0185$	*M0* = 0.0020	$t = 0.3192$
	$\mu 1 = 0.0235$	*M1* = 0.0134	$Z = 15'891$
REM2	$\mu 0 = 0.0116$	*M0* = -0.1202	$t = -1.4149$ †
	$\mu 1 = -0.0659$	*M1* = -0.1491	$Z = 13'486$
REM3	$\mu 0 = -0.0001$	*M0* = 0.0049	$t = -0.8054$
	$\mu 1 = -0.0063$	*M1* = 0.0056	$Z = 10'742$

Notes: Significance threshold levels: '***' 0.001 '**' 0.01 '*' 0.05 '†' 0.1 respectively. Subscript 0 correspond to control firms, and subscript 1 to target firms. The t-values and Z-values are those resulting from the tests (i.e. the Student t test and Mann-Whitney U test) of the hypothesis that there is no difference between target and control firms. REM1 denotes the abnormal OCF calculation based on Roychowdhury (2006). REM2 denotes the abnormal production calculation based on Roychowdhury (2006). REM3 denotes the abnormal discretionary expenses calculation based on Roychowdhury (2006).

Table 5. EM, acquisition premium and CEO retention

EM measure:	AEM			REM2		
Dependent variable:	RETENTION 1y			RETENTION 1y		
Coefficients:	**Estimate**	**z-value**		**Estimate**	**z-value**	
Intercept	17.0600	0.0090		19.6100	0.0060	
EM	14.7000	2.3090	*	−3.1330	−1.5240	
COMPLETED	0.5865	0.7300		2.6650	2.7170	**
EM x COMPLETED	−17.3700	−2.3990	*	3.9680	2.3420	*
PREMIUM	1.4610	1.2120		1.6440	0.9020	
EM x PREMIUM	−4.4690	−0.4110		0.0407	0.0100	
DEBT	−0.0024	−0.9380		−0.0009	−0.3440	
SIZE	−0.4530	−2.1870	*	−0.3530	−1.3710	
LOSS.PROP	−1.8190	−1.8800	†	−2.0480	−1.6960	†
ROE	0.0303	1.6590	†	0.0246	1.4020	
STCK.PAY	−0.0226	−0.0340		0.0251	0.0300	
CROSS.BORDER	−0.4368	−0.8060		−0.5116	−0.8600	
GO.PRIVATE	−0.2289	−0.3130		−1.0290	−1.1710	
TOEHOLD	0.0136	0.6090		0.0311	1.1000	
SAME.INDUSTRY	−0.7032	−1.3660		−0.5816	−0.8770	
%SOUGHT	0.0348	1.5300		0.0263	1.0450	
TENDER.OFF	−0.5183	−0.6480		−1.6290	−1.5590	
TENURE	−0.1049	−2.1630	*	−0.0958	−1.7840	†
AGE	0.1025	2.0110	*	0.0961	1.6140	
CHAIRMAN	−0.8331	−0.8910		−1.2020	−0.9970	
Industry control	Included			Included		
Country control	Included			Included		
Year control	Included			Included		

McFadden R-squared:	*62.92%*			*70.53%*		
Likelihood ratio test	*144.69*	***		*153.28*	***	
Sample size	*174*			*169*		

Notes: Significance threshold levels: '***' 0.001 '**' 0.01 '*' 0.05 '†' 0.1 respectively. AEM is the firm's abnormal accrual calculated from the model of Kothari et al.. REM2 denotes the abnormal production costs calculation based on Roychowdhury (2006). COMPLETED takes the value of 1 if the transaction is completed, 0 otherwise. PREMIUM denotes the ratio of the acquirer's initial offer price to the target firm's share price 30 days prior the announcement date, minus one. DEBT is the total debt divided by the mean of the common equities in the year of the announcement. SIZE is the natural logarithm of the total assets in the year of the announcement. LOSS.PROP is the proportion of loss incurred by the firm in the previous five years. ROE denotes the return on equity. COMPLETED takes the value of 1 if the transaction is completed, 0 otherwise. STCK.PAY indicates whether the acquisition is paid partially or completely with stocks. CROSS.BORDER is 1 if the headquarters of the bidder is different from the headquarters of the target. GO.PRIVATE indicates whether the firm is delisted after the transaction. TOEHOLD indicates the percentage held in the target company by the bidder before the announcement. SAME.INDUSTRY indicates whether the acquirer has the same two-digit SIC code as the target firm. %SOUGHT indicates the share percentage the bidder is seeking to buy. TENDER.OFFER indicates whether the type of the bid is a tender offer. TENURE denotes the number of years the CEO has held the position. AGE denotes the age of the CEO. CHAIRMAN takes the value of 1 if the CEO is also the chairman of the Board. Industry control are a set of dummy variables indicating the industry (2-digit SIC code) of the firm. Country controls are a set of dummy variables indicating the country of the firm. Year controls are a set of dummy variables indicating the year of the suspected manipulation.

Table 6. EM, premium and CEO retention over a longer time frame

EM measure:	**AEM**		**REM2**	
Dependent variable:	*RETENTION 2y*		*RETENTION 2y*	
Coefficients:	**Estimate**	**z-value**	**Estimate**	**z-value**
Intercept	20.1700	0.0140	21.2900	0.0160
EM	−0.0188	−0.0070	−1.4230	−1.6050
COMPLETED	0.2054	0.5870	0.5807	1.4830
EM x COMPLETED	−2.3270	−0.8110	1.2460	1.5420
PREMIUM	−0.9064	−1.8350 †	−1.4010	−2.3580 *
EM x PREMIUM	1.5890	0.4320	0.6517	0.3580
DEBT	0.0003	0.1790	−0.0006	−0.3460
SIZE	−0.1754	−1.6460 †	−0.1292	−1.1350
LOSS.PROP	−0.6771	−1.2250	−0.9535	−1.5730
ROE	−0.0077	−0.9620	−0.0084	−1.0780
STCK.PAY	−0.8506	−2.1660 *	−1.1390	−2.6720 **
CROSS.BORDER	0.0756	0.2570	−0.0468	−0.1480
GO.PRIVATE	−0.4586	−1.0060	−1.0340	−2.0150 *
TOEHOLD	0.0186	1.3340	0.0300	1.8880 †
SAME.INDUSTRY	0.0842	0.2860	0.0553	0.1830
%SOUGHT	0.0110	0.8420	0.0190	1.3640
TENDER.OFF	0.2051	0.7270	0.1905	0.6220
TENURE	−0.0314	−1.1720	−0.0389	−1.3680
AGE	0.0064	0.2810	0.0184	0.7780
CHAIRMAN	0.1039	0.1840	−0.0515	−0.0860
Industry control	Included		Included	
Country control	Included		Included	
Year control	Included		Included	

McFadden R-squared:	*35.92%*		*44.36%*	
Likelihood ratio test	*86.65*	***	*99.94*	***
Sample size	*174*		*169*	

Notes: Significance threshold levels: '***' 0.001 '**' 0.01 '*' 0.05 '†' 0.1 respectively. AEM is the firm's abnormal accrual calculated from Kothari et al. model. REM2 denotes the abnormal production costs calculation based on Roychowdhury (2006). COMPLETED takes the value of 1 if the transaction is completed, 0 otherwise. PREMIUM denotes the ratio of the acquirer's initial offer price to the target firm's share price 30 days prior the announcement date, minus one. DEBT is the total debt divided by the mean of the common equities in the year of the announcement. SIZE is the natural logarithm of total assets in the year of the announcement. LOSS.PROP is the proportion of loss incurred by the firm in the previous five years. ROE denotes the return on equity. STCK.PAY indicates whether the acquisition is paid partially or completely with stocks. CROSS.BORDER takes the value one if the headquarters of the bidder is different from the headquarters of the target. GO.PRIVATE indicates whether the firm is delisted after the transaction. TOEHOLD indicates the percentage held in the target company by the bidder before the announcement. SAME.INDUSTRY indicates whether the acquirer has the same two-digit SIC code as the target firm. %SOUGHT indicates the share percentage the bidder is seeking to buy. TENDER.OFFER indicates whether the type of the bid is a tender offer. TENURE denotes the number of years the CEO holds the position. AGE denotes the age of the CEO. CHAIRMAN takes the value of 1 if the CEO is also the chairman of the Board. Industry control is a set of dummy variables indicating the industry (2-digit SIC code) of the firm. Country controls are a set of dummy variables indicating the country of the firm. Year controls are a set of dummy variables indicating the year of the suspected manipulation.

Table 7a. CEO entrenchment and EM

Dependent variable:	AEM			REM2	
Coefficients:	**Estimate**	**t-value**		**Estimate**	**t-value**
Intercept	−0.0142	−0.1440		0.4809	1.0000
TENURE	−0.0008	−0.5780		−0.0055	−0.7720
CHAIRMAN	0.0171	0.4490		0.3357	1.8170 †
TENURE x CHAIRMAN	0.0008	0.2790		−0.0009	−0.0700
SIZE	0.0013	0.2130		−0.0042	−0.1360
ROE	0.0016	4.5910 ***		−0.0011	−0.6560
LOSS.PROP	0.0364	1.1960		−0.0517	−0.3490
DEBT	−0.0001	−2.7830 **		0.0004	2.4510 *
SD.SALES	−0.0245	−0.5590		−0.0089	−0.0420
SD.OCF	0.0587	0.2780		−1.0587	−1.0380
INT. SALES	0.0524	2.2270 *		−0.0381	−0.3210
TOP5INSTIT.SH	0.0001	0.4540		−0.0003	−0.1760
Country control	Included			Included	
Year control	Included			Included	
Adj. R-squared:	*16.94%*			*4.19%*	
F-value	*1.88*	**		*1.19*	
Sample size	*174*			*169*	

Notes: The significance levels are denoted as follows: '***', 0.001; '**', 0.01; '*', 0.05; and '†', 0.1. TENURE denotes the number of years the CEO holds the position. CHAIRMAN takes the value of 1 if the CEO is also the chairman of the Board. SIZE is the natural logarithm of total assets. ROE is the return on equity. DEBT is total debt divided by the mean of the common equities. LOSS.PROP is the proportion of loss incurred by the firm in the previous five years. SD.SALES denotes the standard deviation of the sales of the firm in the previous five (if not available, four or three) years. SD.OCF denotes the standard deviation of the cash flow from operating activities of the firm in the previous five (if not available, four or three) years. INT.SALES is the percentage of sales generated from operations in foreign countries. TOP5INSTIT.SH is the percentage of shares held by the top five institutional shareholders of the firm. Country controls are a set of dummy variables indicating the firms' country. Year controls are a set of dummy variables indicating the year of the suspected manipulation.

Table 7b. CEO entrenchment and acquisition premium

EM measure:	AEM		REM2	
Dependent variable:	PREMIUM		PREMIUM	
Coefficients:	**Estimate**	**t-value**	**Estimate**	**t-value**
Intercept	−0.1171	−0.3130	−0.0893	−0.2300
EM	−0.9070	−1.7730 †	−0.0652	−0.6620
CHAIRMAN	0.1132	0.8510	0.0766	0.5350
TENURE	0.0064	1.2440	0.0080	1.4240
CHAIRMAN x TENURE	−0.0162	−1.6830 †	−0.0169	−1.6600 †
EM x CHAIRMAN	8.2840	1.7020 †	0.1770	0.6360
EM x TENURE	0.0607	0.9110	0.0181	1.1900
EM x TENURE x CHAIRMAN	−0.3685	−1.2240	−0.0174	−0.7280
SIZE	−0.0261	−1.2610	−0.0354	−1.6020
OCF	−0.7670	−1.8270 †	−0.3950	−1.3320
ROE	−0.0006	−0.3250	−0.0027	−1.9080 †
DEBT	−0.0001	−0.4990	0.0000	0.2930
LOSS.PROP	0.0666	0.6590	0.0615	0.5960
%SOUGHT	0.0030	2.2620 *	0.0026	1.7860 †
COMPLETED	0.0880	1.2330	0.0861	1.1830
GO.PRIVATE	−0.0795	−0.9520	−0.0795	−0.9260
TENDER.OFF	0.0750	1.0670	0.0539	0.7030
CROSS.BORDER	0.0618	1.0250	0.0347	0.5700
STCK.PAY	−0.1243	−1.6900 †	−0.1124	−1.4790
SAME.INDUSTRY	0.0378	0.6540	0.0332	0.5490
Country control	Included		Included	
Year control	Included		Included	
Adj. R-squared:	*16.24%*		*13.00%*	
F-value	*1.70*	***	*1.53*	***
Sample size	*174*		*169*	

Notes: The significance levels are denoted as follows: '***', 0.001; '**', 0.01; '*', 0.05; and '†', 0.1. AEM denotes the abnormal accruals of the firm. REM2 denotes the abnormal production costs calculation based on Roychowdhury (2006). TENURE denotes the number of years the CEO holds the position. CHAIRMAN takes the value of 1 if the CEO is also the chairman of the Board. SIZE is the natural logarithm of total assets. OCF is the cash flow from operating activities. ROE is the return on equity. DEBT is total debt divided by the mean of the common equities. LOSS.PROP is the proportion of loss incurred by the firm in the previous five years. %SOUGHT denotes the percentage of voting rights that is sought by the acquiring firm at the end of the transaction. COMPLETED denotes a dummy variable for transactions that are completed. GO.PRIVATE. denotes a dummy variable indicating whether the acquirer delists the target firm after the transaction. TENDER.OFFER denotes a dummy variable indicating whether the acquirer made a tender offer to take over the target. CROSS.BORDER denotes a dummy variable indicating whether the acquirer's headquarters is in a country other than that of the target firm. STOCK.PAY denotes a dummy variable indicating whether the acquirer paid completely or partially with stocks. SAME.INDUSTRY denotes a dummy variable indicating whether the acquirer and the target have the same two-digit SIC code. Country controls are a set of dummy variables indicating the firms' country. Year controls are a set of dummy variables indicating the year of the suspected manipulation.

Table 8. CEO ownership and EM

Dependent variable:	AEM			REM2		
Coefficients:	**Estimate**	**t-value**		**Estimate**	**t-value**	
Intercept	−0.0180	−0.2420		0.1338	0.2900	
CEOown	−0.0130	−0.1510		−0.2031	−0.3850	
SIZE	0.0006	0.0890		0.0040	0.1040	
ROE	0.0013	4.0760	***	−0.0018	−0.8980	
LOSS.PROP	0.0302	1.0040		−0.0135	−0.0720	
DEBT	−0.0001	−3.0250	**	0.0005	2.5640	*
SD.SALES	0.0087	0.2230		0.0602	0.2480	
SD.OCF	−0.0712	−0.3630		−1.5456	−1.2690	
INT. SALES	0.0231	0.9480		−0.0779	−0.5110	
TOP5INSTIT.SH	0.0001	0.2760		−0.0021	−1.0220	
Country control	Included			Included		
Year control	Included			Included		
Adj. R-squared:	*14.35%*			*−0.09%*		
F-value	*1.63*	*		*0.71*		
Sample size	*130*			*117*		

Notes: The significance levels are denoted as follows: '***', 0.001; '**', 0.01; '*', 0.05; and '†', 0.1. AEM denotes the abnormal accruals of the firm. REM2 denotes the abnormal production costs calculation based on Roychowdhury (2006). CEOown denotes the percentages of voting right that the CEO holds the year of the suspected manipulation. SIZE is the natural logarithm of total asset. ROE is the return on equity. DEBT is total debt divided by the mean of the common equities. LOSS.PROP is the proportion of loss incurred by the firm in the previous five years. SD.SALES denotes the standard deviation of the sales of the firm in the previous five (if not available, four or three) years. SD.OCF denotes the standard deviation of the cash flow from operating activities of the firm in the previous five (if not available, four or three) years. INT.SALES is the percentage of sales generated from operations in foreign countries. TOP5INSTIT.SH is the percentage of shares held by the top five institutional shareholders of the firm. Country controls are a set of dummy variables indicating the firms' country. Year controls are a set of dummy variables indicating the year of the suspected manipulation.

Appendix 1

COUNTRY	Count	%
AUSTRIA	4	2.30
BELGIUM	4	2.30
CROATIA	1	0.57
CZECH REP.	1	0.57
DENMARK	2	1.15
FINLAND	5	2.87
FRANCE	25	14.37
GERMANY	18	10.34
IRELAND	6	3.45
ITALY	7	4.02
LUXEMBOURG	1	0.57
NETHERLANDS	17	9.77
NORWAY	4	2.30
POLAND	2	1.15
PORTUGAL	2	1.15
RUSSIAN FED.	3	1.72
SLOVENIA	3	1.72
SPAIN	1	0.57
SWEDEN	10	5.75
SWITZERLAND	7	4.02
U. K.	51	29.31
SUM	**174**	**100**

YEAR	Count	%
2005	2	1.15
2006	2	1.15
2007	0	0.00
2008	10	5.75
2009	10	5.75
2010	18	10.34
2011	19	10.92
2012	23	13.22
2013	23	13.22
2014	34	19.54
2015	33	18.97
SUM	**174**	**100**

	INDUSTRY (SIC)	Count	%
1	Agricultural Production Crops	2	1.15
10	Metal Mining	4	2.30
13	Oil and Gas Extraction	8	4.60
20	Food and Kindred Products	5	2.87
24	Lumber and Wood Products…	1	0.57
26	Paper and Allied Products	2	1.15
27	Printing, Publishing, …	1	0.57
28	Chemicals and Allied Products	13	7.47
30	Rubber and Miscellaneous Plastics, ...	1	0.57
32	Stone, Clay, Glass, …	6	3.45
33	Primary Metal Industries	5	2.87
34	Fabricated Metal Products, …	1	0.57
35	Industrial and Commercial Machinery	13	7.47
36	Electronic and Other Electrical Equip.	11	6.32
38	Measuring, Analysing Instruments…	6	3.45
39	Miscellaneous Manufacturing Industries	1	0.57
42	Motor Freight Transportation…	1	0.57
44	Water Transportation	3	1.72
45	Transportation by Air	1	0.57
47	Transportation Services	4	2.30
48	Communications	9	5.17
49	Electric, Gas, and Sanitary Services	7	4.02
50	Wholesale Trade-durable Goods	3	1.72
51	Wholesale Trade-non-durable Goods	2	1.15
53	General Merchandise Stores	2	1.15
54	Food Stores	2	1.15
56	Apparel and Accessory Stores	1	0.57
57	Home Furniture, Furnishings, …	1	0.57
58	Eating and Drinking Places	1	0.57
59	Miscellaneous Retail	2	1.15
70	Hotels, Rooming Houses, Camps, …	1	0.57
73	Business Services	33	18.97
75	Automotive Repair, Services, …	1	0.57
78	Motion Pictures	3	1.72
79	Amusement and Recreation Services	2	1.15
80	Health Services	3	1.72
87	Engineering, Accounting, Research,…	12	6.90
SUM		**174**	**100**