Operating performance of target firm and the change in management team

Yang Bai, The University of Edinburgh, Business School, s1259765@sms.ed.ac.uk
Jo Danbolt, The University of Edinburgh, Business School, Jo.Danbolt@ed.ac.uk
Ufuk Güçbilmez, The University of Bath, Business School, I.U.Gucbilmez@bath.ac.uk

Abstract:
I analyse the effectiveness of the market for corporate control by analysing the impact of M&A on target and acquiring company performance and on whether a change in target company management is required for improvement in company performance. Using separated accounting performance of targets, I find that although acquirers replace a high portion of the contemporary management team in both profitable and unprofitable targets, the post-acquisition performance is not determined by top management turnovers. There is, however, a mean-reversion effect, with post-acquisition performance significantly improving in the unprofitable targets but deteriorating in profitable targets. I also find that the top management team (TMT) turnover rate around acquisition announcements is significantly higher than TMT turnovers of non-acquisition periods, and it is positively related to the pre-acquisition target firm size.

Section 1. Introduction
There are numerous studies (e.g. Jensen & Ruback, 1983) examining the efficiency of the market for corporate control from the perspective of announcement abnormal returns and long-run operational performance in mergers and acquisitions (M&As). However, few studies investigate the impact on target performance from a change of management in M&As. Jensen & Ruback (1983) proposed the “market disciplinary hypothesis” that in an efficient market for corporate control, acquisitions improve managerial efficiency by replacing less competent management teams with more competent ones. At the completion of an acquisition, the acquirer owns the majority ownership in the target and obtains the rights to retain or replace top-level managers and the board of directors in the target (Fama and Jensen, 1983). Jensen & Ruback (1983) conjectured that the replacement of an inefficient and incompetent target
management team benefits shareholders, society, related business, and the corporate form of organization.

Whether, and to what extent, the disciplinary role of acquisition creates value to target firms remains an open question. The post-acquisition performance of target firms is not only affected by the change of ownership but may also be affected by a change of management. My study aims to empirically analysing the relation between the target top management team (TMT) turnover and post-acquisition performance change in target firms. Theoretically, target TMT can be viewed as a valuable source of private information in the targets or as an inefficient control agent which should be removed (Jensen and Ruback, 1983).

While the majority of existing studies on the impact of the target TMT turnover restrict their analyses to bidders’ post-acquisition performance (Martin & McConnell, 1991; Fich et al., 2016; Krishnan et al, 1997), or to focus purely on public targets’ announcement returns (Martin & McConnell, 1991; Kennedy & Limmack 1996; Walsh & Kosnik, 1993; Franks & Mayer, 1996), my study examine the impact of target TMT turnovers on the long-run operating performance of both public listed and private targets. The post-acquisition consolidated performance of bidders combines the performance of targets and the performance of the bidders’ existing business. As the change of corporate control occurs only in the target firms which become a subsidiary firm after the acquisition, analysing the consolidated performance of bidders is a blunt measure of whether market for corporate control is effective in terms of improving performance of target firms. The announcement returns of target firms show the market expectation of the future performance change of only public targets while private firms constitute a substantial part of M&As. Zollo and Singh (2004) find that two-third of targets are private or subsidiary or divisions of other firms. Lack of information on non-public targets limits the breadth of acquirer’s search and increase its risk of not evaluating properly the assets of private targets (Maksimovic et al., 2013).

Some studies provide bidders’ views of post-acquisition target TMT Turnovers and target operating performance (Cannella & Hambric, 1993; Zollo & Singh, 2004). Cannella & Hambric (1993) survey the perception (based on 7-point scales) of target performance from the bidder and Zollo & Singh (2004) survey the bidders’ perceptions (based on four-point scales) of target TMT Turnovers. These survey studies do not provide a direct measure of the target performance or the TMT turnovers in target firms and managers in different firms may have
different views of “good M&A performance” and different classification of the TMT replacement level in target firms. My study extends the survey studies by investigating the detailed TMT composition data and audited accounting performance of target business.

Much less is known about performance change in the target firms, due to lack of separated accounting performance and stock price information of the target firm post-acquisition (Cannella & Hambrick, 1993; Franks & Mayer, 1996). After acquisitions, target firms become a subsidiary or a division of the bidder business. Unlike in the United States (US) where no federal statutory requirement for unlisted subsidiaries to make their accounts public (FASB, 2013), in the UK, all registered limited companies, including subsidiary, small and inactive companies, must file company registry information 1, annual financial statements, appointment and termination of officers, and persons with significant control to the Company House, which are all public records (UK.GOV, 2016). The separated accounting performance of target firms after acquisitions allows me to ascertain whether target TMT turnovers improve the operating efficiency of the target firms or harm the valuable human resource transferred from targets to bidders. I ask two questions in this paper: first, whether the performances of target firms improve after acquisitions; second, are performances of target firms affected by a change of target top management team (TMT)?

There are several important findings of my study. I find that on average, the post-acquisition performance improves significantly in the unprofitable targets but deteriorates in profitable targets. For targets with non-positive return on assets (ROA) ratios, their ROAs increases by 0.28 in second-year post-acquisition and by 0.30 in third-year post-acquisition compared to pre-acquisition ROAs, and the improvements are significant at the 1% level. For targets with positive pre-acquisition ROAs, their ROAs drop by 0.06 in first-year post-acquisition and by 0.08 in third-year post-acquisitions, and the drops are significant at the 1% level.

I also find that acquirers replace a high portion of target TMT in the first-year post acquisitions. On average, acquirers tend to replace 27.7% of the pre-acquisition target TMT in unprofitable targets and 23.4% TMT in profitable targets. The 4.3% difference in TMT turnovers between profitable and unprofitable targets is significant at the 1% level, which supports the market disciplinary expectation to replace incompetent TMT in target firms. However, the target TMT

---

1 e.g. registered office address, company type and status, incorporation dates, annual return
turnover does not appear to affect target post-acquisition performance changes after controlling for firm-specific and deal-specific characteristics. I also observe that acquirers tend to replace elder directors with longer tenure in the target firms with younger directors who are new to the target board and that target firms with a larger board size pre-deal have a higher TMT turnover than targets with a smaller board size.

Empirically, my work mainly extends the literature on acquisitions by examining the impact of target TMT turnover on operating efficiency of post-acquisition target firms. As stated in Maksimovic et al. (2011), separating the post-acquisition performance of newly acquired target’s assets from the performance of acquirer’s existing assets pins down the extent and direction of post-acquisition restructure. Maksimovic et al. (2011) use the plant-level data of US manufacturing target firms during 1997-2004 and find overall significant improvement in operating margin up to three years post-acquisitions. Jang & Reisel (2015) investigate the separated accounting performance of EU private targets during 2000-2010 and find overall insignificant improvements of peer-adjusted profitability. Maksimovic et al. (2011) and Jang & Reisel (2015) do not explain the source of performance change in the target firms. My paper complements and extends these studies by analysing the TMT replacement value-creation source.

My study is related to previous studies of TMT turnovers in M&As and post-M&A performance of bidders and targets (e.g. Cannella & Hambrick, 1993). Existing empirical studies support the market disciplinary hypothesis with the evidence that poorly performing targets are more likely to experience a high TMT turnover (or the CEO replacement) than well-performing targets after M&As (e.g. Martin & McConnell, 1991; Jang & Reisel, 2015). However, they fail to sufficiently support the market disciplinary hypothesis with the evidence that removing inefficient TMTs creates value. The ownership of a target firm changes after an acquisition, but the management may stay the same if a bidder views target TMT as a valuable source of private information and decides to retain target’s management team. The TMT turnover in the target firm is much more complex than what is explained by the poor pre-acquisition performance.

Although existing literature mainly focuses on the impact of target TMT turnovers on acquirers as the separated performance of target is limited (Fich et al., 2016; Kennedy & Limmack, 1996; Cannella & Hambrick, 1993; Krishnan et al., 1997; Zollo & Singh, 2004),
acquirer’s consolidated performance are more likely to be related to acquirer’s TMT Turnover instead of target’s TMT Turnover. My regression results support this view and show that a 10% TMT turnover in bidders within one-year post-acquisition reduces the bidder’s ROA(-1 year, +1 year) ratio by 1.5%, which is significant at the 1% level; while target TMT Turnover at the same time do not affect bidder’s ROA(-1, +1).

Furthermore, my paper joins the emerging literature of mergers and acquisitions on private and subsidiary firms. Existing studies focus primarily on acquisitions with public acquirers and public targets. My paper, with a few recent studies of non-public target firms (Maksimovic et al., 2011 and 2013; Jang & Reisel, 2015), provide investigations of post-acquisition efficiency in target firms.

The rest of the paper is organized as follows. In Section 2, I present the underlying research framework which comes from prior work on acquisitions and management team departure. Section 3 describes the data and models. Section 4 discusses the results and Section 5 concludes.

Section 2. Analytical Framework
   A. The Efficiency of Acquisition Market

I focus on the long-run post-acquisition accounting performance of targets for two reasons. First, the post-acquisition performance of acquirers is contaminated with the business of the target and acquirer’s existing business before the acquisition. Investigating the performance of target helps us to understand how acquisitions affect the business of target firms after the acquisition and how value is created. Second, since targets and acquirers are separate legal entities, an acquirer’s performance should be more related to the acquirer’s board of directors rather than the target’s directors. The TMT turnovers in the target firm should be more responsible for the performance of the target instead of the performance of the whole group.

There are a few studies investigate the post-deal performance of target firms in whole-firm acquisitions and find mixed evidence on performance improvement. Conn (1976) and Jang and Reisel (2015) suggest that acquisitions do not improve target performance, while other studies suggest that acquisitions improve target efficiency and profitability (Cannella and Hambrick, 1993; Very et al.; 1997; Maksimovic et al., 2011).
Cannella and Hambrick (1993) and Very et al. (1997) survey the perception of post-acquisition performance from managers in targets and acquirers. Cannella and Hambrick (1993) ask managers from 96 acquirers to rate the profitability of the target at the deal time and four years later based on 7-point scales, from “very poor” to “very good” and find that acquirers view the departure of the targets’ executives has a negative impact on target firm. Similarly, Very et al. (1997) ask acquirers’ managers to provide their perceptions of earnings, sales and market shares of the target based on 5-point scales. On average, top managers suggest that performance improves slightly. However, these survey evidence do not provide a clear picture of whether the target performance improves significantly after acquisitions. Also, the survey responses could be upward biased as firms with poor performance might not like to disclosure their failures.

Conn (1976), Maksimovic et al. (2011), and Jang and Reisel (2015) find mixed evidence of performance improvements in target firms or target assets. Conn (1976) states that only 7 out of 28 targets improve net income/total assets ratio after the transaction. The mean profit rate declines significantly from 6.7% in the pre-merger period to 4.2%. However, Conn (1976) do not find industry-adjusted improvements in the targets. Similarly, Jang and Reisel (2015) investigate the profitability (the EBIT/Total Asset ratio and the Cash Flow/Total Assets ratio) of 5,707 private targets in the EU during 2000-2010, and the peer-adjusted performance shows insignificant improvements (p-value=0.43) after the acquisition. On the contrary, Maksimovic et al. (2011), as discussed in Section 1, suggest that acquisitions improve the industry-adjusted performance of target plants. The average change in operating margin for kept plants over the three-year window is 2.1% (significant at the 1% level). The average improvement in operating margin is 0.7% for sold plants (significant at the 10% level).

The discussion above shows that there is no conclusive evidence of takeover market efficiency. I examine whether UK acquisitions improve target firm performance.

**Hypothesis 1: The UK acquisition market is efficient and improves the profitability of target firms.**

**B. TMT turnover Theories**

Economic theory has provided many sources of value creation in an M&A, such as synergies, market power, diversification, overvaluation, reduction of agency costs and disciplined TMTs
In this paper, I investigate how a change of TMT in target firms affect the post-acquisition performance of target firms. When an acquirer takes over a target, the control rights of the target is transferred to the acquirer. While acquirers’ officers retain the top-level control rights, they normally delegate the rights to manage corporate resources to directors in the target. The acquirer firm has to decide whether to retain or replace the directors in the target and recruit the most suitable officers to manage the resources of the target firm. To motivate my tests, I discuss the testable hypotheses from alternative theories, the market of corporate control theory and resource-based management theory, which could explain the impact of the TMT turnovers on acquisition performance.

B1: Efficient market for corporate control: the market discipline hypothesis

The market discipline hypothesis assumes that takeovers provide an efficient market for corporate control change and interprets the overall gain in M&As as the value added by the change of ownership control and management competition (Fama and Jensen, 1983; Jensen and Ruback, 1983). However, empirical studies of the market discipline hypothesis in M&As provide inconclusive results (Martin and McConnell, 1991; Kennedy and Limmack, 1996; Jang and Reisel, 2015; Walsh and Kosnik, 1993; Franks and Mayers, 1996). Empirical studies of acquisitions support the disciplinary hypothesis with the evidence that high post-acquisition TMT turnovers follow target under-performance before acquisitions (Martin and McConnell, 1991; Fich et al., 2016; Jang and Reisel, 2015). Martin and McConnell (1991) examine 253 tender-offers on public targets during 1958-1984 in the US and find that the pre-deal average industry-adjusted CAR (from 48 months before through 3 months before the tender offer) is -21.29% for the 141 targets with post-acquisition CEO change, which is significantly less than the +3.28% CAR of 112 targets without CEO change (t = -3.36).

With a sample of US private targets, Jang and Reisel (2015) observe similar results of pre-acquisition accounting performance and TMT turnovers. For about 48% of private targets, more than half of the top executives are replaced during year -1 to +1 (Jang and Reisel, 2015). Jang and Reisel (2015) extend Martin and McConnell (1991) by investigating the negative correlation between the TMT turnover and the pre-acquisition performance. Jang and Reisel’s
(2015) regression results show that one percent drops on the EBIT/Total Assets ratio increases the probability of TMT turnovers by 0.14% and the coefficient is significant at the 5% level. However, showing the negative correlation between the TMT turnover and the pre-acquisition performance may be necessary, but not sufficient to support the market disciplinary hypothesis which removing inefficient TMTs creates value. The TMT turnovers may not change the post-acquisition performance of the targets. Martin and McConnell (1991) investigate the CARs(-20 trading days, +20 trading days) and find that the targets’ and acquirers’ CARs are not different to zero in acquisitions with CEO replacement and retention in the targets. Although Jang and Reisel (2015) find that targets improve accounting profitability post-acquisition, they do not investigate whether the gains are attributed to the TMT turnover in target firms.

Furthermore, two studies support the market disciplinary hypothesis with the evidence that target CEO departure increases targets’ and acquirers’ post-acquisition stock returns (Kennedy and Limmack, 1996; Fich et al., 2016). Kennedy and Limmack (1996) examine 345 UK domestic public targets in 1980-1989 and show that targets replacing CEOs generate 13.07% higher CAR(-3 months, +4 months) than targets retaining CEOs, and the difference is significant at the 10% level.

However, Kennedy and Limmack (1996) acknowledge that cautions are required in drawing inferences. The slightly more gains in CEO replacing targets are driven by the pre-bid announcement stock increases. In another estimation of CAR(+1 month, +4 months), the difference drops to 3.95% and it is not significant. Kennedy and Limmack (1996) do not discuss why the two types of targets experience no difference in stock performance after the acquisition announcement containing CEO retaining or replacing information. Also, Kennedy and Limmack (1996) find no differences in the annual CAR before the acquisitions for targets replacing or retaining CEO. When there is no underperformance in targets observed before acquisitions, it is hard to tell whether the target CEO is inefficient. Therefore, the replacement of CEOs could be driven by reasons other than the “disciplinary role of acquisitions”.

More recently, Fich et al. (2016) examine 355 completed US domestic M&As during 1999-2008 and find that retaining a CEO in a target underperforming the industry median is associated with about 2.7% lower (significant at the 1% level) acquirer merger announcement
returns. Interestingly, their regression analyses indicate that retaining higher-quality target CEOs does not affect the acquirers’ announcement returns or long-run operating performance (Fich et al., 2016).

My work extends previous work with evidence of the target TMT turnover and the post-deal target’s performance separated from acquirer’s performance. My study extents the studies of the disciplinary role of acquisitions by examining (1) whether there is an expected negative correlation between the TMT turnover and the pre-acquisition performance in the targets, and (2) whether there is a correlation between TMT turnovers and the post-acquisition performance changes in the targets.

In contrast to the theory of the market for corporate control, some studies suggest that M&As do not perform a disciplining function (Walsh and Kosnik, 1993; Franks and Mayers, 1996). Walsh and Kosnik (1993) investigate 59 US firms that were challenged by one of eight notorious raiders between 1979 and 1983 and suggest that while poor performance is associated with higher post-acquisition TMT turnover, turnover is generally high in targets with both good and bad pre-acquisition performance. Similarly, Franks and Mayer (1996) investigate 35 successful and 23 unsuccessful hostile takeovers in the UK between 1985 and 1986 and find that non-merging firms record almost identical performance to successful hostile bids over the five years prior to a bid, although the 90% TMT turnover rate in successful bids are significantly higher than the 19% TMT turnover rate in non-merging firms (significant at the 1% level). In addition, Franks and Mayer (1996) find the bid premiums for targets with and without CEO or chairman turnovers are the same: 25.23% versus 25.25%, which suggests the market does not expected premium due to change of the top executive in the targets.

Walsh and Kosnik (1993) suggest that TMT may depart voluntarily, instead of involuntarily “discipline” turnovers. Therefore, the TMT turnovers may reflect TMT’s psychological attributes and perceptions of the acquisition other than disciplining function (Krug et al., 2015). Factors such as cultural differences between acquirers and targets, the loss of executive power, alternative career opportunities and financial incentives as golden parachutes are likely to influence voluntary post-acquisition turnover decisions by target firms’ executives (Walsh and Kosnik, 1993). Martin and McConnell (1991) find that only 3 TMT departures are “fired, poor performance cited” among 86 TMT departures. They find that 53% of TMT departures are due to “change in control”, and that “normal retirement”, “accepted
high-level position in acquirer”, “policy differences”, “early retirement”, “took similar position with another firm”, and “other personal or business interests” are also cited as TMT departure reasons.

In summary, the literature of market disciplinary role of takeovers is ambiguous in the correlations between TMT turnovers and pre or post-deal performance. If an acquisition is driven by the market disciplinary reason, targets with poor pre-acquisition performance would experience a high TMT replacement and post-acquisition firm value increases. If TMT turnovers are triggered by reasons other than disciplinary takeovers, the correlations of TMT turnovers and pre or post-acquisition performance may be weak.

**Hypothesis 2: replacement of target TMT is negatively related to the pre-acquisition performance in the target.**

**Hypothesis 3: replacement of target TMT is positively related to the post-acquisition performance improvement in the target.**

B2: Resource-based management theory: managers with inside information of their firms

The resource-based management theory views TMT as a valuable source of private information in their firms and predicts that retaining target TMT is value addictive. Especially in private targets, the information asymmetry makes it difficult for acquirers to accurately estimate the value of targets. Several studies support the resource-based management theory with the evidence that TMT departures lead to lower post-acquisition performance in targets and acquirers (Cannella & Hambrick, 1993; Krishnan et al., 1997; Zollo & Singh, 2004).

Cannella & Hambrick (1993) argue that the acquisitions disrupt targets operations and the replacements from outside executives could incur heavy start-up costs as they are not familiar with their new positions and new networks of contacts. Retaining targets’ TMT could prevent the loss of firm-specific knowledge and skills and the continuity of targets’ TMT could preserve strategic continuity and operating stability (Cannella and Hambrick, 1993). Cannella & Hambrick (1993) find that on average, around 49% of TMT are replaced within 2 years after the acquisition, and that targets’ pre-acquisition ROE is significantly positive correlated to TMT departure. The regression results show that a 10% increase of TMT turnover in the
targets decreases the target performance scale by 0.14-0.15. Cannella & Hambrick (1993) show that acquirers view executive departure as a significantly negative impact on post-acquisition performance in the targets. The survey scales of target performance indicate the post-acquisition performance changes, but it is hard to know the extent of performance change.

Krishnan et al. (1997) extend Cannella and Hambrick (1993) by providing the post-acquisition return on assets (ROA) of the consolidated acquiring firms. Krishnan et al. (1997) investigate 147 acquisitions between US public firms during 1986-1988. Krishnan et al. (1997) find that on average 47% of targets’ TMT depart within 3 years after the acquisitions and that the Pearson correlation between the TMT turnover and abnormal ROA is -0.22 (significant at the 1% level). The regression coefficient suggests that an acquirer replacing all target TMT within three years of acquisition generate 2.8% lower (significant at the 5% level) ROA than an acquirer retaining all target TMT. Furthermore, Krishnan et al. (1997) show that differences in functional backgrounds between the acquirers’ and targets’ top managers reduce target TMT turnovers and has a positive impact on post-acquisition performance, which supports the RBMV. These evidence indicate that in practice, acquirers tend to retain targets’ managers who have different knowledge and skills to acquirers’ managers and that retaining such targets’ managers creates value to the acquirers.

Similarly, using a sample of 228 acquisitions in the US banking industry, Zollo and Singh (2004) suggest that retaining executives contribute knowledge to the acquirer and minimizes “organizational disruption”. As private target banks do not disclose the TMT replacement information to the public, Zollo and Singh (2004) require top executives in the acquirers to classify the level of target TMT replacement with a four-point scale of ‘0’ (no substantial change), ‘1’ (some changes), ‘2’ (many changes), and ‘3’ (virtually all the top management team was changed). They find that the acquirers’ peer-adjusted ROA(-1 year, +3 year) decreases 0.34 (significant at the 1% level) for one level increase in replacement degree.

These resource-based studies also have limitations. Cannella and Hambrick (1993) do not provide a direct measure of post-deal target performance and managers may have different knowledge and skills.

---

2 The performance change in the target are rated by acquirers’ executives and security analysts based on 7-point scales, from “very poor” to “very good”. The regression coefficients are significant at the 5% level.
views of “good M&A performance.” Zollo and Singh (2004) use acquirers’ view of the level of TMT replacement, which might be biased if acquirers have a different classification of the replacement level. Krishnan et al. (1997) and Zollo and Singh (2004) examine contaminated acquirer’s performance instead of separated performance of the target. As stated before, I extend previous target TMT turnover research by investigating the proportions of targets’ TMT turnovers and the separated accounting performance of the target firms.

The resource-based management view suggests that TMT turnovers harm the profitability of acquisitions and the stability of integration process. Therefore, target firms may suffer the operation disturbance and the difficulty to realize expected synergy. However, if the TMT turnovers are driven by complex reasons such as culture fitness, the age of retire of directors, TMT departure may have no impact, perhaps even positive impact on post-acquisition performance (Krug et al., 2015).

**Hypothesis 4:** replacement of target TMT is negatively related to the post-acquisition performance improvement in the target.

**Section 3. Data and Methodology**

3.1 Data and Sample

I obtain my sample of UK domestic acquisitions announced and completed between 1 Jan 2006 and 31 December 2014 from the SDC Mergers and Acquisitions database. Unlike the US where no federal statutory requirement for unlisted subsidiaries to have their accounts audited or to make their accounts public (FASB, 2013), in the UK, all registered limited companies, including subsidiary, small and inactive companies, must file annual financial statements to the Company House, which are all public records (UK.GOV, 2016). I collect UK firms’ Company House fillings using FAME. Target companies are public, private, or subsidiaries which have separated financial statements.

I consider acquisitions in which the acquirer obtains at least 50% of target shares in the acquisition and the acquirer fully owns the target after the acquisition. These criteria ensure that the control of the target firm is changed to the acquirer and that there is no minority interest in the post-acquisition target firm. I exclude reverse takeovers, leveraged buyouts,
and management buyouts, where the acquirer is not the controlling entity of the combined business after the deal.

I restrict the sample to acquisition transactions where the deal value is greater than or equal to one million pounds to exclude small size acquisitions. If deal values are missing, I restrict the value of targets’ total assets is greater than or equal to one million pounds. I exclude target companies which cannot be found in the FAME database, cannot be identified as a subsidiary of the acquirer after the acquisitions, do not have financial statements for years -1 and +1 where year 0 is the acquisition announcement year, and have a missing value of pre-or-post sales revenues or return on assets (ROA) at the year -1 and +1.

From the FAME database, I collect the information of officers in the target companies, which includes dates of appointment and resign, officer position, and date of birth of officers. Following Kaplan (1994), I include all directors, managers and other officers as who are reported to the Companies House. The final sample is 498 target companies with financial variables and information of target officers.

3.2 Models Design and Variable Measurement

To examine the market disciplinary hypothesis, I first examine whether TMT turnovers are driven by the replacement of incompetent managers, and second investigate whether the market disciplinary hypothesis or RBMV explain the impact of TMT turnovers on the performance of post-acquisition targets and acquirers. Following previous literature, I control factors expected to affect the TMT turnover and change of performance in the target firms. Table 8 describes the measurement of variables and motivates the use of each variable.

**Model 1: TMT Turnover**

\[
TMT\ Turnover = \alpha_0 + \alpha_1 \cdot Firm\ Performance_{t-1} + \alpha_2 \cdot \Delta \text{Firm Performance}_{(t-2,t-1)}
\]

\[
+ \alpha_3 \cdot TMT\ characteristics_{t-1} + \alpha_4 \cdot \text{Firm Financial Characteristics}_{t-1}
\]

\[
+ \alpha_5 \cdot Year\ Dummy + \alpha_6 \cdot Peer\ Performance_{t-1}
\]

**Model 2: \Delta \text{Firm Performance}_{(t-1,t+p)}**

\[
\Delta\ \text{Firm Performance}_{(t-1,t+p)} = \beta_0 + \beta_1 \cdot Firm\ Performance_{t-1} + \beta_2 \cdot Deal\ Characteristics_t
\]

\[
+ \beta_3 \cdot TMT\ characteristics_{t+p} + \beta_4 \cdot \text{Firm Financial Characteristics}_{t-1}
\]

\[
+ \beta_5 \cdot Deal\ Characteristics + \beta_6 \cdot \Delta\ Peer\ Performance_{(t-1,t+p)}
\]

\[
+ \beta_7 \cdot Year\ Dummy + \delta \cdot Turnover
\]
Following Hermalin & Weisbach (1988), I measure the TMT turnover as annual percentage of officers replaced on the management board (Benjamin E Hermalin & Weisbach, 1988). I measure the profitability of firms using the return on total assets (ROA) ratio, which is profit and loss before interest divided by total assets (Maksimovic et al., 2011; Hermalin and Weisbach, 1988; Ravenscraft and Scherer, 1988). Following Powell and Stark (2005), I compare the performance of targets with non-M&A involved peer firms matched on the performance of industry, firm size, pre-acquisition performance and public status at year t-1. Table 8 Peer Firm discusses the procedure of peer firm selection.

3.3 Summary Statistics

Table 2 Panel A shows that targets and peer firms have similar total assets, leverage, and average TMT age before acquisitions. Targets have significant larger TMT size and more officers over 65-year-old than peer firms before acquisitions. Targets on average experience a TMT turnover (-1, +1) of 24%, which is significantly higher than the 9% in peer firms and 12% in acquirers. I find that that the average board age decreases significantly from 51 to 49 and the average board size stays the same after acquisitions. This evidence suggests that younger directors are brought into the post-acquisition board to replace elder directors. The change of profitability in targets, $\Pi (-i,+j)$, and the differences of performance changes between targets and peer firms are not different from zero from year t-1 to t+3. These results fail to support Hypothesis 1 that UK acquisitions generally improve the profitability of target firms.

However, the no change of average post-acquisition performance disappears when targets are split into profitable and unprofitable groups. Target firms are classified as profitable firms if they generate a positive ROA(-1) and as unprofitable firms if otherwise. Table 2 Panel B shows that unprofitable targets on average improve profitability after acquisitions, while profitable targets show decreasing profits. On average, acquisitions improve the unprofitable targets’ ROA by 10% in year +1, 28% in year +2, and 30% in year +3. On the contrary, for the profitable target firms, acquisitions on average significantly deteriorate the ROA by 6% in year +1, 4% in year +2, and 8% in year +3. The performance differences between unprofitable and profitable target groups range from 16% to 38%, which are all significant at the 1% level. Targets’ peer-adjusted ROAs provide consistent results. Table 2 Panel B also shows that unprofitable targets experience significantly higher TMT Turnovers than profitable targets. Around 28% officers are replaced in unprofitable targets while 23% in profitable targets.
The asymmetry of performance changes and TMT turnovers between profitable and unprofitable targets seems in line with the market discipline hypothesis that the change of control reduces firm inefficiency and creates synergy values in unprofitable targets. The TMTs in profitable targets may be efficient and acquisitions may not be expected to significantly improve the post-deal performance. However, as stated in the Section 2C1, to support the market disciplinary hypothesis, both negative correlation between the TMT turnover and the pre-acquisition performance and removing inefficient TMTs creating value need to be observed.

To compare my study with prior literature which links target TMT turnover and acquirer performance, I examine the change of performance in acquirers. Table 2 Panel A shows that acquirers’ performance experience a slight drop between 1% and 1.6% (significant at the 5% level). The RBMV literature views target board members as valuable human resources to the acquirer and expects acquisitions impact acquirer performance. I further investigate whether target TMT turnovers affect acquirer performance in Section 4.

Section 4 Regression Analysis

Market Disciplinary Turnovers

Table 3 provides evidence to partially support the market disciplinary hypothesis. Table 3 Columns 7 and 8 show that profitable targets reduce the likelihood of complete turnovers by around 46% and the coefficients are significant at the 10% level. Although the category of pre-acquisition performance matters to TMT Turnovers, Table 3 Columns 1, 2, 5 and 6 show that ROA(-1), the level of performance does not affect TMT turnovers. These results provide some support to Hypothesis 2 that pre-acquisition performance negatively affect the TMT turnovers in targets. Table 5 provides consistent results that ROA(-1) do not impact TMT Turnovers.

Table 3 Columns 5 to 8 show that the probability of Complete TMT turnovers is reduced in targets with large TMT sizes, which consists to the RBMV expectation. As TMT size indicates the complexity of business, acquirers are less likely to fully replace targets’ TMTs when targets business are complex. Table 5 provides consistent results. The RBMV hypothesis is further supported by the positive coefficient of Relative Industry. Table 3 Columns 5 to 8 show that acquirers are more likely to completely replace target TMT when acquirers are in the same
industry as targets’ and are more likely to have the knowledge of target business. Furthermore, Table 5 Columns 5 to 8 show that Relative Industry affects the Complete TMT Turnovers only in profitable targets. For unprofitable targets, acquirers replace target TMTs regardless targets’ TMT knowledge.

Target Performance Improvements and Mean-reversion Effect:

Table 4 shows that Target TMT Turnovers do not affect the performance change in targets within three years after acquisitions. The sub-group tests in Table 6 suggests that TMT Turnovers in profitable targets improve target performance, which is against the RBMV expectation. These results fail to support Hypotheses 3 and 4, which means results do not support the disciplinary officer turnover hypothesis or resource-based management view of TMT turnovers’ impact on post-acquisition performance change.

Table 4 shows that targets experience strong mean-reversion and Table 6 provides consistent results in sub-groups of profitable and unprofitable targets. ROA(-1) significantly decrease the performance improvement in profitable targets and improve performance in unprofitable targets. The correlations between ROA(-1) and target ROA changes range from -1.1 to -0.8, which are all significant at the 1% level. After adjusting for peer performance, the coefficients drop to the range from -1.2 to -1.1, which are still significant at the 1% level. These results suggest that the changes of post-acquisition performance experience significant mean-reversion effects. The regression results consist to the descriptive statistics that profitable targets experience lower performance improvements than unprofitable targets. Table 4 also show that Cash Payment positively affect the first-year post-acquisition performance improvement in targets, which is consistent to the expectation that cash deals generate higher returns than stock deals.

Target TMT Turnover versus Acquirer Performance Changes:

To compare my study with previous literature which links the Target TMT Turnovers to acquirers’ performance improvement, I investigate whether Target TMT Turnover or Acquirer TMT Turnover drives the post-acquisition performance changes of acquirers. In my sample, targets are relatively small to acquirers. The median of target’s total assets divided by acquirer’s total assets is 0.06. Table 7 shows that the proportion of Target TMT Turnover do not affect post-deal performance change in acquirers at year t+1 and t+3, and negatively affect acquirers’ ROA change at year t+2. On the contrary, a Complete Turnover in the target
on average significantly reduce acquirers’ change of ROAs by 2% to 4% (significant at the 5% or 10% level). These results show that both partial target TMT turnover and a complete TMT turnover are harmful to acquirers significantly.

Furthermore, Table 7 shows that acquirers’ TMT Turnovers at (0, +1) significantly reduce acquirers’ ROA improvement at t+1 while targets’ TMT Turnovers do not impact performance changes in acquirers. A 10% increase in acquirers’ TMT Turnovers reduce the ROA(-1, +1) by more than 1.6% (significant at the 1% level) while a complete TMT turnover in targets decreases the acquirers’ ROA improvement by 0.2% to 0.3%. As I expected, targets are subsidiaries of acquirers and the TMT Turnovers in acquirers should be more important to acquirers than the subsidiaries’ TMT Turnovers.

Section 5 Conclusion

My results suggest that on average acquisitions significantly improve the performance of unprofitable targets and significantly deteriorate the performance of profitable targets. Unprofitable targets are more likely to experience “disciplinary TMT turnovers,” but the TMT Turnovers do not improve the post-acquisition target performance. My results do not provide evidence to support the market hypothesis expectation that disciplinary TMT turnovers improve the operation and performance of target firms. The reasons of TMT Turnovers around acquisitions could be complex and disciplinary TMT turnover is not the main reason of officer turnovers in my UK sample. Other sources of value-creation, such as the increasing financing capacity provided by acquirers to targets, may explain the value creation in unprofitable targets.

On average, acquirers experience negative changes of post-acquisition performance, but the decreasing ROA are not driven by TMT Turnovers in targets. Although TMTs in profitable targets are valuable resources of inside knowledge, the post-acquisition performance in acquirers are more affected by acquirers’ TMT turnovers than target TMT turnovers.
Reference List


