Executive Compensation Faultlines and Corporate Acquisitions

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Abstract

We introduce the idea of Executive Compensation Faultline (ECF) strength as a means to capture the alignment of the whole top management team's incentives across multiple compensation characteristics. We build on previous literature on demographic faultlines, which suggests that strong faultlines between the subgroups making up a team can prevent effective cooperation between team members, but may also deter unwanted collusion between subgroups. We analyze the effect of ECF on merger and acquisition (M&A) decisions and performance outcomes at the firm-year and deal level. At the deal level, we find high and low levels ECF are associated with a greater probability of acquirer initiation. In the firm-year level analyses, our results indicate that higher and lower levels of ECF are positively associated with the propensity to acquire. The performance analyses provide evidence supporting the idea that strong ECF are used by boards to reduce collusion among top management team members which could be potentially harmful for shareholders. Higher ECF are associated with higher announcement returns to acquirer shareholders and to better post-merger operating performance.

Keywords: Executive compensation, mergers and acquisitions, faultlines, top management teams

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Introduction

Extant research establishes that executives play important roles in determining organizational outcomes. A majority of existing empirical research focuses on the chief executive officer (CEO) as the most important, and typically highest paid, executive. Yet this ignores the entire top management team (TMT), which is comprised of leading executives who are understood to contribute significantly to decision initiation and implementation and be important for corporate success (Bushman, Dai and Zhang, 2016, Zhang, 2019). Although there is a dearth of studies in finance, in related disciplines the importance of TMTs has recently been demonstrated for a range of organizational outcomes, including corporate innovation (Chemmanur, Kong, Krishnan and Yu, 2019) financial reporting quality (Zhang, 2019), risk-taking (Kini and Williams, 2012) and M&A (Nadolska and Barkema, 2013). However, much remains unknown regarding the impact of TMTs on corporate performance, especially with respect to the dynamic interplay within TMT groups.

In this paper we introduce the concept of Executive Compensation Faultlines (ECF) as a means to capture how TMT members are incentivized to pursue particular strategic decisions through compensation contract-based incentives across the entire TMT. Our objective is to develop a nuanced measure of how different pay structures could result in hindering coordination or encouraging cooperation amongst TMT members. The premise behind faultlines in TMT compensation is simple and intuitive. Different pay structures across TMT members may *simultaneously* align together resulting in the formation of sub-groups where intra-group members are homogenous in terms of their pay structure but substantial inter-group differences exist[1]. Given that individual pay components may have contrasting incentives, our paper seeks to understand the effects of alignment or misalignment of incentives in TMTs.

[1] Faultlines are argued to be better predictors (more direct and pervasive effects) of team dynamics and decision-making than traditional diversity measures (Bezrukova et al., 2012; Lau and Murnighan, 2005). Faultlines allow us to

The ECF concept we propose seeks inspiration from two key interdisciplinary, and, to date, non-integrated literatures. First we draw on the extant literature on team dynamics and intragroup conflicts, which gave rise to an interest in the idea of faultlines. As proposed by Lau and Murnighan (1998), the faultlines concept has been widely employed to study how demographic characteristics of teams influence group functioning and decision-making. According to this behavioral construct, faultlines are hypothetical lines that form when groups fracture into homogenous non-overlapping sub-groups based on clear alignment of members' correlated characteristics. This is based on the principle of comparative fit where within-group similarities and between-group differences result in clear fractures (Bezrukova et al., 2012; Thatcher and Patel, 2012).

Second, our measure is motivated by the literature on executive compensation. Economic theory suggests that the utility function of economic agents is a function of their wage and the distribution of coworkers' wages, which subsequently has implications for effort choices and attitudes and behaviors (e.g., Bushman 2021; Bloom and Michel, 2002; Lazear and Rosen, 1981; Fehr and Schmidt, 1999; Fehr and Goette., 2007). More recently, significant attention has been given to within-firm pay inequality by policy makers and worldwide media (Mueller, Ouimet and Simintzi, 2017). Although inequality in pay structures can sometimes garner negative media attention, it may be justified if it stems from differences in managerial talent and if it leads to improvements in firm performance (e.g., Fredrickson, Davis-Blake and Sanders, 2010). In support of this idea, Mueller et al. (2017) find a positive relationship between within firm wage inequality and both operating performance and market valuations, while in the strategic management literature Feldman, Gartenberg and Wulf (2018) find that pay inequality amongst managers is a strong

account for not only multiple attributes of a group but also the structure of their alignment such that fractured sub-groups may form because of consistent differences in pay structures across various attributes.

predictor of corporate divesture decisions, and conclude that unequal pay structures could have significant strategic implications.

Relatedly, it has been argued that pay structures should account for synergistic interrelationships between executives in the top management team (Che and Yoo, 2001; Edmans et al., 2013, Mueller, Ouimet and Simintzi, 2017).[2] This is important given, as stated by Mueller et al. (2017, p.3617), based on arguments in Edmans et al. (2013), "*higher- level managers have more synergy potential and are thus paid more (in equilibrium) to produce synergies*". Emerging research shows that firms use cash-based bonuses with similar performance targets to enhance coordination amongst top management teams (Guay, Kepler and Tsui, 2019), although dispersion in equity awards across executives reflects the synergistic influence of managers such as reducing costs of effort for other team members (Bushman et al., 2016). However, Bushman et al. (2016) argue that existing empirical approaches to capture team dynamics are exploratory, one likely reason being that it is difficult to econometrically account for the simultaneous non-linear impact of various pay incentives of TMT members. Yet focusing on the TMT rather than on specific influential individuals is important since it is the whole TMT that determines firm productivity (Hambrick, 2007).

To evaluate how ECF shape organizational outcomes we set our study in the context of corporate mergers and acquisitions (M&A) and question whether incoherent pay structures across TMT result in worse or improved acquisition outcomes from the perspective of corporate boards and acquiring firm shareholders. Much existing interdisciplinary literature on M&A concentrates on the contribution of CEOs to M&A outcomes (E.g., Bebchuk et al., 2011; Malmendier and Tate, 2008; Aktas et al., 2016; Li and Peng, 2021). However, this focus neglects the reality that the entire TMT typically plays an important role – especially

[2] Previous research on TMT has largely explored the impact of differences in the 'level' of pay in top management teams (Bebchuk et al., 2011; Kini and Williams, 2012), but not pay 'structure' (Bushman et al., 2016).

with respect to the most significant strategic acquisitions (Bertrand and Schoar, 2003; Haspeslagh and Jemison, 1991; Nadolska and Barkema, 2014). The seminal paper of Bertrand and Schoar (2003) shows that other top managers, and not only CEOs, contribute significantly to firm acquisitiveness. Nadolska and Barkema (2014) highlight the crucial role of the TMT in influencing M&A outcomes: amongst other factors they approve acquisition targets and decide on deal characteristics. They are also important in the creation of internal M&A teams and appointment of external advisors (Aktas, Boone, Witkowski, Xu, and Yurtoglu, 2021; Gokkaya, Liu and Stulz, 2023). In this way, the ability of TMTs to deliver acquisition related gains likely stems from the extent of managerial effort exerted and the degree of coordination and cooperation amongst TMT members (Zollo and Singh, 2004), with larger and more complex deals requiring greater managerial effort (Akkus et al., 2016).

Another important strand of the M&A literature focuses on the role of executive compensation contracts in influencing M&A outcomes. This stream has primarily looked at (i) the impact of CEO's pay (e.g., Duchin and Schmidt, 2013; Li and Peng, 2021), and (ii) at individual pay instruments in isolation (e.g., Datta et al., 2001; Duchin and Schmidt, 2013; Bushman et al., 2016)[3]; thereby presenting a fragmented picture. In contrast we argue, and incorporate within our ECF measure, the need to understand how pay structures incentivize and influence the behavior of the whole TMT, which marks a shift from a single-agent to a multi-agent perspective (Bushman et al., 2016; Edmans et al., 2013); as well as the need to simultaneously examine the structure of multiple managerial pay components. As argued by Li and Peng (2021 p.2964): "*given the complexity of executive compensation contracts, a focus on one dimension of compensation design could easily have a limited or unintended effect on managerial behavior.*"

[3] In contrast to Bushman et al.'s variance of pay-performance sensitivity measure, which focuses on a single pay instrument of equity awards - resulting in 15 different constructs for the TMT, we contend in this research that using SD would not only be computationally complex but result in serious multicollinearity concerns. Such residual diversity measures may capture various alternative constructs, such as ability, effort, luck and measurement error.

Theoretically ECF could be associated with either superior or inferior acquisition outcomes. From one perspective, high ECF could result in a lack of coordination leading to mismanagement of resources and process losses (Lau and Murnigham, 2005) engendering worse M&A outcomes. Since strong pay-based faultlines in TMT pay structures across sub-groups may be expected to incentivize different behaviors, they may incite task-based conflicts (disagreement over current strategies) and process conflicts (the process of doing a task, such as the channels to improve performance). In this vein, theoretical perspectives accounting for social and behavioral perspectives argue that differences in reward structure can negatively impact TMT cooperation and decision-making quality (Lazear, 1989; Milgrom and Roberts, 1988). Because executives compare their pay to immediate others (i.e. against other individuals within the same team), differences across pay structures in the same group may result in feelings of inequity (Feldman et al., 2018).[4] For instance, prior research has suggested that when performance targets are weakly correlated this can result in team conflict and in coordination challenges (Ethiraj and Leventhal, 2009).

Alternatively, high ECF could be associated with better acquisition outcomes. Barron and Waddell (2003) develop a theoretical framework to show that higher ranked executives have greater influence over project selection decisions and should be paid with higher equity incentives in their pay structures to reflect their level of managerial effort. Edmans et al. (2013) posit that executives can, in addition to their direct contribution to firm productivity, contribute indirectly by reducing the marginal cost of effort for colleagues; such influential agents receive higher equity awards to internalize the externalities they exert

[4] Frederickson et al. (2010) note that TMT members are similar across various aspects that make them valid reference groups for each other. The authors argue that most senior executives have likely risen through the ranks, faced similar firm challenges, and hence have similar experiences. They occupy similar positions and are likely driven by similar motivations of being achievement-oriented and highly competitive (Lazear, 1989).

on colleagues[5]. More recently, Bushman et al. (2016) show that firms target optimal pay dispersion in equity incentives. Any positive deviations from optimal performance pay sensitivity (PPS) dispersion are said to reflect frictions in the pay setting process, and consequently are associated with lower valuations. This stream largely views equilibrium pay structures as an outcome of efficient contracting and that pay reflects the effort choices of executives.

Low ECF could similarly be associated with either better or worse acquisition outcomes. Similarity of pay structures may improve cooperation amongst the TMT - for example, Guay et al. (2019) show that cash-based bonus plans which have similar reward structures and performance measures distributed across the TMT are associated with greater team stability and cooperation. However, in an M&A setting low ECF could encourage TMT members to work together to extract private benefits to the detriment of shareholders. Masulis, Wang and Xie, (2007) find that anti-takeover provisions, which protect top management from market discipline, lead to worse outcomes. Misalignment of incentives could result in acquirer TMTs overpaying for targets, in a manner redolent of Morck, Shleifer and Vishny (1990). This effect may be compounded when managers are self-interested and have low equity-based compensation (Datta, Iskandar-Datta and Raman, 2001).

We rely on a sample of 11,992 firm-year level observations and 1,449 M&A transactions to analyze the effect of ECF strength on M&A decision and performance outcomes. In addition, we collect private process data from the SEC filings, as previous research (e.g., Boone and Mulherin, 2007; Aktas et al., 2010) has shown the importance of the private process. For the deal level analyses, this yields a sample of 435 transactions with private process data. The ECF measure is estimated as the outcome of cluster analysis of five core components of executive compensation contracts: cash, bonus, stock awards, option grants,

[5] Several studies discuss differences in asymmetric pay-off structures of cash-based pay and equity-based pay (e.g., Core and Guay, 1999). Such differences are likely to incentivize contrasting executive behaviors within the top management team.

and other compensation (scaled by total compensation), as well the sensitivity of executives' equity and stock option holdings to stock returns (delta) and volatility (vega). The clustering algorithm classifies the top executives of a given firm into sub-groups that maximize the intra-subgroup *similarity* in pay structures but maximizes the inter-group *dissimilarity* in pay structures. That is, executives of the same subgroup have similar pay structures but executives of the other subgroup are different (Zanutto et al., 2011). Stronger faultlines indicate a cleaner split of the group into different subgroups. ECF strength is different to conventional measures of pay disparity, including CEO payslice (Bebchuk et al., 2011), in one important respect. Following the arguments for demographic faultlines presented in Lau and Murnighan (1998), if all TMT member pay structures differ markedly along all components, disparity is high but ECF strength is weak because subgroups do not form. If all TMT members have identical pay structures along all components, disparity is low and ECF strength is also weak, because subgroups do not form. Therefore, extremes of high and low disparity reflect a low ECF. The ECF concept therefore accounts for not only multiple attributes of a group but also the structure of their alignment (Lau and Murnighan 2005; Thatcher et al., 2003).

We explore the impact of pay-based faultlines at the deal level and the firm-year level. At the deal level, we examine the effect of ECF strength on acquiring firm initiation and the probability of deal completion. At the firm-year level, we assess the impact of ECF strength on the acquisition decision in a given firm-year and the propensity to complete announced acquisitions. We also analyze the short- and long-run performance implications of acquisitions. We find that at the deal level, ECF strength does not predict acquirer initiation. However, when we test for a non-linear effect of ECF, we uncover an inverse U-shaped relationship between ECF strength and initiation, indicating that acquirer initiation is more likely at moderate levels ECF as opposed to extreme levels. When we include private process controls, we show that the leadership of the acquiring TMT rather than the board in the private process, as documented in the SEC filings, positively predicts acquirer initiation. When we include ECF strength, acquirer TMT

leadership and their interaction in the analyses, we find that both ECF strength and acquirer TMT leadership contribute positively to acquirer initiation but the negative sign on the interaction term demonstrates that TMT leadership tempers the effect of ECF strength. We find no effect of ECF strength on the probability of deal completion. In the firm-year level analyses, we find weak evidence for a positive effect of ECF strength on the propensity to acquire. When we introduce the square of ECF strength to assess a possible non-linear effect, we find a significantly positive effect of ECF strength on the propensity to acquire and a significantly negative effect of the squared term. This suggests a U-shaped relationship, in which higher and lower levels of ECF increase the propensity to acquire. Our results for the effect of ECF strength on the proportion of announced deals which are subsequently completed shows a positive and significant association. We do not find a non-linear effect.

The performance analyses show a positive and significant effect of ECF strength on short term announcement returns at the deal level and changes in post-acquisition operating performance at the firm-year level. At the deal level, we estimate the determinants of acquirer cumulative abnormal returns (-1,+1). At the firm-year level, we implement a propensity score matched regression in which M&A announcement is the treatment variable and firms are matched by size, year and industry. Our results provide support for the idea that greater ECF strength prevents collusion between members of the TMT and reduces the opportunity for private rent extraction to the detriment of shareholders.

We make several contributions. First, our work adds to extant literature on faultlines at the top level of firms that has largely focused on the impact of board-level faultlines based on demographic characteristics on firm performance (e.g., van Peteghem et al., 2018). We apply the logic of incongruity in pay structures across TMT members to propose the notion of executive compensation faultlines. The formation of sub-groups based on the alignment across correlated attributes resulting in task-related conflicts is a simple premise (Lau and Murnighan, 1998; 2005), yet one that has not received any attention in the context of executives' pay. Instead, prior work has largely focused on the differences in the 'level' of pay between

TMT members (Kini and Williams, 2012; Bebchuck et al., 2011), with an emerging literature focusing on diversity across TMT pay structures (Bushman et al., 2016; Guay et al., 2019). This stream has largely adopted the optimal contracting perspective where pay structures reflect executive effort. Our study takes an important first step by demonstrating that pay-based faultlines exist and reflect team dynamics that evolve over time, and have important implications for corporate acquisitions.

Second, through the concept of ECF we integrate both the executive compensation literature as well as the literature on faultlines by adapting Lau and Murnighan's (1998) behavioral faultline theory to the pay structures of TMT. Various authors note that faultlines were conceptualized in principle as the alignment along any attribute that can differentiate the members, such as personality, executive career experiences, education and age/tenure (Lau and Murnighan, 2005; Thatcher and Patel, 2012; Cooper et al., 2014; Bezrukova et al., 2009). Our study responds to calls to employ different types of non-demographic attributes to conceptualize faultlines (Thatcher and Patel, 2012), and resolves an issue with demographic faultlines which imply that the only way to change team dynamics is through the costly replacement of members, while ECF can be shocked at any time through objectives set by the board.

Third, our study speaks to the debate on the impact of pay structures on M&A outcomes. Existing research has tended to focus on the CEO only (e.g., Duchin and Schmidt, 2013; Li and Peng, 2021) or on pay components in isolation (e.g., Datta et al., 2001; Duchin and Schmidt, 2013). We add to this research stream by considering both a multi-agent context involving the whole TMT and the simultaneous combined effect of the different components of TMT member compensation packages. We introduce a new measure that captures fragmentation amongst members of a social unit, and which enables exploration of the consequences of disparity in various pay structures in conjunction, instead of each dimension separately. We extend prior knowledge by going beyond the consideration of executives' individual pay characteristics to investigate the effects of multiple pay components and, more importantly, their interrelationships in influencing corporate acquisitions.

Finally, our paper extends findings in the general M&A literature. One unresolved puzzle is identified by Golubov, Yawson and Zhang (2015), who find that firm fixed effects account for as much variation in the returns of acquirers as firm- and deal-specific characteristics combined, and that, in contrast to the management science literature, including TMT characteristics (specifically, the size of TMT, and the average firm tenure and age of TMT) does not improve the explanatory power of estimations. Our findings are consistent with the view that we simply lack a suitable framework to capture the complex interdependencies between TMT members. ECF strength could contribute to the literature by provide a way to capture these interdependencies, even when controlling for both firm fixed effects and firm- and deal-specific characteristics (Golubov et al., 2015).

DATA AND METHODS

Sample construction

We construct the firm-year level sample combining data from the Compustat and Execucomp databases accessed through WRDS. We extract executive compensation data for the period 1996-2016 for the top-five executives of all firms, excluding financial services and utilities. To estimate the executive compensation faultline (ECF) we require annual compensation data for all top-five executives and restricted stock and option portfolio data for the estimation of delta and vega. We match Execucomp firm-year data to Compustat to estimate firm level performance and control variables. This yields a sample of 15,899 firm-years for which we are able to estimate ECF and add Compustat control variables. A further restriction to our sample results from the addition of governance controls. As incentive compensation is set by the board, governance quality is a key control variable in our analyses. After adding governance variables estimated using Institutional Shareholder Services (ISS) data, the firm-year level sample entering our analyses comprises 11,992 observations.

We identify M&A transactions from the Securities Data Company (SDC) database provided by Refinitiv. We restrict our sample to change-in-control deals and drop transaction values of less than $1 million. To identify change in control deals, we use the *percentage sought* field from SDC rather than the *percentage acquired*. Relying on percentage acquired would restrict our sample to completed deals only, while deal completion is a key M&A decision we explore in our analyses. We require deal-level controls such as method of payment for our deal-level analyses, yielding a final deal-level sample of 1,449 transactions, consistent with Li and Peng (2021). For the deal-level performance analyses, we require acquirer cumulative abnormal return data (ACAR) to capture market reactions at announcement, reducing the sample to 1,089 transactions.

The private part of the M&A process is an important feature of transactions. Prior research uses the SEC filings to document and analyze the private part of the M&A process (Boone and Mulherin, 2007, 2008; Aktas et al., 2010, 2016; Masulis and Simsir, 2018). We follow these papers in using the background to the merger section of M&A filings to hand-collect data on the identity of the initiating party and process type (auction v. negotiation). In a departure from the existing literature, we collect information about the role of the acquirer and target TMTs and boards during the private process. Our research question addresses the incentives of TMTs so it is important to assess the active participation of TMT members in the process. We identify a transaction as acquirer (target) TMT led if the merger filing identifies the acquirer (target) TMT rather than the board as the main protagonist in the discussions.

Although we have been unable to uncover previous literature on this topic, a potential issue with data collection from the SEC filings is the identity of the filing firm. Our research question requires a full view of the transaction from the point of view of the acquirer, because we are seeking to identify the involvement of the acquirer TMT in the private part of the process. While information provided by target DEFM14As seems identical to that provided by acquirer S-4s, the situation is somewhat more complicated for tender offers. The acquirer SC TO-T (or SC14 D1 for earlier transactions) contains a background section

that can be substantially different to the corresponding SC14 D9 filed by the target. Notably, the target filing contains more detail about the process, and often provides details of an auction process while the acquirer filing describes what appears to be a negotiation. For tender offers, where available we use the acquirer filed SC TO-T or SC14 D1 to identify acquirer TMT participation in the private process, and the target filed SC14 D9 to collect details of the private process, in particular the definition of auction v. negotiation. Hand collection of data is shared between three co-authors using common definitions and instructions to ensure consistent coding. On completion of the coding process, we test the consistency of coding. We do not find significant differences in means between coders for the variables collected (results available from the authors on request). We find private process variables for 585 transactions in our M&A sample, falling to 435 transactions for the analyses of acquirer CAR.

Variables

The variable of interest is ECF strength. We estimate it by adapting a clustering algorithm developed in the literature on demographic faultlines (Thatcher et al., 2003; Thatcher and Patel, 2012). The estimation computes the maximum value of intra-group homogeneity and individual divergence in pay structures. ECF strength captures the potential alignment of members of the TMT across different pay structures into subgroups with potentially divergent incentives. The ECF measure is calculated using five components of executive pay structures: cash, bonus, stock awards, option grants, and other compensation (where each component is scaled by total compensation), as well as executive equity holdings' sensitivity to stock return (delta) and stock volatility (vega) (following Core and Guay, 2002; Guay, 1999). ECF strength is formally estimated as follows:

$$ECF = \text{Max}\left(\frac{\sum_{j=1}^{p}\sum_{k=1}^{2} n_k^g(\overline{X}_{jk} - \overline{X}_j)^2}{\sum_{j=1}^{p}\sum_{k=1}^{2}\sum_{i=1}^{n_2^2}\left(X_{ijk} - \overline{X}_j\right)^2}\right) \quad (1)$$

where X_{ijk} is the value of the j^{th} pay component of the i^{th} member of subgroup k. $\overline{X}_j$ is the group mean value of characteristic j. $\overline{X}_{jk}$ is the mean value of j^{th} pay component in subgroup k. p is the number of

compensation characteristics. We require ECF to split TMTs into two subgroups, following Thatcher *et al*. (2003), but allow the number of members to form freely. Subgroup formation can therefore comprise 1 v. 4 members or 3 v. 2 members. ECF strength ranges from 0 to 1, with higher values representing stronger ECF. One concern could be that in the majority of firm-years, TMTs fall into 1-4 subgroups where the CEO forms their own subgroup. We analyze changes from a two-three formation to a one-four formation (unreported), and find that in only 30% of cases does the CEO become the "one" in a one-four subgroup formation.

[Insert Table 1 here]

Table 1 Panel A (Panel B) shows descriptive statistics for all deals (deals with SEC filing data). Mean ECF strength is 0.915 (0.914) in the deal-level (firm-year level) samples and shows considerable variation. Deal-level variables are consistent with the recent literature (e.g., Li and Peng, 2021), and show consistent values between Panels A and B. The proportion of acquirer-initiated deals in Panel B is consistent with previous papers using SEC filings data (e.g., Aktas et al., 2016). We note that 89% of these transactions are led by the acquirer TMT rather than the acquirer board. We also include a control variable, *Role Match*, which identifies congruence between the protagonists involved in the private process on the acquirer and target side. We note that in 63% of transactions, TMTs are talking to TMTs or boards are talking to boards. Table 1 Panel C shows variables for the firm-year level analyses. We note an extreme outlier in the ROA minimum values. However, this firm only appears for one year in our data and does therefore not enter the post M&A performance analyses. We include a control variable for previous acquisition performance in our analyses, *MA count*. This variable, which enters the analyses with a lag, controls for learning through previous M&A experience (Hayward, 2002; Aktas et al., 2011). While the average firm in our sample makes less than one M&A per year, some firms are highly acquisitive with a maximum of 28 deals announced. However, the maximum shows an unusually high value, as MA count is three at the 90^{th} percentile (unreported).

Methods

We carry out analyses at the M&A deal level and at the firm-year level. A first set of analyses estimates the determinants of M&A decision variables. Our analyses take the following form at the deal level:

$$Y_{j,t} = \alpha_0 + \alpha_1 + \alpha_2 + ECF_{i,t} + \beta_{1i,t} FirmCharacteristics + \beta_{2i,t} GovernanceCharacteristics + \beta_{3j} DealCharacteristics + \varepsilon_{j,t} \quad (2)$$

Where $Y_{j,t}$ is *Acquirer Initiated* or *Completion*, $ECF_{i,t}$ is the variable of interest, α_1 are industry fixed effects and α_2 are year fixed effects. We also explore possible non-linear effects of ECF, adding $ECF^2_{i,t}$ to the specification in equation (1). We analyze interaction effects between ECF and TMT leadership of the private process, including $ECF_{i,t} * Acquirer\ TMT\ led_{j,t}$ in the specification in equation (2). When we restrict our analyses to the sample for which hand-collected SEC filing data is available, deal characteristics include private process variables including $Acquirer\ TMT\ led_{j,t}$. We match annual firm-level and ECF variables to the M&A data taking into account fiscal year-ends, which may not fall on 31/12. We do not lag the ECF strength variable because compensation information disclosed by firms at the end of the fiscal year,

In the deal-level performance analyses, we estimate the specification in Equation (2), where $Y_{j,t}$ is acquirer cumulative abnormal return over the (-1,+1) window with day zero as the announcement date. In the firm-year level performance analyses, we follow recent literature (Li and Peng, 2021) and implement a propensity score matching analysis. As our focus is on the acquiring firm's performance, we estimate the change in ROA pre- and post-merger as the difference between acquirer ROA in the years following and preceding the transaction announcement year. In a first stage, we generate a matched sample of firm-years, in which the treatment variable is *MA dummy* and the first stage matching variables are firm size *(ln total assets),* industry *(2-digit SIC)* and year. In the second stage, we regress the change in ROA on $ECF_{i,t}$, the lag of cash holdings, governance characteristics and aggregate M&A controls. We explore the possible nonlinear effects of ECF by adding $ECF^{2}_{i,t}$ to the model. All models are estimated using OLS regression to avoid the incidental parameters problem resulting from the inclusion of fixed effects in nonlinear models (Lancaster, 2000) and to enable the direct interpretation of interaction terms, avoiding the issues identified by Ai and Norton (2003).

Results and discussion

From the demographic faultlines literature, we infer that a low ECF could motivate the TMT to cooperate and to work towards shared goals, while high faultlines may exacerbate team conflicts and hinder team functioning by distorting the achievement of team goals (Cooper et al., 2014; Li & Hambrick, 2005; Thatcher and Patel, 2012). This assumes that cooperative dynamics form a crucial element of a TMT where executives engage in collaborative tasks and information sharing to implement successful firm strategies (Hambrick, 1995; Frederickson et al., 2010; Jaskiewicz et al., 2017). Pay-based faultlines imply that between-group pay structures are significantly different, which could result in TMT members assigning different priorities to activities and outcomes. For instance, pay-based faultlines could reflect dysfunctional team behavior and lead to greater coordination challenges and diminished team effort.

Alternatively, unequal pay structures amongst the TMT could reflect differences in managerial skill and may be optimal in motivating TMT to pursue desired objectives. They could also avoid unwanted collusion between TMT members, thereby reducing the risk of private rent extract to the detriment of shareholders.

Does ECF influence acquiring firm initiation?

We begin our analyses by exploring whether ECF impacts the likelihood that acquirers initiate acquisitions, a key part of the private takeover process (Boone and Mulherin, 2007), as well as deal completion. We conduct our analyses at both deal-level (the determinants of acquiring firm deal initiation) and firm-year level (the determinants of propensity to acquire and deal completion). In all cases our focus is on the acquiring firm.

First, we analyze the determinants of acquiring firm deal initiation, a private deal process, which to date has received relatively little attention in the existing M&A literature (Aktas and Boone, 2022), likely given the difficulty in hand-collecting data from U.S. Securities and Exchange (SEC) filings. Deal initiation is the first stage in in the private process (Aktas and Boone, 2022) and a crucial part of the acquisition process where any mistakes may exacerbate problems with subsequent deal completion and integration (Haspeslagh and Jemison, 1991, as cited in Aktas and Boone, 2022).

With few exceptions, existing studies have yet to examine deal initiation from the perspective of acquirers, which is surprising given that the majority of deals involving listed firms are known to be initiated by acquirers (Atkas, de Bodt and Roll, 2010, and Masulis and Simsir, 2018, as cited in Aktas and Boone, 2022). Moreover, the limited existing literature presents mixed findings and the firm-level determinants of acquirers' deal initiation remain largely unknown. For example, Aktas, de Bodt, Bollaert and Roll (2016) do not uncover significant predictors at the acquiring firm-level[6].

[6] While there is a dearth of studies from the perspective of the acquirer, several papers examine the private initiation process from the target side. For example, Masulis and Simsir (2018) find that firm underperformance and financial constraints as well as negative economic shocks are important predictors of target-initiated deals, while Fidrmuc and Xia (2019) find that target CEOs' with higher ownership as well as those benefiting from higher pre-takeover golden parachutes, stock and stock option grants are more likely to initiate deals.

[Insert Table 2 here]

In table 2 we first analyze the determinants of acquiring firm initiation at the deal level. The dependent variable is a dummy equal to 1 if the acquiring firm initiated the transaction and zero otherwise and all models include deal controls driven by prior literature. In regressions 1 and 2 we find no significant effect of ECF on the likelihood that the acquiring firm initiated the deal. However, when we consider a possible non-linear effect of ECF by including ECF strength squared in column 3, we find evidence of an inverse U-shaped relationship between ECF strength and initiation, which implies that acquirer initiation is more likely at moderate levels ECF as opposed to extreme levels. In column 4, where we also include private process controls, we find that the direct involvement of the acquiring TMT, as identified in the SEC deal filings, positively predicts acquirer initiation. However, when we interact *ECF strength* with *Acquirer TMT Led* we uncover a negative effect on the likelihood the deal was acquirer initiated. Thus, TMT leadership tempers the effect of ECF strength. This novel result implies that when pay structures are unequally distributed amongst TMT and members of the TMT are directly involved with the deal process the likelihood that an acquisition was initiated by the acquirers TMT is significantly lower.

Does ECF influence the likelihood a deal is completed?

In this subsection we investigate whether ECF predicts the likelihood a deal is completed. We consider this question by conducting analyses at the deal-level.

[Insert Table 3 here]

Table 3 presents the results for the effect of ECF strength on the probability of deal completion at the deal level. The dependent variable is a dummy equal to 1 if the deal is completed and zero otherwise. Across this table we fail to find evidence that ECF has a significant linear or non-linear effect on the probability of deal completion. In terms of additional determinants, we find these are largely consistent with extant studies. For instance, the positive and significant coefficient for *Acquirer size (Ln TA)* is consistent with both

Aktas et al. (2016) and Baker and Savasoglu (2002). Similarly, the negative and significant coefficient for *Acquirer cash holdings* is consistent with Aktas et al (2016), as is the negative and significant coefficient for deal value (*Ln Transaction Value*).

Does ECF influence the propensity to acquire?

[Insert Table 4]

In Table 4 we examine whether ECF influences the propensity to acquire using analyses conducted at the firm-year level. We present consistently significant and positive coefficients for *ECF strength*, which suggests that ECF has a positive influence on the likelihood a firm makes an acquisition in a given year. In column 4, when we introduce the square to ECF strength to assess a possible non-linear effect our results support a U-shaped relationship between ECF and the propensity to acquire, where higher and lower levels of ECF increase the propensity to acquire.

For other variables, we report results largely consistent with extant literature. For example, we show that firms with more substantial cash holdings are more likely to acquire, which is consistent with Malmendier and Tate (2008). We also find that more profitable firms, those with higher ROA in the previous year, are also more likely to acquire, as are those with a greater percentage of institutional ownership. Interestingly, in columns 3 and 4 when we include *MA count* to control for firms' acquisition intensity, given some firms are known to be serial acquirers (Renneboog and Vansteenkiste, 2019), we find, intuitively, that previously more acquisitive firms are more likely to acquire.

[Insert Table 5]

In Table 5, we explore whether ECF strength is a predictor of the proportion of announced transactions completed. This set of analyses is conducted at the firm-year level and the dependent variable is the percentage of announced deals completed by $firm_i$ during $year_t$. Here, in contrast to the previous deal-level analyses, ECF is a significant and positive predictor of the number of acquisitions at the firm-year

level. We tentatively argue that the lack of significant results for the deal-level analyses may be attributable to some annual targets not being picked up by the deal-level data.

Does ECF influence the performance of acquisitions?

Having shown that ECF has a role to play in predicting the likelihood of deal initiation and completion, in this section we question whether ECF has an effect on returns to acquiring shareholders from acquisitions announced as well as post-merger operating performance.

[Insert Table 6]

In Table 6 we first present results for deal-level analyses in which we consider the effect of ECF strength on acquirer announcement returns, as estimated from an event study. We find that ECF is associated with significantly higher returns to acquirers across all specifications, which suggests that that higher ECF, and unequal pay structures, which may promote more effort and/or may reflect the individual skills of TMTs, have an important role to play in determining the value of acquisitions from the perspective of acquiring firm shareholders. We argue that this is an important result given that the factors that contribute positively to acquire returns in the M&A literature remain largely elusive.

Results for control variables are again consistent with extant literature. For example, the negative and significant coefficient for transaction value is consistent with a negative and significant coefficient on target size in Aktas et al (2016). Finally, it is important to note that our main results for ECF are fully robust, and in fact are stronger in magnitude and statistical significance, when we include full controls for the private process in column 4.

As a final step we ask whether the deal announcement gains to acquirer shareholders also translate into increases in post-merger operating performance, where post-merger operating performance, the dependent variable, is represented by the change in firm ROA from the year prior to the transaction (t-1) to the year after the transaction (t+1). Given the potential for the results to be influenced by latent deal and firm-level characteristics which could contemporaneously also influence change in ROA we use

propensity score matching to ensure a balanced sample between acquirers and similar firms which do not make an acquisition over the period of analysis. Specifically, in the first stage, we generate a matched sample of firm-years, in which the treatment variable is MA dummy and the first stage matching variables are firm size (ln total assets), industry (2-digit SIC) and year. In the second stage, the coefficient estimates are obtained using the OLS regression model. In unreported analyses, we show that the implementation of the first stage results in successful balancing of acquirers and non-acquirers so that there are no statistically significant differences in firms based on the matching characteristics.

[Insert Table 7]

The results for the second stage are presented in Table 7. We find that higher ECF translates into significant and positive increases in ROA following acquisitions. We do not discern a nonlinear effect of ECF. We also observe that other important determinants from our earlier analyses are important in explaining changes in ROA. More specifically, we control for firms' acquisition intensity (*MA count*), which is significantly and negatively related to change in ROA. This is consistent with the literature on declining returns (long- and short-term) as firms acquire more (e.g., Renneboog and Vansteenkiste (2019). We also observe a significant and negative effect of cash holdings on acquisition related change in ROA, which is consistent with the cash holdings literature that links higher cash holdings with an agency cost (e.g., Jensen, 1986).

Conclusion

We introduce the concept of ECF to the literature in corporate finance, and more specifically to the M&A area. ECF, which are built on the behavioral framework of demographic faultlines (Lau and Murnighan, 1998) allow us to examine how the structure and alignment of multiple pay components among all members of the TMT result in the formation of sub-groups which may impact acquisition performance. We argue that such pay-based faultlines may be better predictors of team dynamics and decision-making than traditional diversity measures (Bezrukova et al., 2012; Lau and Murnighan, 2005). ECF allow us to

account for not only multiple attributes of a group but also the structure of their alignment such that fractured sub-groups may form because of consistent differences in pay structures across various attributes.

We explore the effect of ECF on acquisition decisions and outcomes at the deal level and firm-year level. We take the universe of Execucomp firms as a starting point for our firm year analyses, and merge the firm-year level data with M&A data from SDC. In addition, we hand-collect data from SEC filings to enable the inclusion of some private process characteristics which have been shown to be important for M&A decisions and outcomes (e.g., Boone and Mulherin, 2008).

At the deal level, we find that higher ECF strength is nonlinearly associated with deal initiation, with lower and higher levels of ECF making acquirer initiation less likely. In the subset of transactions for which we have private process data, we find leadership by the acquiring top management team, as opposed to the board, is a determinant of acquiring firm deal initiation, an effect which is attenuated by ECF strength. At the firm-year level, we find that the association between ECF strength and the propensity to acquire is weakly positive. However, the addition of ECF squared, to capture nonlinear effects, produces a strongly positive (negative) effect of ECF (ECF squared). The proportion of completed deals shows a positive and significant association with ECF. Results for M&A announcement returns and post-merger operating performance show a positive and significant effect of ECF strength on M&A performance. This is consistent with the idea that higher ECF strength prevents unwelcome collusion between TMT members which could be detrimental to shareholders.

To summarize, we show that studying the existence of pay-based faultlines in seemingly diverse TMT pay structures is advantageous, because it highlights the importance of considering the multiple agents comprising a TMT and the multiple components of top executives' pay packages. This supports the view that pay-based faultlines act as a meso-level construct that accounts for how different pay attributes simultaneously affect team dynamics, whereas diversity only accounts for the heterogeneity of a single

pay attribute or a direct effect of micro-level aggregations across different attributes (Thatcher and Patel, 2012; Bezrukova et al., 2012).

Our findings also have implications for policy makers and firms seeking to design effective compensation contracts. Executive pay remains a highly controversial topic that has received considerable attention from various stakeholders and financial media. For example, in 2017 the Securities and Exchange Commission (SEC) stirred controversy by mandating that firms disclose CEO-to-median employee pay ratios from 2017. Moreover, we inform the ongoing debate amongst policy makers around the efficacy of managerial compensation design practices. Our ECF concept and findings contribute novel evidence as to whether firms should seek consistency across pay structures of senior executives. This is an important question. While we take a first-step in introducing, in ECF, a new tool that can be used to evaluate the implications of unequal pay structures across TMT and by demonstrating how ECF impacts acquisition outcomes, future research may wish to evaluate its relevance for other strategic organizational outcomes.

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Table 1: Descriptive statistics

The table reports the mean, minimum and maximum values, standard deviations, and the number of observations for the variables used in the deal-level and firm-level analyses. Variable definitions are provided in Appendix 1.

Panel A – Deal level analyses: all significant transactions

Variable	Mean	Standard deviation	Minimum	Maximum	Observations
Acquirer CAR (-1,+1)	-0.001	0.073	-0.418	0.310	1,089
Completed dummy	0.936	0.245	0.000	1.000	1,089
ECF strength	0.915	0.082	0.565	1.000	1,089
% cash	84.826	26.252	0.670	100.000	1,089
Public target dummy	0.580	0.494	0.000	1.000	1,089
Horizontal deal dummy	0.495	0.500	0.000	1.000	1,089
Ln Transaction Value	5.597	1.799	1.079	11.671	1,089
Acquirer size (Ln TA)	8.323	1.611	4.477	12.620	1,089
Acquirer cash holdings	0.148	0.148	0.001	0.736	1,089
Acquirer ROE	0.143	0.074	-0.253	0.413	1,089
% Independent directors	0.740	0.157	0.000	0.933	1,089
Dual CEO dummy	0.582	0.493	0.000	1.000	1,089
Number of directors	9.501	2.288	4.000	18.000	1,089

Panel B – Deal level analyses: transaction with SEC merger filings data

Acquirer CAR (-1,+1)	-0.005	0.068	-0.377	0.241	435
Completed dummy	0.952	0.215	0.000	1.000	435
Acquirer initiated	0.508	0.501	0.000	1.000	435
ECF strength	0.917	0.081	0.565	1.000	435
% cash	83.376	27.460	0.670	100.000	435
Horizontal deal dummy	0.513	0.500	0.000	1.000	435
Ln Transaction Value	6.372	1.716	1.079	11.117	435
Acquirer size (Ln TA)	8.857	1.616	4.917	12.535	435
Acquirer cash holdings	0.139	0.142	0.001	0.732	435
Acquirer ROE	0.149	0.070	-0.253	0.413	435
% Independent directors	0.746	0.163	0.000	0.933	435
Dual CEO dummy	0.618	0.486	0.000	1.000	435
Number of directors	10.018	2.310	5.000	17.000	435
Acquirer TMT Led	0.890	0.314	0.000	1.000	435
Negotiation dummy	0.320	0.467	0.000	1.000	435
Role match	0.632	0.483	0.000	1.000	435

Panel C – Firm-year level analyses: all firm-years					
ECF strength	0.914	0.084	0.482	1.000	11,992
Size (Ln TA)	7.740	1.512	3.045	12.906	11,939
ROA	0.048	0.124	-4.753	0.522	11,938
Cash holdings	0.009	0.067	-0.762	0.519	11,937
Dual CEO dummy	0.571	0.495	0.000	1.000	11,992
% Independent directors	0.733	0.156	0.000	1.000	11,992
%Institutional ownership	0.770	0.197	0.000	1.910	11,992
Number of directors	9.295	2.222	3.000	26.000	11,992
MA count	0.911	1.620	0.000	28.000	11,992

Table 2: Determinants of acquiring firm initiation, deal level analyses

The table reports the effect of ECF strength on the probability of acquiring firm initiation. The coefficient estimates are obtained using the OLS regression model. The dependent variable is a dummy equal to 1 if the acquiring firm initiated the transaction and zero otherwise. The variable of interest is ECF strength (Columns 1 and 2), augmented with ECF strength squared (Column 3) and the interaction between ECF strength and TMT leadership (Column 4). Variable definitions are provided in Appendix 1. The inclusion of fixed effects is indicated in the table and standard errors are robust. *, **, *** indicate significance at the 10%, 5% and 1% levels respectively.

Dependent variable: acquirer-initiated dummy	(1)	(2)	(3)	(4)
ECF strength	0.074	0.137	-9.016**	1.755***
ECF strength squared			5.244**	
Acquirer TMT Led		0.120*	0.118*	1.768***
ECF strength * Acquirer TMT Led				-1.821***
% cash	0.003***	0.003***	0.003***	0.003***
Horizontal deal dummy	-0.000	0.005	-0.003	0.005
Ln Transaction Value	0.074***	0.054***	0.053***	0.054***
Acquirer size (Ln TA)	-0.047**	-0.041*	-0.040*	-0.042**
Acquirer cash holdings	0.073	0.061	0.042	0.060
Acquirer ROE	-0.460	-0.536	-0.581*	-0.472
% Independent directors	0.062	0.032	0.034	0.056
Dual CEO dummy	-0.016	-0.005	-0.002	-0.010
Number of directors	0.014	0.015	0.014	0.016
Tender offer		0.044	0.049	0.043
Negotiation dummy		0.331***	0.330***	0.336***
Role match		0.032	0.036	0.032
Constant	0.042	-0.346	3.602**	-1.824***
Observations	581	581	581	581
R squared	0.120	0.209	0.215	0.217
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES

Table 3: Determinants of deal completion, deal level analyses

The table reports the effect of ECF strength on the probability of deal completion. The coefficient estimates are obtained using the OLS regression model. The dependent variable is a dummy equal to 1 if the deal is completed and zero otherwise. The variable of interest is ECF strength (Columns 1 and 2), augmented with ECF strength squared (Column 3) and the interaction between ECF strength and TMT leadership (Column 4). Variable definitions are provided in Appendix 1. The inclusion of fixed effects is indicated in the table and standard errors are robust. *, **, *** indicate significance at the 10%, 5% and 1% levels respectively.

Dependent variable: completion dummy	(1)	(2)	(3)	(4)
ECF strength	0.004	0.075	1.213	0.205
ECF strength squared			-0.694	
Acquirer TMT Led		0.039		0.168
ECF strength * Acquirer TMT Led				-0.142
% cash	-0.000	0.000	-0.000	0.000
Public target	-0.063***		-0.063***	
Horizontal deal dummy	0.009	0.045**	0.010	0.044**
Ln Transaction Value	-0.031***	-0.024***	-0.030***	-0.024***
Acquirer size (Ln TA)	0.023***	0.007	0.024***	0.006
Acquirer cash holdings	-0.179***	-0.214**	-0.178***	-0.214**
Acquirer ROE	-0.061	0.073	-0.059	0.080
% Independent directors	0.070	-0.002	0.068	-0.002
Dual CEO dummy	-0.025*	-0.009	-0.025*	-0.008
Number of directors	0.007	0.016**	0.007	0.017**
Tender offer		-0.035		-0.035
Negotiation dummy		-0.016		-0.013
Role match		-0.015		-0.015
Constant	0.939***	0.696***	0.417	0.569
Observations	1,449	585	1,449	581
R squared	0.108	0.159	0.108	0.160
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES

Table 4: Determinants of M&A transactions, firm-year level analyses

The table reports the effect of ECF strength on the probability of making an acquisition. The coefficient estimates are obtained using the OLS regression model. The dependent variable is a dummy equal to 1 if $firm_i$ makes at least one acquisition during $year_t$. The variable of interest is ECF strength (Columns 1, 2 and 3), augmented with ECF strength squared (Column 4). Variable definitions are provided in Appendix 1. The inclusion of fixed effects is indicated in the table and standard errors are robust. *, **, *** indicate significance at the 10%, 5% and 1% levels respectively.

Dependent variable: M&A Dummy	(1)	(2)	(3)	(4)
ECF strength	0.112*	0.118*	0.121*	6.216**
ECF strength squared				-3.623**
Size (Ln TA)$_{t-1}$	-0.001	-0.020*	-0.024**	-0.062
ROA $_{t-1}$	0.358***	0.367***	0.356***	0.850***
Cash holdings $_{t-1}$	0.113*	0.114*	0.132**	0.702***
Dual CEO dummy		-0.007	-0.009	0.027
% Independent directors		-0.062	-0.051	-0.241
%Institutional ownership		0.094**	0.099**	0.144
Number of directors		0.005	0.005	0.024
MA count$_{t-1}$			0.016***	0.171***
Constant	0.310***	0.394***	0.403***	-1.623
Observations	12,339	11,992	11,992	11,992
R squared	0.008	0.009	0.011	0.038
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES

Table 5: Determinants of deal completion, firm-year level analyses

The table reports the effect of ECF strength on the proportion of announced transactions completed. The coefficient estimates are obtained using the OLS regression model. The dependent variable is the percentage of announced deals completed by $firm_i$ during $year_t$. The variable of interest is ECF strength (Columns 1, 2 and 3), augmented with ECF strength squared (Column 4). Variable definitions are provided in Appendix 1. The inclusion of fixed effects is indicated in the table and standard errors are robust. *, **, *** indicate significance at the 10%, 5% and 1% levels respectively.

Dependent variable: Proportion completed	(1)	(2)	(3)	(4)
ECF strength	0.131**	0.142**	0.144**	1.718*
ECF strength squared				-0.917
Size (Ln TA)$_{t-1}$	-0.008	-0.033***	-0.037***	-0.036***
ROA$_{t-1}$	0.338***	0.344***	0.335***	0.335***
Cash holdings$_{t-1}$	0.092	0.091	0.107*	0.108*
Dual CEO dummy		-0.012	-0.014	-0.013
% Independent directors		-0.027	-0.018	-0.017
%Institutional ownership		0.125***	0.130***	0.129***
Number of directors		0.006	0.005	0.005
MA count$_{t-1}$			0.014***	0.014***
Constant	0.305***	0.375***	0.382***	-0.285
Observations	12,339	11,992	11,992	11,992
R squared	0.007	0.009	0.011	0.012
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES

Table 6: Determinants of acquirer cumulative return, deal level analyses

The table reports the effect of ECF strength on acquirer announcement returns over the (-1,+1) event window. The coefficient estimates are obtained using the OLS regression model. The dependent variable is Acquirer CAR (-1,+1). The variable of interest is ECF strength. Column 1 shows results with the inclusion of deal controls (Columns 1 and 2), augmented with ECF strength squared (Column 3) and the interaction between ECF strength and TMT leadership (Column 4). Variable definitions are provided in Appendix 1. The inclusion of fixed effects is indicated in the table and standard errors are robust. *, **, *** indicate significance at the 10%, 5% and 1% levels respectively.

Dependent variable: Acquirer CAR (-1,+1)	(1)	(2)	(3)	(4)
ECF strength	0.066**	0.070**	0.076**	0.143***
% cash	0.000	0.000	0.000	0.000
Public target	0.002	0.002	0.002	
Horizontal deal dummy	0.001	0.002	0.002	0.008
Ln Transaction Value	-0.002	-0.002	-0.002	-0.009***
Acquirer size (Ln TA)		-0.001	-0.001	-0.001
Acquirer cash holdings		-0.009	-0.011	-0.008
Acquirer ROE		0.086**	0.089***	0.090*
% Independent directors			0.010	0.070**
Dual CEO dummy			-0.007	-0.015*
Number of directors			-0.000	0.000
Tender offer				-0.002
Negotiation dummy				0.006
Role match				-0.009
Acquirer TMT Led				-0.017
Acquirer inititated				0.008
Constant	-0.079*	-0.091**	-0.094**	-0.085
Observations	1,089	1,089	1,089	435
R squared	0.094	0.100	0.102	0.249
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES

Table 7: Post-merger operating performance

The table reports the second stage results of the determinants of changes in acquiring firm ROA from the year prior to the transaction (*t*-1) to the year after the transaction (*t*+1). In the first stage, we generate a matched sample of firm-years, in which the treatment variable is *MA dummy* and the first stage matching variables are firm size *(ln total assets),* industry *(2-digit SIC)* and year. In the second stage, the coefficient estimates are obtained using the OLS regression model. The variable of interest is ECF strength (Column 1), augmented with ECF strength squared (Column 2). Variable definitions are provided in Appendix 1. *, **, *** indicate significance at the 10%, 5% and 1% levels respectively.

Dependent variable: $\Delta ROA_{t-1,t+1}$	(1)	(2)
ECF strength	0.037**	-0.205
ECF strength squared		0.139
Cash holdings $_{t-1}$	-0.173***	-0.173***
Dual CEO dummy	0.002	-0.002
% Independent directors	-0.008	-0.007
%Institutional ownership	0.020***	0.020***
Number of directors	0.003***	0.003***
MA count$_{t-1}$	-0.003***	-0.003***
Ln total transaction value	-0.003***	-0.003***
Cross-border dummy	0.002	0.002
MA dummy	0.001	0.001
Constant	-0.067***	0.036
Observations	8,185	8,185
R squared	0.022	0.021

APPENDIX

Table A.1 Variable definitions

Panel A: Variable of interest	
ECF strength	$\max\left(\frac{\sum_{j=1}^{p}\sum_{k=1}^{2} n_k^g(\overline{X}_{jk}-\overline{X}_j)^2}{\sum_{j=1}^{p}\sum_{k=1}^{2}\sum_{i=1}^{n_2^2}\left(X_{ijk}-\overline{X}_j\right)^2}\right)$ X_{ijk} is the value of the j^{th} pay component of the i^{th} member of subgroup k. $\overline{X}_j$ is the group mean value of characteristic j. $\overline{X}_{jk}$ is the mean value of j^{th} pay component in subgroup k. p is the number of compensation characteristics. Pay components are cash, bonus, stock awards, option grants, and other compensation (where each component is scaled by total compensation), executive equity holdings' delta and vega). *(Source: Execucomp and authors' calculations)*
Panel B: Deal level – acquirer controls are estimated at the firm-year level and matched to the deal-level data	
Acquirer CAR (-1,+1)	The cumulative abnormal returns of acquirer firms calculated over a 3-day window around the announcement date. Abnormal returns are calculated using the market model relative to the S&P500 index. The parameters of the market model are 200-days estimation period spread over (-236,-36) *(Source: CRSP and authors' calculations*).
Completed dummy	Dummy variable equal to 1 if the announced transaction is described as completed in the SDC database and zero if withdrawn. *(Source: SDC)*
% cash	Percentage of cash consideration offered *(Source: SDC)*
Public target dummy	Dummy equal to one if SDC identifies target status as public and zero otherwise. *(Source: SDC)*
Horizontal deal dummy	Dummy equal to 1 if the acquirer and target have identical SIC3 codes and zero otherwise. *(Source SDC)*
Ln Transaction Value	Natural log of the total value of consideration paid by the acquirer. *(Source SDC)*
Acquirer initiated	Dummy variable equal to 1 if the transaction is initiated by the acquiring firm, zero if initiated by the target firm. *(Source: hand collected from SEC merger filings)*
Acquirer TMT Led	Dummy variable equal to 1 if the acquiring top management team leads the private M&A process, zero if led by the acquiring firm board. *(Source: hand collected from SEC merger filings)*
Negotiation dummy	Dummy variable equal to 1 if only one potential acquirer is mentioned in the SEC merger filings and 0 if more than one potential bidder is mentioned. *(Source: hand collected from SEC merger filings)*
Role match	Dummy variable equal to 1 if acquiring and target firm boards lead the private process discussion or acquiring and target firm TMTs lead the private process discussion and zero otherwise. *(Source: hand collected from SEC merger filings)*

Panel C: Firm-year level	
Proportion completed	Percentage of announced deals completed by by $firm_i$ during $year_t$. *(Source: SDC)*
(Acquirer) Size (Ln TA)	Natural log of total assets *(Source: Compustat)*
(Acquirer) Cash holdings	Cash and short-term equivalents over total book assets. *(Source: Compustat)*
(Acquirer) ROA	Net income / Total assets *(Source: Compustat)*
(Acquirer) ROE	Net income / Shareholders' equity *(Source: Compustat)*
% Independent directors	Number of directors classified as "independent" / number of directors. *(Source: ISS)*
Dual CEO dummy	Dummy variable equal to one if the CEO of the firm is also the chairman of the board, and zero otherwise. *(Source: ISS)*
Number of directors	Number of directors *(Source: ISS)*
% Institutional ownership	Total institutional ownership, expressed as a ratio to the total shares outstanding.
MA count	Number of deals carried out by the acquiring firm over the previous 24 months before the announcement date. *(Source: SDC)*