

Does Corporate Managerial Ability Matter in M&A Performance?

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Abstract

This paper investigates whether and how differences in acquirer managerial ability have significant cross-sectional effects on firm value. We document diverse levels of managerial ability and firm performance in cross sections of acquiring firms. Acquirers with strong managerial ability realize 3.4% higher announcement-period abnormal returns and experience superior post-merger firm performance than acquirers with low managerial ability, especially in stock-financed public target deals. Our results are robust to self-selection bias concerns and show that the variation observed in acquirer abnormal returns is attributed to acquirer managerial ability fixed effects. Moreover, we find that target firms with high growth potential (i.e., a high human capital value or intangible assets), heavy financial constraints, and low bankruptcy risk are favored by skilled acquirers.

Keywords: corporate managerial ability, corporate takeovers, abnormal returns, post-merger efficiency gains, acquirer fixed effect

JEL Classification: G14, G32, G34

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1. Introduction

There is increasing evidence of the effect of a firm's managerial ability on corporate decisions and their related outcomes. Nevertheless, a key question in financial economics and management is whether a firm's value hinges on its access to managerial human capital (top managers) possessing heterogeneous managerial abilities. Although the literature recognizes that managerial ability contributes substantially to differences in firms' decisions and organizational structures (Rosen, 1982; Hambrick and Mason, 1984; Bertrand and Schoar, 2003; Gabaix and Landier, 2008; Chemmanur, Paeglis, and Simonyan, 2009; Demerjian, Lev, and McVay, 2012; Kaplan, Klebanov, and Sorensen, 2012), there is no guidance whatsoever concerning the nature of those abilities and, in particular, whether a firm's managerial ability has important cross-sectional effects on firm value. The literature on principal-agent problems also maintains the view that top managers, such as chief executive officers (CEOs), can have discretion within their firm that can harm firm value through the advancement of their own objectives through inefficient investment decisions.¹ Given the substantial growth of mergers and acquisitions (M&As) in the United States over recent decades and empirical evidence that more than half fail to create value or do not deliver their projected performance, it is important to understand whether variation in acquirer abnormal returns—an issue that remains puzzling despite the examination of a large number of factors—can be attributed to a firm's managerial ability, especially through the channel of managerial acquisition skill.²

Although variation in acquirer abnormal returns is often incorrectly taken to imply that the investment talent or acquisition selectivity skill of acquiring firms is homogeneous, in this paper we show that managerial skill varies substantially across acquirers, but value creation through acquisitions is associated with acquirers with superior managerial abilities. However, to date, research on M&As has not directly considered firm managerial ability. This is even more surprising, given that previous anecdotal and empirical evidence suggests that poor acquisition decisions increase the risk of dismissal of top managers (Lehn and Zhao, 2006), implying that a firm's managerial ability, especially its investment talent, is of substantial importance to boards and shareholders. A salient example is the well-known case of top executive dismissal of Carly Fiorina from Hewlett-Packard in 2005, which was mainly attributed to her acquisition of Compaq in 2001. In this paper, we expect acquirers with superior managerial ability to generate more profits from acquisitions, for the following four reasons.

¹ See Jensen and Meckling (1976), Shleifer and Vishny (1989), Jensen and Murphy (1990), Boot (1992), Shivdasani and Yermack (1999), and Bebchuk and Fried (2003). See Eckbo (2009) for an extensive review of this literature.

² See Jensen (1986), Asquith, Bruner, and Mullins (1983), Travlos (1987), Morck, Shleifer, and Vishny (1990), Lang, Stulz, and Walkling (1991), Chang (1998), Fuller, Netter, and Stegemoller (2002), Moeller, Schlingemann, and Stulz (2004), Masulis, Wang, and Xie (2007), and Barger, Schlingemann, Stulz, and Zutter (2008). Shleifer and Vishny (1989) argue that managers can entrench themselves by making manager-specific investments that make it difficult for shareholders to replace them. In a more recent study, Golubov, Yawson, and Zhang (2015) show that a large portion of the variation in acquirer returns is explained by firm fixed effects.

First, since companies with high managerial ability can detect more profitable investment opportunities (Demerjian et al., 2012), they should be able to identify and acquire more valuable target companies. Ideal target firms should have strong future growth potential (e.g., valuable intangible assets) but temporary financial constraints due to which the target firm's shareholders might be willing to sell at a lower price. Additionally, firms with more able executives are expected to have greater bargaining power. In sum, acquisitions conducted by companies with high managerial ability should be less costly, since the acquirers pay a relatively low premium or even buy targets at a discount.

Second, high-managerial ability firms should be able to handle the integration process smoothly. Thus, they need less time to address problems associated with integrating different workplaces and workforces, while they can enhance management power and promptly improve the firm's productivity. However, if the acquirer firm's management team struggles with the transition and integration of the merging entities, the deal could harm the acquirer's short- and long-term performance.

Third, acquiring firms with high managerial ability can access cheaper and more capital resources in case an acquisition requires additional debt or unforeseen expenses. Strong managerial ability can lower credit costs through improved financial disclosure that mitigates information asymmetry, which improves firm value (Franco, Hope, and Lu, 2017). Additionally, Bonsall, Holzman, and Miller (2016) find that high-managerial ability management teams have lower credit risk, since the firms they run have lower likelihood of missing principal or interest payments.

Last, M&A announcements can cause noisy trading, especially for acquiring companies with strong information asymmetry, which should increase stock price volatility and, in turn, elicit investors' adverse reactions, with damaging post-M&A effects on firm performance.³ However, acquiring firms led by managers with superior abilities have strong incentives to protect the value of their human capital (managerial reputation) by communicating the firm's true value through efficient earnings management to the market (Healy, 1985; DeFond and Jiambalvo, 1994; Burgstahler and Dichev, 1997; Jaggi and Lee, 2002; Goncharov and Zimmermann, 2006; Lee, Petroni, and Shen, 2006; Shuto, 2007; Demerjian, Lewis-Western, and McVay, 2017), where equity performance drives compensation and future employment. Therefore, such acquiring firms should not suffer from strong information asymmetry, since they are expected to be more transparent. Therefore, if corporate managerial ability matters, it can help explain the variation in acquirer abnormal returns, since it will be associated with acquisitions that can be beneficial (detrimental) to shareholder wealth and the acquirer's post-acquisition profitability. Put differently, if systematic corporate managerial ability differences, on top of known factors, are behind the variation of acquirer abnormal returns, we should observe acquirer abnormal returns to be positively (negatively) correlated with

³ Previous literature has shown that more (less) information asymmetry (Trueman, 1986; Baik, Farber, and Lee, 2011) reduces (increases) stock price volatility.

high (low) managerial ability. More generally, by focusing on the cross-sectional relation between a firm's managerial ability and firm value, one can determine the quantitative importance of management skill. This is an important issue for shareholders and boards of directors that warrants investigation.

This paper investigates the view that corporate managerial ability makes a difference in the fortunes of companies. Specifically, since M&As are generally viewed as the most critical and discretionary investment decisions of a firm's management team members (Aghion and Tirole, 1997; Harris and Raviv, 2005; Furfine and Rosen, 2011; Custodio and Metzger, 2013; Graham, Harvey, and Puri, 2015), that is most likely to affect firm outcomes (Williamson, 1963; Singh, 1975; Fee and Hadlock, 2003), they provide a unique ground to examine whether managerial ability has important cross-sectional effects on firm value.⁴ To test this prediction, we measure a firm's managerial ability, using three different measures. Since a firm's managerial ability to efficiently manage resources is not directly observable, it must be assessed using observable outcomes due to executives' management decisions. Thus, we use the MA-Score metric introduced by Demerjian et al. (2012), which is measured through data envelopment analysis, as the first measure of managerial ability. This measure is developed and used to gauge how efficiently top managers use their firms' resources (e.g., capital, labor, and innovative assets) to transform corporate resources into firm revenues, relative to their competitors in the same industry. Second, following Song and Wan (2019), we use CEO compensation as a proxy for a firm's managerial ability, in accordance with the view that firms compensate CEOs for their managerial talent in making superior investment decisions by acting as key decision makers within the management team. Last, as the third measure of corporate managerial ability, we use investment (in)efficiency, denoted by the variable *INEFFINV*, following Hubbard (1998), Biddle and Hilary (2006), Biddle, Hilary, and Verdi (2009), and Cheng, Dhaliwal, and Zhang (2013), by focusing on investments other than M&As, such as capital expenditures (*CAPEX*) and research and development expenses (*R&D*). We proxy for a firm's managerial ability by identifying firm revenue resulting from the efficient utilization of corporate resources. To investigate the impact of corporate managerial ability on firm value and ensure that the variation in acquisition abnormal returns is attributed to heterogeneity in management skill across firm-specific factors and not to the firm-specific factors themselves, we control for several firm, industry, and deal characteristics while accounting for industry and year fixed effects.

This paper documents large cross-sectional differences in acquirer abnormal returns around M&A announcements that are strongly associated with firm managerial ability. Specifically, our results show that the quality of a firm's acquisition, measured by its announcement-period abnormal returns—($t - 2, t + 2$) announcement-period cumulative abnormal returns (CARs) or buy-and-hold abnormal returns (BHARs)—increases with the acquirer's managerial ability, based on all three managerial ability measures. The

⁴ Although there is evidence that investment talent matters in the context of the mutual fund industry, whether it affects firm value at the corporate level remains an empirical question that calls for a thorough investigation.

increasing quality of acquisitions carried out by companies with exceptional managerial ability, which is reflected by announcement-period acquirer abnormal returns, is notably sensitive to the method of payment and the target's trading status. Specifically, in line with previous evidence on the relation between the role of the method of payment and value gains from M&As, our findings show that, on average, acquirers are associated with negative abnormal returns in public-to-public stock-financed deals.⁵ However, this result is mainly observed in deals carried out by acquirers with low managerial ability, while M&A deals consummated by companies endowed with high managerial ability produce significantly higher shareholder gains than the deals of companies with low managerial ability. This finding offers a novel explanation for the average negative valuation effects of acquirers involved in stock-financed deals of listed targets. Testing the sensitivity of our results for self-selection bias concerns with the Heckman treatment effect method (Heckman, 1979; Heckman and Robb, 1985), we find our results remain robust after the inclusion of the inverse Mills ratio in our analysis. Moreover, our results indicate that firms under the helm of executives with greater ability to manage corporate resources more efficiently not only attain higher short-term abnormal returns around M&A announcement dates, but also realize substantially higher long-term abnormal returns (measured by BHARs) and significantly improve the operating productivity (measured by operating income and industry-adjusted operating income) of acquirers over the one-year post-merger period.

The positive association between CEO acquisition selectivity skill and compensation in the cross section of CEOs is a central prediction of the competitive labor model of the economics literature (i.e., it explains the wage premium).⁶ Previous literature has shown that CEOs who are more talented are rewarded with higher compensation than less talented CEOs (Song and Wan, 2019), and a small dispersion in CEO talent is significantly associated with a considerable difference in compensation (Gabaix and Landier, 2008). In view of the ongoing discussion about pay practices in U.S. corporations and, in particular, whether CEOs are actually rewarded for their managerial skills, or, perhaps more interestingly, whether they earn monetary rents without having a competitive advantage, our research provides new evidence in support of a significant positive correlation between CEO compensation and short- and long-term acquisition shareholder gains. This finding indicates that management skill plays a key role in shaping CEO compensation.

⁵ Moeller, Schlingemann, and Stulz (2005) show that, from 1998 to 2001, the shareholders of bidding firms lost 12 cents per dollar of the purchase price on takeover bid announcements and, as a group lost a sizable \$312 billion. The authors thus conclude that a large bid induces a more negative reaction. The survey of Betton, Eckbo, and Thorburn (2008, Table 9) reveals a significantly negative abnormal return of -2.21% for large stock bidders of public targets, which drops to -0.30% for large cash bidders of public targets.

⁶ Lucas (1978) suggests that, in equilibrium, managers earn economic rents as a result of making superior investment decisions.

Next, following the approach of Bertrand and Schoar (2003) and Golubov et al. (2015), we use fixed effects analysis to quantify the extent of the observed variation in acquirer abnormal returns that is attributed to managerial ability. We document that, for the entire sample, the addition of acquirer fixed effects increase the adjusted *R*-squared value from 2.2% to 33.9%. However, within the subsample involving M&As with high–managerial ability acquirers, the addition of acquirer fixed effects increases the adjusted *R*-squared value from 2.3% to 48.5%, while, within the low–managerial ability subsample, the corresponding change is from 3.6% to 33.4%. The much greater improvement in the adjusted *R*-squared value in the high–managerial ability group (46.2%) than in the low–managerial ability acquirer group (29.8%) indicates that acquirer managerial ability is an essential element of acquirer fixed effects. This result is further supported for a sample of only occasional acquirers, whose managerial ability has not been fully determined by investors. Jointly, the evidence consistently documents that value-maximizing acquisitions are causally related to superior acquirer management skill.

Finally, we perform a series of additional tests to investigate the influence of target characteristics in M&As, especially when acquiring firms are managed by top executives with heterogeneous managerial abilities. Specifically, we want to explore the target characteristics that skilled acquiring firms focus on to produce successful M&A outcomes. We are inspired by Beaumont, Hebert, and Lyonnet (2019), who indicate that, when entering a new sector, a firm prefers to acquire an existing firm with high human capital intensity, since it is more efficient and valuable for the acquirer to enhance the human capital capacity of its existing operations (workforce) and probably less costly than attaining the same results internally without an acquisition. It therefore seems reasonable to expect sophisticated acquiring firms to be able to make value-added M&A decisions by detecting and taking advantage of target firms’ human capital value. To address this issue, we follow the literature on organization capital (e.g., Lev and Radhakrishnan, 2005; Eisfeldt and Papanikolaou, 2013), which uses overhead and nonallocated expenses to empirically measure a firm’s investment in its own human capital resources, to estimate targets’ human capital value, using the human capital value (HC-Value) measure.

The results of probit analysis show that targets with a high HC-Value attract acquirers who are significantly more skilled, consistent with all three managerial ability measures used in this study. Next, since human capital is a major component of a firm’s intangible assets, we also examine whether high–managerial ability companies have strong incentives to acquire targets with high levels of intangible assets. We measure targets’ intangible assets using the ratio of intangible assets to total assets and the logarithmic value of intangible assets and find that targets acquired by high–managerial ability firms possess significantly higher levels of intangible assets than targets acquired by low–managerial ability acquirers. Additionally, we perform several tests to check for financial distress, measured by Altman’s (1968) *Z*-score, and financial constraint, measured by the SA index of Hadlock and Pierce (2010), of target firms. We find

that high–managerial ability acquirers prefer targets with strong financial constraints but low bankruptcy risk (i.e., a high level of financial distress), which are profitable and cost efficient.

The paper contributes to the M&A literature in several ways. First, from the angle of acquirer managerial skill, a corporate managerial attribute that has been neglected by M&A studies, it contributes to the growing literature on the importance of managerial ability in a firm’s decisions and performance. The novelty of our empirical analysis, which is also confirmed when we use the acquirer fixed effects methodology of Golubov et al. (2015), is that corporate managerial ability matters for firm value and accounts for differences in firm performance. The results are consistent across different measures of corporate managerial ability and firm performance. Second, the results show a positive and significant association between corporate managerial ability and post-merger firm performance, suggesting that firms with high-ability managers are not only skilled in identifying and selecting targets, but also talented at integrating them with the acquirers, yielding superior post-acquisition firm performance. This could be an important factor in attracting a target to merge with an acquirer managed by skilled top managers in the presence of other potential acquirers. Third, this research complements earlier M&A studies with the interesting implication that the well-documented negative acquirer abnormal returns are mainly caused by acquisitions with low–managerial ability acquirers. M&A deals carried out by companies endowed with high managerial ability produce significantly higher shareholder gains, especially in public-to-public stock-financed deals. Finally, target firms with strong future growth potential (as measured by HC-Value and the level of intangible assets), in financial distress (as measured by Altman’s Z-score), and financially constrained (measured by the SA index) are more likely to attract the attention of high–managerial ability acquiring firms.

The remainder of the paper is organized as follows. Section 2 presents our empirical methods and estimation procedures. Section 3 describes the data and sample selection procedure. Section 4 presents the results of tests of the association of managerial ability with value-maximizing acquisitions, using various measures of managerial ability and acquirer performance. This is followed by evidence on whether acquirer managerial ability is an essential element of acquirer fixed effects, as well as results on the relation between target characteristics and acquirer managerial ability. Section 5 concludes the paper.

2. Methodology

This section first describes the methods we use to measure the acquiring firm’s (a) managerial ability and (b) short- and long-term performance (alpha). Then we proceed with the estimation procedures of the univariate analysis, as well as the multivariate analysis.

2.1. Measures of corporate managerial ability

2.1.1. Managerial ability score (MA-Score)

The first measure of acquirer managerial ability we utilize is the MA-Score, developed by Demerjian et al. (2012).⁷ Since a firm's managerial ability is unobservable, this measure is designed to estimate how efficiently top executives can convert firm resources (e.g., capital, labor, and innovative assets) into revenue. Specifically, the authors first use data envelopment analysis to optimize firm performance among industries and across different inputs and outputs; they then calculate firm efficiency by comparing the firm's performance with the most efficient outcome. Afterward, firm performance is separated from managerial performance by running a Tobit regression model of the total firm efficiency score on such factors as firm size, firm age, cash availability, life cycle, and operational complexity. The residual from this regression is used as a proxy of a firm's managerial ability.

To identify acquirers with high or low managerial ability using the MA-Score measure, we create a dummy variable, *MA-Score Dummy*, equal to one (zero) if an acquirer's managerial ability, based on the firm's previous year MA-Score estimate, is above (below) the median of all firms in the Compustat database.⁸

2.1.2. CEO compensation

The second measure of acquirer managerial ability relies on CEO total compensation, which includes the base salary, bonuses, long-term incentive payouts, other annual compensation, stock options, restricted stocks, and all other compensation earned for each year. The central prediction of the competitive labor model of the economics literature posits that high CEO compensation is a reward for strong managerial talent rather than managerial power. Song and Wan (2019) provide evidence in support of the managerial talent view. Additionally, the CEO is the key leader of a company's management team, and CEO talent can thus serve as a reliable proxy for the overall firm's managerial ability.⁹ We create a dummy variable similar to the MA-Score measure, *CEO COMP Dummy*, which takes the value of one (zero) if the acquirer's CEO total compensation is above (below) the median of all firms, to identify the high- and low-managerial ability companies.

⁷ Prior research suggests that high-ability managers are more effective at implementing chosen strategies than low-ability managers, whose predicting competence and implementation expertise are weaker (Bertrand and Schoar, 2003; Holcomb, Holmes, and Connelly, 2009; Baik et al., 2011; Demerjian et al., 2012). For example, Holcomb et al. (2009) propose that high-ability managers make better financing and investing judgments and are less likely to restate earnings than lower-ability managers.

⁸ We use a dummy variable rather than the MA-Score because the median number of all firms' MA-Score values changes every year. For instance, a firm with an MA-Score of -0.032 will be ranked as a high-managerial ability company in 2016 but as a low-managerial ability company in 2017.

⁹ It is worth noting that we consider corporate managerial ability a firm-level characteristic rather than a CEO individual-specific trait. Corporate managerial ability includes top executives' skill and the suitability of their positions within the firm. However, CEO compensation is still a valid measure, since high-managerial ability companies can identify and compete for talented and appropriate CEOs by rewarding them with high compensation.

2.1.3. Investment (in)efficiency (INEFFINV)

As the last measure of acquirer firms' managerial ability, we use investment (in)efficiency, as Richardson (2006) and Biddle et al. (2009), by focusing on investments other than M&As, such as $CAPEX_i$ and $R\&D_i$. Managerial ability is proxied by the identification of firm revenues from the efficient utilization of corporate resources. Specifically, we measure (in)efficient investment, $INEFFINV_i$, as the divergence from the expected level of investment, given the firm's growth opportunities Q_i , using a model motivated by the literature on optimal investment (e.g., Hubbard, 1998; Biddle and Hilary, 2006; McNichols and Stubben, 2008; Biddle et al., 2009; Cheng et al., 2013). We run the regression

$$INV_{it} = \beta_0 + \beta_1 Q_{i,t-1} + FE + \varepsilon_i \quad (1)$$

where total investment, INV_{it} , is the sum of capital expenditures, $R\&D_i$ expenditures, and acquisitions minus the sales of PPE_i and necessary maintenance for assets in place for firm i in year t , obtained from Compustat, that is, scaled by the prior year's book value of total assets; Q_i is the book value of assets minus the book value of equity plus the market value of equity, divided by the book value of total assets for firm i in year $t - 1$, obtained from Compustat; and FE represents both industry and year fixed effects. The absolute value of the residual from the investment efficiency equation, denoted $INEFFINV$, measures the managerial ability of the acquiring firm. Additionally, a high (low) $INEFFINV$ value indicates low (high) acquirer ability. Unlike the other two measures, which are assessed using dummy variables, the investment (in)efficiency measure is estimated as a continuous variable.

2.2. Acquirer performance measures

To evaluate the impact of acquirer managerial ability on the acquiring firm's performance, short- and long-term performance measures are employed. First, the announcement period abnormal return (CAR or BHAR) is used to measure the acquiring firm's alpha, based on the market-adjusted model (Brown and Warner, 1985; Fuller et al., 2002). Second, the one-year post-merger abnormal return (BHAR) and operating performance (operating income or industry-adjusted operating income) of the acquiring firm are used as an alternative measure of alpha, which aims to reveal how efficiently a firm operates after a merger.

2.2.1. Announcement-period abnormal return

An acquisition affects investors' perceptions of the future outcome of a firm's investment strategy, leading to stock price changes. A greater (lower) propensity on the part of investors to endorse acquisition decisions initiated by acquirers with high (low) managerial ability will cause acquiring firms to induce higher (lower) abnormal price reactions to acquisition announcements. In line with numerous studies with similar sample characteristics (e.g., Fuller et al., 2002; Faccio, McConnell, and Stolin, 2006), the announcement-period abnormal returns for acquiring firm i are estimated using the market-adjusted model, as follows:

$$AR_{it} = R_{it} - R_{mt} \quad (2)$$

where, for day t , AR_{it} is the abnormal return to acquirer i , R_{it} is the stock return of acquirer i , and R_{mt} is the value-weighted market return index. The announcement-period CAR, our first performance measure, for acquirer i is the sum of abnormal returns in a five-day window ($t - 2$ to $t + 2$) surrounding the deal's announcement day $t = 0$, as follows:

$$CAR_i = \sum_{t=-2}^{t+2} AR_{it} \quad (3)$$

To verify the robustness of our results, the BHAR in the five-day window ($t - 2$ to $t+2$) surrounding the announcement date is also used to estimate the acquiring firm's alpha.

2.2.2. Long-term acquirer performance

Since firms under the helm of executives of greater ability are expected to efficiently manage corporate resources and increase shareholder wealth in the long run, we also examine whether acquirer managerial ability is associated with improved acquirer performance subsequent to the acquisition announcement. To shed light on the long-term performance of acquirers, we use the one-year BHAR after the announcement date, while we use operating income, calculated as the one-year operating income after depreciation over total assets, and the industry-adjusted operating income to estimate the long-term operating productivity of acquiring firms.

2.3. Univariate and multivariate regression analysis

We first examine whether acquirer managerial ability is associated with value-increasing acquisitions. This analysis is based on portfolios formed by sorting all acquirers into high- and low-managerial ability groups. This analysis is repeated for different measures of managerial ability. Then, the alpha values of the acquiring firms for each group are linked to their management talent, revealing differentials between high- and low-managerial ability firms. This exercise is repeated for deals financed with different methods of payment (i.e., cash and stock), deals of different target listing status (i.e., private and public), deals with different target firm domiciles (i.e., domestic and international), and focused versus diversified deals. To assess the comparative performance of different groups of acquirers, the difference in mean alpha is tested using t -tests.

Subsequently, we use multivariate regression analysis to investigate the impact of acquirer managerial ability on the acquirer's alpha while controlling for several known factors that can affect the acquirer's alpha. Such factors include the relative size of the deal, the target firm's listing status, the industry affiliation of the merging firms, and the target firm's domicile. Specifically, we estimate the following equation:

$$\alpha_i = \beta_1 + \sum_{j=2}^k \beta_j X_{ij} + \varepsilon_i, \quad i = 1, \dots, N \quad (4)$$

where alpha represents the acquiring firm's (i) five-day window (t - 2 to t + 2) CAR measured by the market reaction to acquisition announcements, (ii) five-day window (t - 2 to t + 2) BHAR, (iii) one-year BHAR after acquisition announcements, (iv) operating income one year after the acquisition announcements, and (v) industry-adjusted operating income one year after the acquisition announcements. The intercept in Equation (4), β_1 , accounts for the acquirer's gains after controlling for the effects of all the explanatory variables. The matrix of explanatory variables, X_{ij} , includes a number of probable factors that could affect acquirer gains, whose impact is recorded in the vector β_j .

Relative size of the deal. The literature (Fuller et al., 2002) depicts acquirers' market valuations as positively related to the relative size of the deal. Therefore, the logarithmic transformations of the deal value and of the market value of the acquirer are included in Equation (4).

Target firm domicile. Domestic and international deals have been demonstrated to affect the acquiring firm's market valuation (Moeller and Schlingemann, 2005). Domestic acquisitions can be perceived as less risky than cross-border acquisitions, since there is less information asymmetry regarding the target firm, especially when the latter is a listed firm. Therefore, to control for the effect of international deals and the way they affect acquirers' change in efficiency, we add a dummy variable to Equation (4) that equals one when the acquirer and target reside in different countries, and zero otherwise.

Industry diversification. Previous literature (Denis, Denis, and Yost, 2002) shows that if the target and acquirer belong to the same sector, the integration of the two firms should be easier and the synergy gains higher. On the other hand, firms acquiring targets operating in unrelated sectors can also gain from diversification. Therefore, to control for the potential effect of corporate diversification on an acquirer's change in efficiency, we add to Equation (4) a dummy variable that equals one for same-industry deals (i.e., the target and acquirer are in the same industry, based on their two-digit Standard Industrial Classification codes), and zero otherwise.

Additional variables considered in Equation (4) include the following: (i) the target's listing status, which has been shown by earlier studies to influence acquirers' market valuations (e.g., Chang, 1998); (ii) the payment method used to finance the deal (Travlos, 1987; Fuller et al., 2002); (iii) acquirer managerial ability; (iv) interaction dummy variables between the level of managerial ability and target listing status and/or payment method; and (v) firm-level control variables, including the logarithmic transformation of the acquirer's age, computed as the difference between the M&A announcement year and the firm's initial public offering year (if that date is missing, we use the year the acquirer entered the Center for Research in Security Prices, or CRSP, database); liquidity, which refers to the ratio of acquirer cash and

cash equivalents to total assets in the most recent quarter obtained from Compustat; D/E Ratio, which is the ratio of acquirer debt to equity in the most recent quarter obtained from Compustat; and Tobin's Q, which corresponds to Tobin's Q of the acquiring firm in the previous year.

3. Data and sample statistics

3.1. Data selection

The sample consists of M&As announced by U.S. firms between January 1, 1986, and December 31, 2017, with a completed deal status and recorded by Thomson One of the Security Data Corporation (SDC). For a deal to remain in the sample, it must meet the following criteria: (a) the acquirer is a U.S. company listed in one of the major U.S. stock exchanges and has a market value of at least \$1 million, measured four weeks prior to the announcement of the deal; (b) the target is either a public, private, or subsidiary listing, with either a U.S. or non-U.S. domicile; (c) the transaction value is at least \$1 million, to avoid the trivial effects of very small deals; (d) the deal's payment method is available from the SDC database; (e) neither the acquirer nor the target belongs to the financial sector, the government sector and agencies, or the energy and power industrial sectors; (f) the deals were not announced within three days of another deal by the same acquirer, to avoid the confounding effects of multiple deals; and (g) the acquirer enjoys control of the target after the deal's completion (i.e., owns at least 50% of the target's equity on the deal completion date), since the SDC lists deals in which the acquirer could own less than 20% of the target's assets upon the deal's announcement. Additionally, data on the daily stock price, market value, book-to-market ratio, and Tobin's Q of the acquirer need to be available from the CRSP and Compustat databases. These criteria leave us with a sample of 19,979 merger announcements. Furthermore, we collect CEO compensation data from the ExecuComp database and MA-Score data from Sarah McVay's University of Washington faculty website.¹⁰

3.2. Sample statistics

Table 1 reports the annual distribution of our sample according to several deal and merging firm characteristics. First, it depicts higher M&A activity during (a) the dot-com bubble and (b) the period preceding the credit crunch as a result of the 2008 financial crisis. Similar patterns are observed when the sampled deals are categorized according to different deal and merging firm characteristics (i.e., the target firm's domicile, the industry classifications of the merging firms, the deal's payment method, and the listing status of the target firm). Consistent with previous study (e.g., Moeller and Schlingemann, 2005), 12.12% of the sampled deals involve foreign target firms (87.88% of total deals are domestic).

[Insert Table 1 here]

¹⁰ See <http://faculty.washington.edu/pdemerj/data.html>.

Then, we keep deals with MA-Score, CEO compensation, or acquirer investment inefficiency (INEFFINV) information and report in Table 2 the number of deals for the whole sample and for each category, based on payment methods, target listing status, target firm domicile, and focused versus diversified deals.

[Insert Table 2 here]

Table 2 shows that, in total, we have 11,339 deals with MA-Score information, 54.51% (45.49%) of which are in the high (low) managerial ability group. Meanwhile, 7,076 deals have CEO compensation data, 56.56% (43.44%) of which are deals with acquirers of high (low) managerial ability. Using investment inefficiency (INEFFINV) to measure acquirer managerial ability, we end up with 11,363 deals in this sample, 50% (50%) of which were conducted by high-ability (low-ability) acquirers. The numbers of deals with high- and low-managerial ability acquirers are roughly balanced in all categories.

4. Results

This section starts with a discussion of the univariate regression analysis results and our main multivariate regression analysis results, including those based on alternative measures of acquirer managerial ability and alpha. Next, we present and discuss the findings from various robustness checks. Specifically, in this section, we examine the target characteristics that attract skilled acquirers' attention and how they affect the outcome of acquisitions. Finally, following the approach of Golubov et al., (2015), we use fixed effects analysis to shed light on the extent of the observed variation in acquirer abnormal returns attributed to managerial ability,.

4.1. Univariate analysis: Corporate managerial ability and acquirer alpha

Table 3 presents the announcement period CARs and BHARs of acquiring firms for the full sample and for subsamples of high- and low-managerial ability acquirers. Acquirer managerial ability is estimated using the MA-Score measure (Panel A), CEO compensation (Panel B), or investment inefficiency (Panel C). Further groupings across all panels identify the nature of the acquisition in relation to the merging firms' industries (focused versus diversified), the target firm's listing status (private or public), the deal's financing method (cash or stock), and the target firm's country of domicile (foreign or domestic).

Panel A of Table 3 shows that, upon the deal's announcement, the average acquirer realizes a gain of 1.4% (all bids). The results further show that M&As carried out by high-managerial ability acquirers are associated with a slightly higher abnormal gain, 1.5%, than M&As announced by acquirers with low managerial ability, at 1.3%. Nevertheless, the mean difference between the two subsamples, as examined by *t*-statistics, is not statistically significant (*t*-value = 1.290). Although this result does not appear to support the argument that managerial ability contributes significantly to acquisition performance, the remaining groups in Panel A show that skilled acquirers realize significantly higher CARs than low-skilled acquirers

in focused (CAR difference of 0.4%, t-value = 1.790), stock-financed (CAR difference of 3.2%, t-value = 4.412), and public-to-public (CAR difference of 1.8%, t-value = 3.172) M&A deals. Using the BHAR as an alternative performance measure, the evidence provides additional support for the view that acquirers led by skilled executives experience significantly higher gains from public target deals (BHAR difference of 1.8%, t-value = 2.979) and stock-financed deals (BHAR difference of 3.1%, t-value = 4.029) than acquirers managed by unskilled executives. In the following multivariate regression, after controlling for deal- and firm-level variables, we find strong evidence that high–managerial ability acquirers engage in value-enhancing M&As, implying that investors endorse their acquisition decisions. However, the univariate results in Panel A reveal that, first, the negative abnormal returns of stock-financed deals reported in previous acquisition studies appear to be rooted in deals carried out by low–managerial ability acquirers. The popular equity overvaluation interpretation of this result seems to be linked to the overvalued equity of acquiring firms poorly managed by low-skilled executives who aim to take advantage of positive market sentiment. On the contrary, acquirers with high, rather than low, management skill produce higher gains in stock-financed deals. This pattern offers strong evidence that the acquiring firm’s managerial ability is a very influential factor of the market’s reaction to M&A announcements, which has, surprisingly, been largely neglected in earlier studies. The significant difference in the performance of stock-financed deals between high– and low–managerial ability acquirers highlights the important role of managerial ability.

Second, as expected, our results show that the evidence of Travlos (1987) and more recent studies (Chang, 1998; Fuller et al., 2002) of public-to-public stock-financed deals destroying shareholder value holds only for deals announced by low–managerial ability acquirers. The implication of our results is that acquirers’ low managerial ability is the underlying source of the negative stock-financed valuation effect documented in the previous literature. In sum, our findings note that acquirers’ managerial ability plays a key role in identifying and acquiring public targets with high growth potential. Strong managerial ability, in turn, raises overall firm value through the efficient integration and management of the combined resources of the merging companies.

Panel B of Table 3, where CEO compensation is used as a proxy of managerial ability, shows results similar to those in Panel A. Specifically, in stock-financed deals, high-skilled acquirers generate 0.8% (t-value is 2.026) higher CARs than low-skilled acquirers, while, in public target deals, the corresponding CAR difference is 0.5% (t-value = 1.798). The pattern remains unchanged when BHARs are used as the performance measure. This finding is further supported by the results in Panel C, where investment inefficiency is used as the third measure of managerial ability. In sum, the univariate analysis results indicate that acquirer managerial ability is an essential factor in determining M&A outcomes, and acquirer firms benefit the most from acquirer managerial ability in specific M&A deals (i.e., stock-financed and public target deals).

[Insert Table 3 here]

4.2. Multivariate analysis: Corporate managerial ability and acquirers' short-term alpha

4.2.1. Managerial ability estimated with the MA-Score measure

Table 4 reports the estimates of the multivariate regressions of acquirer managerial ability on the acquirer alpha (($t - 2, t + 2$) announcement period CAR or BHAR), accounting also for factors likely to affect short-term abnormal performance. Since firm-level factors could influence both corporate managerial ability and the resulting valuation of the deal (alpha), the Heckman treatment approach is also employed to assess the sensitivity of our results to such selection bias concerns (Heckman, 1979; Heckman and Robb, 1985). This approach consists of a two-step procedure: The first-stage probit regression, models the propensity of a deal carried out by an acquiring firm under high- or low-skilled management. To address this prospect, in the second-stage output (alpha) equation, we include the selectivity correction variable, namely, the inverse Mills ratio (linked to *Lambda*, the lambda coefficient).

[Insert Table 4 here]

Table 4 reports the estimates of the multivariate analysis of managerial ability and alpha. The results highlight a significantly positive relation between acquirer managerial ability and alpha, the acquirer's CAR (Models 1 to 8) or BHAR (Models 9 to 16). This finding provides strong support for the view that acquirers managed by skilled executives are involved in value-increasing M&As. Moreover, consistent with the univariate analysis, the negative and significant coefficients of the interaction variable *Stock*Public* in Models 2 and 10 reveal the underperformance of acquirers engaging in stock-financed public-to-public deals, as reported in previous studies. However, as shown in Models 3 and 11, the performance of a stock-financed deal is much higher if it is carried out by a high- rather than a low-managerial ability acquirer (3.4% higher CAR, t -value = 6.19; 3.4% higher BHAR, t -value = 5.83). This result indicates that stock-financed deals that yield negative abnormal returns are associated with low-managerial ability acquirers. Meanwhile, as shown in Models 4 and 12, public-to-public deals announced by high-managerial ability acquirers outperform their low-skilled counterparts by 2.5% in terms of CARs (t -value = 4.67) and by 2.6% in terms of BHARs (t -value = 4.62).

Furthermore, the coefficients of *Stock*Public*MA-Score* in both Models 5 and 13 are positive and statistically significant, corroborating our univariate results that M&As announced by acquirers managed by skilled executives are significantly more value enhancing than those announced by acquirers managed by unskilled executives. Although this result provides strong evidence that acquirer managerial ability is crucial for the creation of shareholder value, the recorded value loss in public-to-public stock-financed deals seems to be associated with acquirers managed by low-skilled managers rather than acquirers managed by high-skilled managers. Models 6 and 14 show the Heckman treatment estimations. The coefficients of the

interaction term $Stock*Public*MA-Score$ remain unchanged, as in Models 5 and 13, while $Lambda$ is significant. Hence, Models 5 and 13 are unlikely to misestimate the impact of acquirer managerial ability on alpha. The results further show that larger deals, proxied by $Log(Trans. Value)$, and those with a smaller acquiring firm, proxied by $Log(Acq. Value)$, realize significant gains (Asquith et al., 1983; Fuller et al., 2002).

4.2.2. Managerial ability estimated using CEO compensation

The results in Table 5, where CEO compensation is used to estimate managerial ability, are consistent with the previous results. As before, these results demonstrate that high-managerial ability acquirers generate higher alphas than low-managerial ability acquirers. Overall, this analysis provides additional support for the view that managerial ability engages in value-added investment decisions. The results also show that Tobin's Q, estimated following Daniel and Titman (1997), is positively related to the acquiring firms' gains in the short run.

[Insert Table 5 here]

4.2.3. Managerial ability estimated using investment (in)efficiency

Table 6 reports the results based on investment inefficiency as a proxy for acquirer managerial ability. This analysis builds on our initial results and is employed as a consistency test, to examine whether high-managerial ability firms' other investment decisions, outside the domain of M&As, yield similar firm outcomes. Thus, following Richardson (2006) and Biddle et al. (2009), we measure the investment (in)efficiency of acquirers involved in acquisitions by focusing on their other investments (non-M&As). As discussed earlier, high-managerial ability firms are expected to make more efficient investments than low-managerial ability firms, even outside the range of M&As.

[Insert Table 6 here]

The negative relation between acquirer firm's investment inefficiency and alpha across all models show that acquiring firms with inefficient non-M&A investments are associated with lower acquisition announcement abnormal returns. That is, acquirers carrying out more efficient non-M&A investments also engage more frequently in value-increasing acquisitions.^{11,12} This result clearly implies that corporate managerial ability increases shareholder wealth, even when the acquirers engage in non-M&A investments (e.g., $CAPEX_i$ and $R\&D_i$).

¹¹ That is, smaller absolute errors are obtained from the investment efficiency equation that measures the extent of managerial investment inefficiency, defined as $INEFFINV$.

¹² The investment inefficiency results are consistent with the evidence of Demerjian et al. (2012), who report that low (high) managerial ability is linked with higher (lower) non-M&A investment inefficiencies, based on their managerial ability score estimates, obtained using data envelopment analysis.

Additionally, in Models 5 and 12, the significant negative coefficients of the interaction term *Stock*Public*INEFFINV* reveal that low-managerial ability acquirers engaging in inefficient investments significantly damage firm prospects when involved in public-to-public stock-financed M&As.

4.3. Multivariate analysis: Corporate managerial ability and acquirers' long-term performance

Next, the center of our investigation is on whether the short-run superior performance of high-managerial ability acquirers is a mere market overreaction to M&A announcements. To address this question, the analysis is replicated using acquirers' long-term alpha estimates based on long-term abnormal returns (i.e., one-year BHAR) and long-term operating performance (i.e., one-year operating income and industry-adjusted operating income).

The results in Table 7, using the one-year BHAR to estimate acquirers' long-term alpha, show that acquirers with high managerial ability are more likely to generate better long-term performance. This finding is consistent across all three measures of managerial ability, demonstrating that the significant alpha generated by high-managerial ability acquirers is not limited to the short run. These gains persist for at least one year after the merger is announced, indicating that acquiring firms with high managerial ability can create value for a long time after the acquisition by efficiently integrating the merging firms and managing the merger efficiently. Consistent with the central prediction of this paper, this evidence suggests that acquirers with high (low) management skill tend to increase (decrease) the efficiency level of acquiring firms. Namely, corporate managerial ability is strongly and positively associated with post-M&A firm outcomes, in agreement with the market's reaction on the announcement date.

[Insert Table 7 here]

Additionally, we use one-year operating income and one-year industry-adjusted operating income as acquirers' alternative long-term performance measures. The results are reported in Table 8 and are highly consistent with the evidence of the main analysis, presented earlier. Specifically, acquiring firms with high, rather than low, managerial ability are involved in mergers that generate higher long-term performance in terms of operating income and industry-adjusted operating income. Regardless of which managerial ability or performance measures employed, the evidence consistently shows that acquiring firms endowed with high (low) managerial skill conduct, on average, value-increasing (value-decreasing) M&As. These findings provide supplementary evidence in support of the previous results, demonstrating that M&A decisions carried out by skilled acquirers consistently increase shareholder value by efficiently managing corporate resources subsequent to acquisition announcements.

[Insert Table 8 here]

4.4. Acquirer managerial ability and acquirer fixed effects

Several corporate managerial ability measures have been used so far to assess the relation between acquirer skill and acquisition performance. Our next test aims to investigate whether the relation between acquirer managerial ability and successful acquisition outcomes in our analysis is associated with acquirer managerial ability fixed effects, a relation that has not yet been directly investigated. This examination is motivated by the seminal work of Bertrand and Schoar (2003), who show that acquirer management styles influence acquisition outcomes. More recently, Golubov et al. (2015) demonstrate that an “unobserved, time-invariant, firm-specific” factor has much stronger explanatory power for the variation of acquisition outcomes than all the firm- and deal-specific factors combined, and the authors insinuate that this factor could be a manifestation of acquirers’ firm-specific acquisition skill. Therefore, having shown thus far that the managerial ability of acquiring firms is positively and significantly associated with acquirer acquisition gains, we conjecture that the acquirer’s managerial ability is an essential managerial attribute of the acquirer’s fixed effects (i.e., firm-specific acquisition skill). To address this conjecture, we conduct a test focusing on changes in the adjusted R-squared values, as well as the fixed effects Fisher statistic, by adding acquirer fixed effects to our main regression model, as presented in Equation (4) for the whole sample and high- and low-acquirer managerial ability groups, respectively. If acquirer managerial ability explains the acquirer fixed effects, we expect greater improvement in the adjusted R-squared values in the high-acquirer managerial ability group than in its low-ability counterpart. We report the results in Table 9.

[Insert Table 9 here]

Consistent with our conjecture, the results reported in Panel A of Table 9 show that, the addition of acquirer fixed effects to the main regression increases the adjusted R-squared value from 2.2% to 33.9% for the whole sample. The addition of acquirer fixed effects in the high-acquirer managerial ability group (based on the MA-Score measure) increases the regression adjusted R-squared value by 46.2% (from 2.3% to 48.5%), with a corresponding change of only 29.8% (from 3.6% to 33.4%) in the low-acquirer managerial ability group. This result shows a strong association between acquirer fixed effects and acquirer managerial ability, demonstrating that a critical part of acquirer fixed effects’ explanatory power for the variations in acquisition abnormal returns comes from M&A deals conducted by acquirers with high managerial ability. Replicating the analysis using announcement-period BHARs to estimate acquirers’ abnormal returns, as reported in Panel B, we observe a similar pattern.

Firms that conduct frequent acquisitions can lead to ambiguous findings, since the merger announcement abnormal returns could also be influenced by previous acquisition activities. To lessen this concern, we replicate the analysis by focusing only on occasional acquirers, defined as acquirers with fewer than five M&A deals within a three-year window. This reduces our sample from 10,505 to 9,028

observations, but reveals a result consistent with those reported in Table 9. As shown in Table 10, the addition of acquirer fixed effects improves the entire sample's adjusted R-squared value by 32.7%. In the high-acquirer managerial ability group, the increase is 47.2%, compared to an increase of only 32.5% in the low-acquirer managerial ability group.

[Insert Table 10 here]

4.5. Acquirer managerial ability and target characteristics

The results thus far have shown that value-increasing acquisitions and other corporate investments are linked to firms with high managerial ability. In this section, two additional tests are performed to ensure that the high-managerial ability acquirers are skilled in identifying and selecting high-quality investments (targets) to meet their strategic and financial objectives. Specifically, we examine whether targets endowed with specific characteristics play a key role in value-maximizing acquisitions carried out by skilled top managers.

4.5.1. Target companies' human capital value and acquirer managerial ability

Previous literature has emphasized the importance of a firm's intangible human capital value as a key production factor contributing to its cash flows. Thus, we conjecture that target firms with a high human capital value should attract more skilled acquirers for two reasons. First, as Eisfeldt and Papanikolaou (2013) show, firms with high human capital generate, on average, 4.7% higher average annual returns than firms with low human capital value. Therefore, the acquisition of high-human capital value targets has the potential to improve acquirer performance and operational efficiency subsequent to the completion of the acquisition. Second, firms with more intangible assets, such as human capital, are considered riskier by shareholders than firms with more physical assets, since shareholders are exposed to additional risks, such as frontier technology shocks, but are only rewarded with a fraction of the cash flows (Eisfeldt and Papanikolaou, 2013). Accordingly, average- or low-skilled acquirers might not consider targets with high human capital to be suitable acquisitions, since the acquisition and integration of such firms will be difficult and risky, which could damage shareholder wealth. Therefore, firms with high corporate managerial ability are more likely to view targets with high human capital value as suitable and to be willing to acquire them, which, in turn, is expected of added value to acquirers' shareholder and firm performance.

Following previous literature (Lev and Radhakrishnan, 2005; Eisfeldt and Papanikolaou, 2013; Yildirim and Allen, 2017), we measure the human capital value of target firms, denoted by the HC-Value measure, based on accumulated capital resources devoted to employing key employee talent (i.e., overhead and nonallocated expenses). Specifically, to estimate a firm's HC-Value, we first calculate the firm's human capital stock, denoted $HC\ stock_{it}$, using the perpetual inventory method, as follows:

$$HC\ stock_{it} = (1 - \delta) * HC\ stock_{it-1} + \frac{SGA_{it}}{cpi_t} \quad (5)$$

where cpi_t is the consumer price index for year t ,¹³ δ is the depreciation rate, and SGA_{it} is a firm's total selling, general and administrative expenses, including all commercial operation expenses in year t . As Eisfeldt and Papanikolaou (2013), we use 15% as the depreciation rate.¹⁴

However, if there is no information on the previous year's stock of human capital, we set

$$HC\ stock_{it-1} = \frac{SGA_{it}}{g+\delta} \quad (6)$$

where g is the growth rate of executive compensation, set at 10% in the estimation. Finally, HC-Value is estimated by scaling $HC\ stock$ by the firm's total book assets in the same year:

$$HC - Value_{it} = \frac{MA-HCstock_{it}}{Book\ Assets_{it}} \quad (7)$$

Next, at the beginning of each year, we sort all target firms into two groups by comparing their HC-Value measure with the median of all target firms that year, assigning *Target HC-Value Dummy* to be one if the firm's HC-Value is above the median, and zero otherwise. We then perform a probit analysis by regressing *Target HC-Value Dummy* on all three measures of acquirer managerial ability, controlling for other deal- and firm-level variables. The results are reported in Table 11.

[Insert Table 11 here]

In line with our prediction, the results in Table 11 show a strong and positive association between acquirer managerial ability and target human capital value (the coefficient of *INEFFINV* is negative and significant, since a higher value of *INEFFINV*, investment inefficiency, indicates lower managerial ability). Specifically, holding all the other variables at their means, we find that the probability of acquiring targets gifted with high-human capital intangibles increases by more than 20% for acquirers with high-ability managers. Along with our previous finding that high-managerial ability firms increase shareholder wealth by engaging in valuable M&A activities, this result implies that one way managerial ability improves acquisition performance is by identifying and acquiring targets with high levels of human capital. Since HC-Value is an essential part of a firm's intangible assets, we further investigate the difference in intangible assets between target firms acquired by high- and low-managerial ability firms, estimated by using total intangible assets scaled by total assets, or the logarithmic transformation of the value of intangible assets. We present the results in Table 12.

[Insert Table 12 here]

¹³ The Consumer Price Index data are from the U.S. Bureau of Labor Statistics website.

¹⁴ As Eisfeldt and Papanikolaou (2013) show, when the depreciation rate is chosen to be from 10% to 50%, the results are robust.

The results in Table 12, highly consistent with those in Table 11, show that targets acquired by high–managerial ability firms have more intangible assets than targets acquired by low–ability firms, across all different measures of intangible assets and managerial ability. Jointly, these results demonstrate that the acquisition of targets with enriched human capital resources (e.g., higher HC-Value and intangible asset levels) has greater appeal to high–managerial ability acquirers in benefiting their future performance and serving shareholders’ interests.

4.5.2. Target companies’ financial position and acquirer managerial ability

One important factor, discussed in Section 1, that can significantly affect acquisition performance is the difference between the offering price and the estimated real value of the target’s stock, referred to as the acquisition premium. The acquisition premium measures the cost of obtaining a target firm through an M&A. Previous literature (e.g., Masulis and Simsir, 2018) recognizes that the target’s economic weakness and financial constraints influence the acquisition premium, which consequently affects abnormal returns around merger announcements.

Specifically, deals with targets facing financial constraints have a significantly lower average takeover premium and higher abnormal returns. This is because financial constrained targets are generally significantly undervalued by the market before M&As (Bates, Becher, and Lemmon, 2008; Edmans, Goldstein, and Jiang, 2012), since they cannot operate efficiently due to the insufficiency of capital resources required to undertake optimal investments. Therefore, the acquisition of such firms will be profitable in the future, as acquirers can improve their operational efficiency by removing their financial constraints through the supply of adequate capital. For instance, Erel, Jang, and Weisbach (2015) find that target firms overcome their financial constraints after being merged. Hence, high–managerial ability acquirers are more likely than low–managerial ability acquirers to view target firms in weak financial condition as attractive investment opportunities.

However, as noted by Masulis and Simsir (2018), financial weakness and financial distress have different implications regarding firm survival. Specifically, financially weak firms are more likely to have financial constraints, but not vice versa. When a target firm is in financial distress, shareholder value will drop significantly if it goes bankrupt. Such firms might therefore prefer to be acquired in order to avoid bankruptcy (Shrieves and Stevens, 1979; Hotchkiss and Mooradian, 1997, 1998; Hotchkiss, 1995; Masulis and Simsir, 2018) and thus willing to be acquired at a favorable acquisition premium. However, financially distressed targets might not be viewed favorably by a high–managerial ability acquirer, since such companies are inefficiently run and exposed to high-bankruptcy risk. It will therefore be very costly for potential acquirers to save these companies from bankruptcy and improve their operating efficiency. In other words, the low acquisition premium for targets in financial distress could reflect high bankruptcy risk.

Jointly, if high–managerial ability acquirers focus on financial characteristics in picking valuable targets, they should consider targets with large financial constraints but low bankruptcy risk (i.e., high financial distress).

To test this hypothesis, we use Altman’s (1968) Z-score to assess whether a target firm is experiencing financial distress. We use the SA index of Hadlock and Pierce (2010) to estimate whether a target firm is facing financial constraints. Altman’s Z-Score and the SA index are calculated using the following equations, respectively:

$$Z - Score_{i,t} = 1.2 * \frac{Working\ Capital_{i,t}}{Total\ Assets_{i,t}} + 1.4 * \frac{Retained\ Earnings_{i,t}}{Total\ Assets_{i,t}} + 3.3 * \frac{EBIT_{i,t}}{Total\ Assets_{i,t}} + 0.6 * \frac{Market\ Cap_{i,t}}{Total\ Liabilities_{i,t}} + \frac{Sales_{i,t}}{Total\ Assets_{i,t}} \quad (8)$$

$$SA - Index_{i,t} = -0.737 * Size_{i,t} + 0.043 * Size_{i,t}^2 - 0.040 * Age_{i,t} \quad (9)^{15}$$

We then compare these measures of target financial distress and financial constraint across high– and low–managerial ability acquirer groups and investigate the significance level of the differences using t-statistics. The results are presented in Table 13.

[Insert Table 13 here]

Table 13 shows that, across all three measures of managerial ability, deals conducted by high–managerial ability acquirers are associated with targets with a higher average Altman Z-score (0.545, t = 2.591 for the MA-Score; 0.931, t = 2.914 for the CEO compensation measure; 0.138, t = 1.467 for the investment inefficiency measure). This result indicates that skilled acquirers prefer target firms with low bankruptcy risk. On the contrary, we find that targets merging with skilled acquiring firms exhibit a significant lower average SA index for two of the three managerial ability measures (the number is nonsignificant for the MA-Score measure). Table 13 offers evidence that high–managerial ability acquirers choose targets with strong financial constraints but low bankruptcy risk (i.e., high financial distress), improving acquirers’ future performance.

5. Conclusion

Focusing on M&As, which are among the largest and most easily observable corporate investments directly influenced by a firm’s top management team, this paper makes the simple yet important point that acquirer managerial ability explains an important part of the cross-sectional variation in acquirer abnormal returns, which has been largely neglected in the M&A literature. To confirm that the variation in acquirer

¹⁵ Firm size is the logarithm of Min(Firm Size, \$4.5 billion) and firm age is Min(Age, 37 years), following Hadlock and Pierce (2010).

abnormal returns is due to managerial ability across firms (i.e., to identify the effect of corporate managerial ability on value creation through acquisitions), we use three different measures of managerial ability (i.e., MA-Score, CEO compensation, and investment inefficiency) across different firms over time and find consistent results.

The analysis offers compelling evidence indicating that large cross-sectional differences in corporate managerial ability matter to firm value and account for differences in firm performance in both the short and long term after a merger is announced, especially among stock-financed public target deals. In all stock-financed deals, high-manual ability acquirers (based on their MA-Score values) generate, on average, 3.4% higher announcement-period CARs than low-manual ability acquirers, while, among public targets, skilled acquirers realize 2.5% higher abnormal returns than their unskilled counterparts. Overall, for all public-to-public stock-financed deals, high-corporate managerial ability acquirers have a 2.6% higher firm alpha than their low-skilled counterparts. This result is robust to self-selection bias concerns, based on the Heckman treatment effect method. Thus, our findings provide a remarkable and insightful explanation for the method of payment puzzle, that is, negative (positive) acquirer abnormal returns for stock-financed (cash-financed) acquisitions of listed target firms. As for the frequently reported negative acquirer abnormal returns in public-to-public stock-financed deals, we show that these results are rooted in the acquisition deals of firms of low managerial ability. The same pattern is also observed one year after the acquisition announcement date, corroborating shareholders' announcement reactions, indicating that high-manual ability acquirers are capable to identify profitable investments (targets) that significantly improve firm performance subsequent to the merger announcement.

Using a fixed effects methodology, as Bertrand and Schoar (2003) and Golubov et al. (2015), we show that the variation in acquirer abnormal returns is attributed to the heterogeneity of corporate managerial ability across acquirers. Moreover, we document that target firms acquired by high-manual ability firms have greater intangible assets than targets acquired by low-ability firms, across different measures of the level of intangible assets and of managerial ability. Jointly, these results confirm that firms with higher managerial ability acquire targets with strong prospects that serve shareholders' interests and enhance firm value. Additionally, analyzing the financial condition of target firms, we find that high-manual ability acquirers select targets operating under considerable financial constraints but low bankruptcy risk (i.e., high financial distress), which proves to be a profitable and cost-efficient investment strategy after the merger announcement. Overall, the results suggest that failure to control for corporate managerial ability can lead to erroneous conclusions about the short- and long-term valuation effects of M&As.

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Table 1. Annual distribution of sampled deals

This table presents the annual distribution of our sample. The sample consists of completed M&As announced by U.S. acquirers between January 1, 1986, and December 31, 2017, recorded by Thomson One of SDC and that satisfy our sample selectivity criteria. In this table, *CASH* refers to 100% cash-financed deals, *STOCK* refers to 100% stock-financed deals, *MIXED* refers to mixed financed deals, *DOM* refers to domestic deals, *CBA* refers to foreign deals, *PRV* refers to private target firm M&As, *PUB* refers to public target firm M&As, *SUB* refers to subsidiary target firm M&As, *FOC* refers to focused deals, *DIV* refers to diversified deals, *MV* refers to the annual average acquirer's market value 20 trading days before the announcement of the M&A, *DV* refers to the transaction value, *BHAR* refers to the acquirer's (-2,2) BHAR around announcement date, and *CAR* refers to the acquirer's (-2,2) CAR around announcement date.

Year	ALL	CASH	STOCK	MIXED	DOM	PRV	PUB	SUB	FOC	DIV	MV(M)	DV(M)	BHAR (%)	CAR (%)
1986	61	5	43	13	60	24	30	7	50	11	929.77	224.97	1.13	1.05
1987	74	5	45	24	74	14	51	9	64	10	1058.53	259.00	0.91	0.92
1988	55	6	35	14	54	17	33	5	42	13	767.05	154.62	1.16	1.19
1989	68	6	50	12	67	23	38	7	54	14	1386.82	315.69	1.21	1.14
1990	57	2	40	15	55	15	31	11	47	10	2138.04	311.59	-2.43	-2.15
1991	153	2	97	54	145	64	69	20	120	33	1155.49	212.79	1.75	1.79
1992	187	6	138	43	178	87	76	24	147	40	1224.36	135.86	2.45	2.77
1993	220	17	141	62	216	103	80	37	182	38	1942.17	289.07	2.70	2.24
1994	387	58	252	77	382	146	218	23	329	58	1939.80	219.96	1.28	1.18
1995	872	241	392	239	848	396	262	214	701	171	1715.31	241.71	1.54	1.58
1996	1,113	265	496	352	1,075	588	290	235	837	276	2137.68	255.47	2.56	2.39
1997	1,683	457	638	588	1,543	866	415	402	1,313	370	3031.95	279.37	2.01	1.95
1998	1,664	495	603	566	1,458	856	449	359	1,307	357	4453.20	593.75	0.93	0.86
1999	1,326	400	521	405	1,190	636	419	271	1,024	302	11040.36	602.66	2.42	2.13
2000	1,217	317	513	387	1,077	652	324	241	932	285	16456.43	734.87	0.86	0.76
2001	849	293	228	328	749	346	274	229	638	211	10134.48	426.92	1.44	1.48
2002	789	358	115	316	703	341	181	267	583	206	6748.51	253.01	1.99	2.05
2003	764	355	119	290	684	334	197	233	576	188	6976.72	345.51	2.15	2.06
2004	898	464	92	342	749	460	194	244	689	209	7195.30	396.87	0.76	0.74
2005	910	497	76	337	771	479	178	253	671	239	7978.73	570.47	1.13	1.13
2006	888	518	67	303	764	473	171	244	639	249	8313.18	387.60	0.81	0.84
2007	800	454	50	296	671	416	171	213	610	190	12014.56	419.11	0.78	0.78
2008	551	314	39	198	454	283	97	171	409	142	8053.72	344.27	0.22	0.23
2009	414	205	55	154	347	175	98	141	298	116	12916.14	958.38	1.46	1.48
2010	534	332	35	167	423	230	117	187	393	141	231383.28	479.66	0.88	0.87
2011	513	302	28	183	399	261	77	175	369	144	513380.88	571.13	0.73	0.72
2012	602	362	37	203	482	265	109	228	445	157	10159.35	485.17	1.29	1.27
2013	554	316	40	198	452	248	110	196	400	154	8808.31	552.11	1.16	1.17
2014	661	372	56	233	540	315	119	227	511	150	10396.19	696.25	2.62	2.52
2015	492	221	41	230	402	204	132	156	358	134	549943.59	1367.75	1.27	1.30
2016	326	133	40	153	277	103	119	104	240	86	16572.08	1476.64	1.18	1.17
2017	297	110	50	137	268	104	101	92	221	76	13955.59	1357.15	1.31	1.53
Sum	19,979	7,888	5,172	6,919	17,557	9,524	5,230	5,225	15,199	4,780	-	-	-	-
% of Total	-	39.48	25.89	34.63	87.88	47.67	26.18	26.15	76.07	23.93	-	-	-	-
Average	-	-	-	-	-	-	-	-	-	-	46447.11	497.48	1.30	1.29

Table 2. Summary statistics

This table reports the number of all M&As deals announced by U.S. acquirers between January 1, 1986, and December 31, 2017, recorded by Thomson One of SDC and with MA-Score, CEO compensation, or acquirer Investment Inefficiency (INEFFINV) information. Deals are divided into high and low skill categories based on the managerial ability of acquiring firms measured by the prior year MA-Score, CEO compensation, or acquirer Investment Inefficiency (INEFFINV). *Cash* refers to 100% cash-financed deals, *Stock* refers to 100% stock-financed deals, *Mixed* refers to mixed financed deals, *Private* refers to private target firm M&As, *Public* refers to public target firm M&As, *Subsidiary* refers to subsidiary target firm M&As, *Domestic* refers to domestic deals, *Foreign* refers to foreign deals, *Focused* refers to focused deals, and *Diversified* refers to diversified deals.

	MA-Score measure			CEO compensation measure			INEFFINV measure		
	All	High Skill	Low Skill	All	High Skill	Low Skill	All	High Skill	Low Skill
All bids	11,339	6,181	5,158	7,076	4,002	3,074	11,363	5,681	5,682
		54.51%	45.49%		56.56%	43.44%		50.00%	50.00%
Cash	5,178	2,780	2,398	3,810	2,353	1,457	5,193	3,111	2,082
		53.69%	46.31%		61.76%	38.24%		59.91%	40.09%
Stock	2,138	1,326	812	1,225	645	580	2,076	514	1,562
		62.02%	37.98%		52.65%	47.35%		24.76%	75.24%
Mixed	4,023	2,075	1,948	2,041	1,004	1,037	4,094	2,056	2,038
		51.58%	48.42%		49.19%	50.81%		50.22%	49.78%
Public	2,337	1,345	992	2,068	1,330	738	2,303	1,067	1,236
		57.55%	42.45%		64.31%	35.69%		46.33%	53.67%
Private	5,744	3,260	2,484	2,947	1,440	1,507	5,679	2,746	2,933
		56.75%	43.25%		48.86%	51.14%		48.35%	51.65%
Subsidiary	3,261	1,579	1,682	2,061	1,232	829	3,381	1,868	1,513
		48.42%	51.58%		59.78%	40.22%		55.25%	44.75%
Foreign	1,749	949	800	1,173	752	421	1,700	912	788
		54.26%	45.74%		64.11%	35.89%		53.65%	46.35%
Domestic	9,590	5,232	4,358	5,903	3,250	2,653	9,663	4,769	4,894
		54.56%	45.44%		55.06%	44.94%		49.35%	50.65%
Focused	8,286	4,519	3,767	5,178	2,764	2,414	8,243	4,058	4,185
		54.54%	45.46%		53.38%	46.62%		49.23%	50.77%
Diversified	3,053	1,662	1,391	1,898	1,238	660	3,120	1,623	1,497
		54.44%	45.56%		65.23%	34.77%		52.02%	47.98%

Table 3. Univariate analysis of acquirer abnormal returns by acquirer managerial ability and target domicile

This table presents acquirer abnormal returns ((t-2, t+2) announcement period CAR or BHAR) for all deals, high managerial ability and low managerial ability acquirers. Acquirer companies are sorted into high and low managerial ability groups based on their prior year MA-Score (Panel A), CEO compensation (Panel B), or acquirer investment inefficient (INEFFINV, Panel C). *Cash* refers to 100% cash-financed deals; *Stock* refers to 100% stock-financed deals; *Public* refers to public target firm M&As; *Private* refers to private target firm M&As; *Foreign* refers to foreign target M&As, *Domestic* refers to domestic target M&As, *Focused* refers to deals in which both merging firms are operating in the same industry; and *Diversified* refers to deals in which the merging firms are operating in different industries. The statistical significance of differences in abnormal returns between acquirer groups is tested using the t-test for the equality of means. The High-Low column of each panel presents the mean alpha difference between high and low managerial ability acquirers based on the two-sample t-test. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

<i>Panel A Using MA-Score to measure acquirer's managerial ability</i>											
	CAR					BHAR					
	All	High MA-Score	Low MA-Score	High-Low	t-value	All	High MA-Score	Low MA-Score	High-Low	t-value	
All bids	0.014	0.015	0.013	0.003	1.290	0.014	0.016	0.013	0.003	1.217	
Cash	0.014	0.012	0.015	-0.003	-1.381	0.014	0.013	0.015	-0.003	-1.315	
Stock	0.012	0.024	-0.008	0.032***	4.412	0.013	0.025	-0.007	0.031***	4.029	
Public	-0.001	0.007	-0.011	0.018***	3.172	0.000	0.008	-0.011	0.018***	2.979	
Private	0.016	0.016	0.015	0.002	0.700	0.016	0.016	0.015	0.002	0.645	
Foreign	0.009	0.009	0.010	-0.001	-0.330	0.009	0.008	0.011	-0.002	-0.515	
Domestic	0.015	0.017	0.013	0.003	1.488	0.015	0.017	0.013	0.003	1.458	
Focused	0.015	0.017	0.013	0.004*	1.790	0.015	0.017	0.013	0.004	1.639	
Diversified	0.012	0.011	0.014	-0.002	-0.753	0.012	0.011	0.013	-0.002	-0.671	

<i>Panel B Using CEO compensation to measure acquirer's managerial ability</i>											
	CAR					BHAR					
	All	High CEO Comp	Low CEO Comp	High-Low	t-value	All	High CEO Comp	Low CEO Comp	High-Low	t-value	
All bids	0.006	0.006	0.006	0.000	0.272	0.006	0.006	0.005	0.000	-0.238	
Cash	0.010	0.009	0.011	-0.003	-1.159	0.010	0.009	0.011	-0.003	-1.210	
Stock	-0.005	-0.001	-0.009	0.008**	2.026	-0.006	-0.002	-0.010	0.008*	1.933	
Public	-0.005	-0.004	-0.009	0.005*	1.798	-0.006	-0.004	-0.009	0.005*	1.797	
Private	0.007	0.007	0.006	0.001	0.459	0.007	0.008	0.006	0.002	0.584	
Foreign	0.005	0.004	0.008	-0.004	-1.292	0.005	0.004	0.008	-0.004	-1.171	
Domestic	0.005	0.005	0.005	0.000	-0.022	0.006	0.006	0.005	0.001	0.678	
Focused	0.005	0.005	0.006	-0.001	-0.330	0.006	0.006	0.005	0.000	0.185	
Diversified	0.005	0.005	0.006	-0.001	-0.352	0.006	0.006	0.006	0.000	0.122	

<i>Panel C Using investment inefficiency to measure acquirer's managerial ability</i>											
	CAR					BHAR					
	All	Low INEFFINV	High INEFFINV	Low-High	t-value	All	Low INEFFINV	High INEFFINV	Low-High	t-value	
All bids	0.015	0.014	0.015	-0.001	-0.405	0.015	0.014	0.015	-0.001	-0.403	
Cash	0.013	0.012	0.015	-0.003	-1.342	0.013	0.012	0.015	-0.003	-1.307	
Stock	0.011	0.017	0.010	0.007	1.045	0.011	0.016	0.009	0.007	1.036	
Public	-0.005	-0.001	-0.009	0.008**	2.102	-0.006	-0.001	-0.009	0.008**	2.181	
Private	0.016	0.014	0.017	-0.003	-1.144	0.016	0.014	0.017	-0.003	-1.123	
Foreign	0.009	0.012	0.006	0.005	1.183	0.009	0.012	0.007	0.005	1.101	
Domestic	0.016	0.015	0.016	-0.002	-0.780	0.016	0.015	0.016	-0.002	-0.732	
Focused	0.015	0.014	0.015	-0.001	-0.436	0.015	0.014	0.016	-0.001	-0.471	
Diversified	0.014	0.014	0.014	0.000	-0.025	0.013	0.014	0.013	0.000	0.073	

Table 4. Multivariate analysis of acquirer abnormal returns by acquirer managerial ability measured by MA-Score

This table presents the regression results of acquirer managerial ability, measured by the prior year MA-Score, on acquirer abnormal returns ((t-2, t+2) announcement period CAR or BHAR). The intercept measures the average alpha after accounting for the effects of several explanatory variables. *MA-Score dummy* is used to separate acquirer companies with high managerial ability (MA-Score Dummy=1) from acquirer companies with low managerial ability (MA-Score Dummy=0). *Stock Dummy* refers to 100% stock-financed deals; *Public Dummy* refers to public target firm M&As; *Foreign Dummy* refers to foreign target M&As, *Focused Dummy* refers to deals in which both merging firms are operating in the same industry, *Log (Acq. Value)* refers to the log value of acquirer's market capitalization 20 days prior to the deal's announcement, *Log (Trans. Value)* refers to the log value of deal size, *Log(Age)* refers to the acquirer age, which is computed as the difference between the M&A announcement year and the firm's IPO year (if IPO date is missing, we use the year when the acquirer entered the CRSP database), *Liquidity* refers to the ratio of acquirer cash and cash and equivalent to total assets in the most recent quarter obtained from Compustat, *D/E Ratio* is the ratio of acquirer debt to equity in the most recent quarter obtained from Compustat, *Tobin's Q* corresponds to the acquiring firm's Tobin's Q in previous year. The Heckman treatment (H. Treat.) regressions are estimated using a two-step procedure. Here *Lambda* is the inverse Mills ratios. The asterisks *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Model:	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
Method:	OLS	OLS	OLS	OLS	OLS	H. Treat.	OLS	OLS	OLS	OLS	OLS	OLS	OLS	H. Treat.	OLS	OLS
Dep. Variable:	CAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR	BHAR	BHAR	BHAR	BHAR	BHAR	BHAR	BHAR	BHAR
MA-Score Dummy	0.011*** (4.85)	0.011*** (4.80)	0.005* (1.91)	0.006** (2.42)	0.009*** (4.12)	0.009*** (4.12)	0.011*** (4.70)	0.007* (1.81)	0.011*** (4.71)	0.011*** (4.66)	0.005** (1.93)	0.006** (2.31)	0.009*** (3.95)	0.009*** (3.95)	0.011*** (4.62)	0.008* (1.84)
Stock Dummy	0.002 (0.76)	0.009 (1.56)	-0.018*** (-3.97)	0.003 (0.84)	-0.002 (-0.59)	-0.002 (-0.59)	0.002 (0.75)	0.002 (0.75)	0.004 (1.10)	0.010 (1.59)	-0.016*** (-3.47)	0.004 (1.18)	-0.001 (-0.34)	-0.001 (-0.34)	0.004 (1.09)	0.004 (1.09)
Public Dummy	-0.018*** (-5.97)	-0.012*** (-3.49)	-0.017*** (-5.71)	-0.031*** (-7.52)	-0.021*** (-6.87)	-0.021*** (-6.86)	-0.018*** (-5.97)	-0.018*** (-5.97)	-0.018*** (-5.77)	-0.012*** (-3.47)	-0.017*** (-5.52)	-0.032*** (-7.35)	-0.022*** (-6.73)	-0.022*** (-6.73)	-0.018*** (-5.77)	-0.018*** (-5.76)
Foreign Dummy	-0.001 (-0.21)	-0.001 (-0.26)	-0.001 (-0.20)	0.000 (-0.16)	0.000 (-0.15)	0.000 (-0.15)	0.001 (0.28)	-0.001 (-0.23)	0.000 (-0.16)	-0.001 (-0.20)	0.000 (-0.15)	0.000 (-0.11)	0.000 (-0.10)	0.000 (-0.10)	0.002 (0.41)	-0.001 (-0.17)
Focused Dummy	0.002 (0.64)	0.002 (0.64)	0.001 (0.48)	0.002 (0.62)	0.001 (0.59)	0.001 (0.59)	0.002 (0.64)	0.002 (-0.20)	0.002 (0.64)	0.002 (0.64)	0.001 (0.49)	0.002 (0.62)	0.002 (0.58)	0.002 (0.58)	0.002 (0.64)	0.000 (-0.12)
Stock*Public		-0.022*** (-3.68)										-0.021*** (-3.36)				
Stock*MA-Score			0.034*** (6.19)										0.034*** (5.83)			
Public*MA-Score				0.025*** (4.67)									0.026*** (4.62)			
Stock*Public*MA-Score					0.026*** (3.79)	0.026*** (3.79)							0.028*** (3.98)	0.028*** (3.98)		
Foreign*MA-Score							-0.003 (-0.59)									-0.004 (-0.71)
Focused*MA-Score								0.004 (0.91)								0.004 (0.79)
Log (Acq. Value)	-0.022*** (-13.03)	-0.022*** (-13.27)	-0.022*** (-13.12)	-0.022*** (-13.27)	-0.021*** (-12.84)	-0.021*** (-12.79)	-0.022*** (-13.02)	-0.022*** (-12.95)	-0.022*** (-12.82)	-0.023*** (-13.03)	-0.022*** (-12.90)	-0.023*** (-13.06)	-0.022*** (-12.63)	-0.022*** (-12.58)	-0.022*** (-12.81)	-0.022*** (-12.75)
Log (Trans. Value)	0.011*** (6.26)	0.012*** (6.35)	0.011*** (6.18)	0.011*** (6.28)	0.011*** (6.16)	0.011*** (6.16)	0.011*** (6.25)	0.011*** (6.23)	0.012*** (6.50)	0.013*** (6.59)	0.012*** (6.43)	0.012*** (6.53)	0.012*** (6.41)	0.012*** (6.41)	0.012*** (6.50)	0.012*** (6.48)
Log (Age)	0.005 (1.59)	0.005 (1.57)	0.005* (1.71)	0.005 (1.49)	0.005 (1.58)	0.005 (1.57)	0.005 (1.58)	0.005 (1.57)	0.004 (1.35)	0.004 (1.34)	0.005 (1.46)	0.004 (1.25)	0.004 (1.34)	0.004 (1.34)	0.004 (1.35)	0.004 (1.34)
Liquidity	-0.016*** (-2.68)	-0.016*** (-2.75)	-0.014** (-2.36)	-0.015** (-2.57)	-0.016*** (-2.59)	-0.016*** (-2.59)	-0.016*** (-2.68)	-0.016*** (-2.71)	-0.017*** (-2.75)	-0.018*** (-2.82)	-0.015*** (-2.45)	-0.016*** (-2.65)	-0.017*** (-2.67)	-0.017*** (-2.66)	-0.017*** (-2.76)	-0.017*** (-2.76)
D/E Ratio	0.000 (-0.54)	0.000 (-0.59)	0.000 (-0.56)	0.000 (-0.50)	0.000 (-0.52)	0.000 (-0.52)	0.000 (-0.54)	0.000 (-0.53)	0.000 (-0.51)	0.000 (-0.56)	0.000 (-0.53)	0.000 (-0.46)	0.000 (-0.48)	0.000 (-0.48)	0.000 (-0.51)	0.000 (-0.50)
Tobin's Q	0.000 (1.37)	0.000 (1.16)	0.000 (0.90)	0.000 (1.40)	0.000 (1.46)	0.000 (1.25)	0.000 (1.37)	0.000 (1.36)	0.000 (1.26)	0.000 (1.07)	0.000 (0.82)	0.000 (1.29)	0.000 (1.36)	0.000 (1.20)	0.000 (1.26)	0.000 (1.26)
Lambda						0.000 (0.01)								0.000 (-0.05)		
Constant	0.018 (0.59)	0.018 (0.61)	0.019 (0.63)	0.021 (0.69)	0.017 (0.57)	0.017 (0.57)	0.017 (0.58)	0.019 (0.64)	0.017 (0.56)	0.018 (0.58)	0.019 (0.60)	0.021 (0.67)	0.017 (0.54)	0.017 (0.54)	0.017 (0.56)	0.019 (0.60)
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.026	0.027	0.030	0.028	0.027	0.027	0.027	0.026	0.025	0.026	0.028	0.027	0.026	0.026	0.025	0.025
Min VIF	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Max VIF	2.16	2.17	2.89	2.66	2.16	2.18	2.40	5.01	2.16	2.17	2.89	2.66	2.16	2.18	2.40	5.01
Mean VIF	1.43	1.55	1.70	1.66	1.46	1.49	1.63	2.06	1.43	1.55	1.70	1.66	1.46	1.49	1.63	2.06
# of obs.	10505	10505	10505	10505	10505	10505	10505	10505	10505	10505	10505	10505	10505	10505	10505	10505

Table 5. Multivariate analysis of acquirer abnormal returns by acquirer managerial ability measured by CEO compensation

This table presents the regression results of acquirer managerial ability, measured by CEO compensation, on acquirer abnormal returns ((t-2, t+2) announcement period CAR or BHAR). The intercept measures the average alpha after accounting for the effects of several explanatory variables. *CEO COMP Dummy* is used to separate acquirer companies with high managerial ability (CEO COMP Dummy=1) from acquirer companies with low managerial ability (CEO COMP Dummy =0). *Stock Dummy* refers to 100% stock-financed deals; *Public Dummy* refers to public target firm M&As; *Foreign Dummy* refers to foreign target M&As, *Focused Dummy* refers to deals in which both merging firms are operating in the same industry, *Log (Acq. Value)* refers to the log value of acquirer's market capitalization 20 days prior to the deal's announcement, *Log (Trans. Value)* refers to the log value of deal size, *Log(Age)* refers to the acquirer age, which is computed as the difference between the M&A announcement year and the firm's IPO year (if IPO date is missing, we use the year when the acquirer entered the CRSP database), *Liquidity* refers to the ratio of acquirer cash and cash and equivalent to total assets in the most recent quarter obtained from Compustat, *D/E Ratio* is the ratio of acquirer debt to equity in the most recent quarter obtained from Compustat, *Tobin's Q* corresponds to the acquiring firm's Tobin's Q in previous year. The Heckman treatment (H. Treat.) regressions are estimated using a two-step procedure. Here *Lambda* is the inverse Mills ratios. The asterisks *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
Method	OLS	OLS	OLS	OLS	OLS	H. Treat.	OLS	OLS	OLS	OLS	OLS	OLS	OLS	H. Treat.	OLS	OLS
Dep. Variable:	CAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR	BHAR	BHAR	BHAR	BHAR	BHAR	BHAR	BHAR	BHAR
CEO COMP Dummy	0.006*** (2.92)	0.006*** (2.92)	0.004* (1.77)	0.004* (1.85)	0.005** (2.49)	0.005** (2.48)	0.007*** (3.26)	0.007** (2.13)	0.006*** (2.86)	0.006*** (2.87)	0.004* (1.75)	0.004* (1.79)	0.005** (2.42)	0.005** (2.41)	0.007*** (3.17)	0.007** (2.09)
Stock Dummy	-0.006** (-2.37)	-0.004 (-1.01)	-0.013*** (-3.55)	-0.006** (-2.30)	-0.009*** (-2.71)	-0.009*** (-2.71)	-0.006** (-2.38)	-0.006** (-2.38)	-0.007*** (-2.47)	-0.004 (-1.15)	-0.013*** (-3.58)	-0.006** (-2.40)	-0.009*** (-2.85)	-0.009*** (-2.85)	-0.007** (-2.48)	-0.007** (-2.48)
Public Dummy	-0.012*** (-6.18)	-0.011*** (-5.14)	-0.012*** (-6.13)	-0.016*** (-5.07)	-0.013*** (-6.49)	-0.013*** (-6.50)	-0.012*** (-6.22)	-0.012*** (-6.19)	-0.012*** (-6.29)	-0.011*** (-5.29)	-0.012*** (-6.24)	-0.016*** (-5.18)	-0.013*** (-6.62)	-0.013*** (-6.62)	-0.012*** (-6.33)	-0.012*** (-6.30)
International Dummy	-0.002 (-1.24)	-0.002 (-1.23)	-0.002 (-1.16)	-0.002 (-1.17)	-0.002 (-1.23)	-0.002 (-1.23)	0.002 (0.74)	-0.002 (-1.24)	-0.003 (-1.31)	-0.003 (-1.30)	-0.002 (-1.23)	-0.002 (-1.24)	-0.003 (-1.30)	-0.003 (-1.30)	0.002 (0.61)	-0.003 (-1.31)
Focus Dummy	0.002 (0.99)	0.002 (1.02)	0.002 (1.04)	0.002 (1.00)	0.002 (0.98)	0.002 (0.99)	0.002 (0.99)	0.003 (0.95)	0.002 (0.94)	0.002 (0.96)	0.002 (0.98)	0.002 (0.95)	0.002 (0.92)	0.002 (0.93)	0.002 (0.94)	0.003 (0.92)
Stock*Public		-0.006 (-1.22)										-0.005 (-1.11)				
Stock*CEO COMP			0.012*** (2.72)								0.012*** (2.64)					
Public*CEO COMP				0.006* (1.72)								0.006* (1.73)				
Stock*Public*CEO COMP					0.008* (1.80)	0.008* (1.81)							0.008* (1.88)	0.008* (1.88)		
International*CEO COMP							-0.008 (-1.62)								-0.007 (-1.60)	
Focus*CEO COMP								-0.002 (-0.47)								-0.002 (-0.47)
Log (Acq. Value)	-0.008*** (-5.13)	-0.008*** (-5.20)	-0.008*** (-5.11)	-0.008*** (-5.12)	-0.007*** (-5.02)	-0.007*** (-5.01)	-0.008*** (-5.10)	-0.008*** (-5.16)	-0.007*** (-5.05)	-0.008*** (-5.11)	-0.007*** (-5.03)	-0.007*** (-5.04)	-0.007*** (-4.94)	-0.007*** (-4.93)	-0.007*** (-5.02)	-0.008*** (-5.08)
Log (Trans. Value)	0.001 (0.39)	0.001 (0.42)	0.001 (0.37)	0.001 (0.39)	0.001 (0.34)	0.000 (0.33)	0.001 (0.35)	0.001 (0.42)	0.001 (0.38)	0.001 (0.40)	0.001 (0.36)	0.001 (0.37)	0.000 (0.33)	0.000 (0.32)	0.000 (0.34)	0.001 (0.41)
Log (Age)	0.001 (0.36)	0.001 (0.39)	0.001 (0.35)	0.001 (0.31)	0.001 (0.30)	0.001 (0.29)	0.001 (0.36)	0.001 (0.36)	0.002 (0.54)	0.002 (0.57)	0.001 (0.53)	0.001 (0.50)	0.001 (0.48)	0.001 (0.47)	0.002 (0.54)	0.002 (0.54)
Liquidity	-0.005 (-0.78)	-0.005 (-0.82)	-0.005 (-0.79)	-0.005 (-0.79)	-0.005 (-0.77)	0.001 (0.17)	-0.005 (-0.82)	-0.005 (-0.78)	-0.007 (-1.08)	-0.007 (-1.11)	-0.007 (-1.09)	-0.007 (-1.09)	-0.006 (-1.07)	-0.001 (-0.10)	-0.007 (-1.12)	-0.007 (-1.08)
D/E ratio	0.000 (0.17)	0.000 (0.17)	0.000 (0.26)	0.000 (0.19)	0.000 (0.20)	0.000* (-1.89)	0.000 (0.22)	0.000 (0.16)	0.000 (0.21)	0.000 (0.22)	0.000 (0.29)	0.000 (0.23)	0.000 (0.24)	0.000* (-1.82)	0.000 (0.26)	0.000 (0.20)
Tobin's Q	0.001* (1.93)	0.001* (1.83)	0.001** (2.05)	0.001* (1.90)	0.001** (1.99)	0.001* (1.80)	0.001** (1.97)	0.001* (1.93)	0.001* (1.89)	0.001* (1.80)	0.001** (2.01)	0.001* (1.86)	0.001* (1.95)	0.001* (1.76)	0.001* (1.93)	0.001* (1.89)
Lambda						0.014** (2.51)								0.014** (2.45)		
Constant	0.019 (1.15)	0.020 (1.19)	0.019 (1.20)	0.021 (1.27)	0.019 (1.15)	-0.002 (-0.08)	0.019 (1.14)	0.018 (1.08)	0.019 (1.17)	0.019 (1.20)	0.019 (1.22)	0.021 (1.29)	0.019 (1.17)	-0.002 (-0.09)	0.019 (1.16)	0.018 (1.10)
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.030	0.030	0.031	0.031	0.031	0.031	0.031	0.030	0.031	0.031	0.032	0.031	0.031	0.031	0.031	0.031
Min VIF	1.02	1.02	1.02	1.02	1.02	1.08	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.08	1.02	1.02
Max VIF	1.97	2.50	2.67	3.27	1.97	3.62	3.02	5.41	1.97	2.50	2.67	3.27	1.97	3.62	3.02	5.41
Mean VIF	1.38	1.58	1.58	1.71	1.43	1.81	1.68	2.13	1.38	1.58	1.58	1.71	1.43	1.81	1.68	2.13
# of obs.	6586	6586	6586	6586	6586	6586	6586	6586	6586	6586	6586	6586	6586	6586	6586	6586

Table 6. Multivariate analysis of acquirer abnormal returns by acquirer managerial ability measured by acquirer investment inefficiency

This table presents the regression results of acquirer managerial ability, measured by acquirer's investment inefficiency (INEFFINV), on acquirer abnormal returns ((t-2, t+2) announcement period CAR or BHAR). The intercept measures the average alpha after accounting for the effects of several explanatory variables. *INEFFINV* is used to measure acquirer companies' managerial ability. *Stock Dummy* refers to 100% stock-financed deals; *Public Dummy* refers to public target firm M&As; *Foreign Dummy* refers to foreign target M&As, *Focused Dummy* refers to deals in which both merging firms are operating in the same industry, *Log (Acq. Value)* refers to the log value of acquirer's market capitalization 20 days prior to the deal's announcement, *Log (Trans. Value)* refers to the log value of deal size, *Log(Age)* refers to the acquirer age, which is computed as the difference between the M&A announcement year and the firm's IPO year (if IPO date is missing, we use the year when the acquirer entered the CRSP database), *Liquidity* refers to the ratio of acquirer cash and cash and equivalent to total assets in the most recent quarter obtained from Compustat, *D/E Ratio* is the ratio of acquirer debt to equity in the most recent quarter obtained from Compustat, *Tobin's Q* corresponds to the acquiring firm's Tobin's Q in previous year. The asterisks *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Method	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Dep. Variable:	CAR	CAR	CAR	CAR	CAR	CAR	CAR	BHAR	BHAR	BHAR	BHAR	BHAR	BHAR	BHAR
INEFFINV	-0.064*	-0.069**	-0.055	-0.057*	-0.054	-0.064*	-0.061	-0.058*	-0.062*	-0.050	-0.049	-0.047	-0.057*	-0.055
	(-1.90)	(-2.03)	(-1.37)	(-1.66)	(-1.59)	(-1.88)	(-1.52)	(-1.74)	(-1.87)	(-1.30)	(-1.47)	(-1.42)	(-1.72)	(-1.40)
Stock Dummy	0.000	0.012**	0.003	0.000	0.007	0.000	0.000	0.000	0.012**	0.002	0.000	0.007	0.000	0.000
	(0.01)	(2.42)	(0.39)	(0.04)	(1.54)	(0.01)	(0.01)	(-0.10)	(2.43)	(0.26)	(-0.07)	(1.56)	(-0.10)	(-0.10)
Public Dummy	-0.026***	-0.016***	-0.026***	-0.015***	-0.020***	-0.026***	-0.026***	-0.027***	-0.017***	-0.027***	-0.014***	-0.020***	-0.027***	-0.027***
	(-9.45)	(-5.86)	(-9.47)	(-2.96)	(-7.31)	(-9.45)	(-9.45)	(-9.58)	(-6.04)	(-9.59)	(-2.88)	(-7.38)	(-9.58)	(-9.58)
International Dummy	-0.001	-0.002	-0.001	-0.001	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(-0.52)	(-0.61)	(-0.52)	(-0.50)	(-0.59)	(-0.20)	(-0.52)	(-0.47)	(-0.56)	(-0.46)	(-0.45)	(-0.54)	(-0.17)	(-0.47)
Focus Dummy	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(-0.26)	(-0.25)	(-0.26)	(-0.25)	(-0.26)	(-0.26)	(0.00)	(-0.16)	(-0.14)	(-0.16)	(-0.14)	(-0.15)	(-0.16)	(0.04)
Stock*Public		-0.039***							-0.039***					
		(-5.98)							(-6.12)					
Stock*INEFFINV			-0.017							-0.013				
			(-0.43)							(-0.34)				
Public*INEFFINV				-0.075***							-0.083***			
				(-2.71)							(-3.11)			
Stock*Public*INEFFINV					-0.134***							-0.138***		
					(-4.63)							(-4.99)		
International*INEFFINV						-0.001							-0.002	
						(-0.04)							(-0.04)	
Focus*INEFFINV							-0.004							-0.004
							(-0.13)							(-0.12)
Log (Acq. Value)	-0.022***	-0.023***	-0.022***	-0.022***	-0.022***	-0.022***	-0.022***	-0.022***	-0.023***	-0.022***	-0.022***	-0.022***	-0.022***	-0.022***
	(-7.74)	(-7.91)	(-7.75)	(-7.73)	(-7.84)	(-7.74)	(-7.73)	(-7.09)	(-7.26)	(-7.10)	(-7.08)	(-7.20)	(-7.09)	(-7.08)
Log (Trans. Value)	0.013***	0.013***	0.013***	0.013***	0.013***	0.013***	0.013***	0.014***	0.014***	0.014***	0.014***	0.014***	0.014***	0.014***
	(4.42)	(4.51)	(4.43)	(4.44)	(4.49)	(4.41)	(4.41)	(4.23)	(4.32)	(4.24)	(4.25)	(4.30)	(4.23)	(4.23)
Log (Age)	0.004	0.003	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	(1.30)	(1.21)	(1.33)	(1.34)	(1.32)	(1.30)	(1.30)	(1.16)	(1.07)	(1.18)	(1.20)	(1.18)	(1.16)	(1.16)
Liquidity	-0.006	-0.006	-0.006	-0.006	-0.006	-0.006	-0.006	-0.008	-0.008	-0.008	-0.007	-0.008	-0.008	-0.008
	(-0.76)	(-0.86)	(-0.78)	(-0.75)	(-0.81)	(-0.76)	(-0.76)	(-1.03)	(-1.14)	(-1.05)	(-1.02)	(-1.09)	(-1.03)	(-1.03)
D/E ratio	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(-0.34)	(-0.43)	(-0.33)	(-0.34)	(-0.40)	(-0.34)	(-0.34)	(-0.33)	(-0.41)	(-0.32)	(-0.33)	(-0.39)	(-0.33)	(-0.33)
Tobin's Q	0.001**	0.001*	0.001**	0.001**	0.001*	0.001**	0.001**	0.001**	0.001*	0.001**	0.001**	0.001*	0.001**	0.001**
	(2.10)	(1.80)	(2.15)	(2.03)	(1.86)	(2.10)	(2.09)	(2.02)	(1.73)	(2.05)	(1.94)	(1.78)	(2.02)	(2.01)
Constant	0.030	0.031	0.029	0.029	0.028	0.030	0.030	0.029	0.030	0.028	0.028	0.028	0.029	0.029
	(1.29)	(1.33)	(1.23)	(1.24)	(1.23)	(1.29)	(1.28)	(1.26)	(1.29)	(1.21)	(1.21)	(1.20)	(1.26)	(1.25)
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.035	0.038	0.035	0.035	0.037	0.035	0.035	0.033	0.037	0.033	0.034	0.035	0.033	0.033
Min VIF	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Max VIF	4.31	4.31	7.48	5.30	4.34	4.89	7.79	4.31	4.31	7.48	5.30	4.34	4.89	7.79
Mean VIF	1.71	1.81	2.75	2.34	1.76	2.30	2.79	1.71	1.81	2.75	2.34	1.76	2.30	2.79
# of obs.	10711	10711	10711	10711	10711	10711	10711	10711	10711	10711	10711	10711	10711	10711

Table 7. Multivariate analysis of acquirer long-term abnormal returns by acquirer managerial ability and target domicile

This table presents the regression results of acquirer managerial ability, measured by the prior year MA-Score, CEO compensation, or acquirer investment inefficiency (INEFFINV), on acquirer alpha (one-year BHAR after the announcement day). *Stock Dummy* refers to 100% stock-financed deals; *Public Dummy* refers to public target firm M&As; *Foreign Dummy* refers to foreign target M&As, *Focused Dummy* refers to deals in which both merging firms are operating in the same industry, *Log (Acq. Value)* refers to the log value of acquirer's market capitalization 20 days prior to the deal's announcement, *Log (Trans. Value)* refers to the log value of deal size, *Log(Age)* refers to the acquirer age, which is computed as the difference between the M&A announcement year and the firm's IPO year (if IPO date is missing, we use the year when the acquirer entered the CRSP database), *Liquidity* refers to the ratio of acquirer cash and cash and equivalent to total assets in the most recent quarter obtained from Compustat, *D/E Ratio* is the ratio of acquirer debt to equity in the most recent quarter obtained from Compustat, *Tobin's Q* corresponds to the acquiring firm's Tobin's Q in previous year. The asterisks *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Dep. Variable:	One-year BHAR		
MA-Score Dummy	0.035** (2.06)		
CEO COMP Dummy		0.028* (1.67)	
INEFFINV			-0.746** (-2.25)
Stock Dummy	-0.030 (-1.17)	0.009 (0.31)	-0.015 (-0.50)
Public Dummy	0.007 (0.32)	0.006 (0.37)	-0.012 (-0.57)
International Dummy	-0.001 (-0.04)	-0.007 (-0.42)	-0.025 (-1.07)
Focus Dummy	0.022 (1.13)	0.031 (2.03)	0.015 (0.80)
Log (Acq. Value)	-0.053*** (-3.74)	-0.027* (-1.84)	-0.034** (-2.39)
Log (Trans. Value)	0.010 (0.69)	-0.013 (-1.10)	0.009 (0.63)
Log (Age)	0.033 (1.40)	-0.020 (-0.80)	0.013 (0.55)
Liquidity	-0.055 (-1.18)	-0.084 (-1.58)	0.075 (1.24)
D/E ratio	0.001 (0.74)	0.000 (0.63)	0.001 (1.28)
Tobin's Q	-0.008*** (-2.83)	-0.003 (-1.22)	-0.007 (-1.15)
Constant	-0.011 (-0.05)	0.258** (2.01)	0.201 (1.22)
Year FE	YES	YES	YES
Industry FE	YES	YES	YES
Adj. R-squared	0.024	0.034	0.025
Min VIF	1.02	1.02	1.01
Max VIF	2.24	2.07	4.78
Mean VIF	1.44	1.37	1.78
# of obs.	6282	3813	6460

Table 8. Multivariate analysis of acquirer long-term operating performance by acquirer managerial ability and target domicile

This table presents the regression results of acquirer managerial ability, measured by the prior year MA-Score, CEO compensation, or acquirer investment inefficiency (INEFFINV), on acquirer long-term operating performance, measured by one-year operating income after depreciation over total assets and industry-adjusted one-year operating income after depreciation over total assets, after M&A announcement year. *Stock Dummy* refers to 100% stock-financed deals; *Public Dummy* refers to public target firm M&As; *Foreign Dummy* refers to foreign target M&As, *Focused Dummy* refers to deals in which both merging firms are operating in the same industry, *Log (Acq. Value)* refers to the log value of acquirer's market capitalization 20 days prior to the deal's announcement, *Log (Trans. Value)* refers to the log value of deal size, *Log(Age)* refers to the acquirer age, which is computed as the difference between the M&A announcement year and the firm's IPO year (if IPO date is missing, we use the year when the acquirer entered the CRSP database), *Liquidity* refers to the ratio of acquirer cash and cash and equivalent to total assets in the most recent quarter obtained from Compustat, *D/E Ratio* is the ratio of acquirer debt to equity in the most recent quarter obtained from Compustat, *Tobin's Q* corresponds to the acquiring firm's Tobin's Q in previous year. The asterisks *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Dep. Variable:	Operating Income			Industry-adjusted Operating Income		
MA-Score Dummy	0.016** (2.41)			0.015** (2.35)		
CEO COMP Dummy	0.004* (1.66)			0.005* (1.79)		
INEFFINV	-0.264*** (-3.80)			-0.216*** (-3.27)		
Stock Dummy	-0.013 (-1.35)	-0.019*** (-4.69)	-0.052*** (-7.56)	-0.012 (-1.28)	-0.018*** (-3.28)	-0.051*** (-7.64)
Public Dummy	-0.010 (-1.13)	0.001 (0.31)	-0.010** (-2.48)	-0.008 (-0.95)	-0.001 (-0.24)	-0.010*** (-2.72)
International Dummy	0.014 (1.49)	-0.005* (-1.68)	-0.007* (-1.89)	0.015* (1.67)	-0.003 (-1.04)	-0.007* (-1.96)
Focus Dummy	0.005 (0.68)	-0.002 (-0.82)	0.014*** (2.73)	0.004 (0.55)	-0.002 (-0.77)	0.013** (2.45)
Log (Acq. Value)	-0.007 (-1.26)	0.030*** (13.25)	0.063*** (11.70)	-0.009* (-1.70)	0.028*** (11.30)	0.062*** (12.20)
Log (Trans. Value)	0.000 (-0.05)	-0.008*** (-4.55)	-0.002 (-0.85)	0.001 (0.13)	-0.008*** (-4.87)	-0.003 (-1.38)
Log (Age)	0.011 (1.16)	0.002 (0.37)	0.023*** (5.66)	0.013 (1.40)	0.005 (0.85)	0.017*** (4.27)
Liquidity	-0.029 (-1.60)	-0.045*** (-4.63)	-0.156*** (-11.92)	-0.027 (-1.53)	-0.035*** (-3.35)	-0.147*** (-11.56)
D/E ratio	-0.006*** (-14.41)	-0.001*** (-2.79)	0.000 (0.37)	-0.006*** (-14.74)	-0.000*** (-2.87)	0.000 (0.26)
Tobin's Q	0.000 (-0.22)	0.002* (1.71)	0.005*** (3.89)	0.000 (-0.28)	0.001 (1.61)	0.004*** (3.09)
Constant	0.077 (0.70)	0.055*** (3.69)	0.017 (0.48)	0.051 (0.47)	-0.072*** (-7.80)	-0.088** (-2.54)
Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.065	0.179	0.169	0.049	0.065	0.130
Min VIF	1.02	1.02	1.01	1.02	1.02	1.01
Max VIF	2.16	1.97	4.30	2.16	1.97	4.30
Mean VIF	1.42	1.38	1.71	1.42	1.38	1.71
# of obs.	4261	6457	10666	4261	6457	10666

Table 9. Acquirer fixed effects

This table reports the significant level of acquirer managerial ability fixed effects (FE) by regressing acquirer abnormal returns ((t-2, t+2) announcement period CAR (in Panel A) or BHAR (in Panel B)) on M&A deal and firm characteristic control variables, for the full (All) sample, High MA-Score, and Low MA-Score subsamples. *None* indicates that no other fixed effects are accounted for in the regression except managerial ability acquirer fixed effects, while *Year FE* indicates that year FE is also included. F-statistics for the significance of acquirer fixed effects are reported, along with the corresponding p-values and the number of firms(categories). The R squared and the adjusted R squared of the regression models are also presented. The asterisks *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Panel A: CAR	Acquirer FE F-test	# obs.	R squared	Adj R squared
<i>All Sample</i>				
None	-	10505	0.023	0.022
Acquirer FE	2.399*** (0.000, 3597)	10505	0.566	0.339
Year FE and Acquirer FE	2.391*** (0.000, 3597)	10505	0.568	0.340
<i>High MA-Score</i>				
None	-	5730	0.025	0.023
Acquirer FE	3.206*** (0.000, 2323)	5730	0.694	0.485
Year FE and Acquirer FE	3.170*** (0.000, 2323)	5730	0.697	0.485
<i>Low MA-Score</i>				
None	-	4755	0.038	0.036
Acquirer FE	1.990*** (0.000, 2154)	4755	0.636	0.334
Year FE and Acquirer FE	1.962*** (0.000, 2154)	4755	0.638	0.331
Panel B: BHAR	Acquirer FE F-test	# obs.	R squared	Adj R squared
<i>All Sample</i>				
None	-	10505	0.022	0.021
Acquirer FE	2.682*** (0.000, 3597)	10505	0.592	0.379
Year FE and Acquirer FE	2.672*** (0.000, 3597)	10505	0.594	0.379
<i>High MA-Score</i>				
None	-	5730	0.023	0.022
Acquirer FE	3.673*** (0.000, 2323)	5730	0.722	0.531
Year FE and Acquirer FE	3.631*** (0.000, 2323)	5730	0.724	0.531
<i>Low MA-Score</i>				
None	-	4755	0.037	0.035
Acquirer FE	1.959*** (0.000, 2154)	4755	0.632	0.327
Year FE and Acquirer FE	1.930*** (0.000, 2154)	4755	0.634	0.323

Table 10. Occasional Acquirer fixed effects

This table reports the significant level of occasional acquirer managerial ability fixed effects (FE) by regressing acquirer abnormal returns ((t-2, t+2) announcement period CAR (in Panel A) or BHAR (in Panel B)) on M&A deal and firm characteristics control variables, for the full (All) sample, High MA-Score, and Low MA-Score subsamples. We define occasional acquirers as those having completed less than 5 M&As within a 3-year window. *None* indicates that no other fixed effects are accounted for in the regression except managerial ability acquirer fixed effects, while *Year FE* indicates that year FE is also included. F-statistics for the significance of acquirer fixed effects are reported, along with the corresponding p-values and the number of firms(categories). The R squared and the adjusted R squared of the regression models are also presented. The asterisks *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Panel A: CAR	Acquirer FE F-test	# obs.	R squared	Adj R squared
<i>All Sample</i>				
None	-	9028	0.026	0.025
Acquirer FE	2.282*** (0.000, 3551)	9028	0.607	0.352
Year FE and Acquirer FE	2.269*** (0.000, 3551)	9028	0.610	0.352
<i>High MA-Score</i>				
None	-	4816	0.030	0.028
Acquirer FE	2.990*** (0.000, 2275)	4816	0.737	0.500
Year FE and Acquirer FE	2.951*** (0.000, 2275)	4816	0.740	0.500
<i>Low MA-Score</i>				
None	-	4212	0.039	0.037
Acquirer FE	2.034*** (0.000, 2111)	4212	0.685	0.366
Year FE and Acquirer FE	2.008*** (0.000, 2111)	4212	0.688	0.363
Panel B: BHAR	Acquirer FE F-test	# obs.	R squared	Adj R squared
<i>All Sample</i>				
None	-	9028	0.026	0.025
Acquirer FE	2.538*** (0.000, 3551)	9028	0.632	0.393
Year FE and Acquirer FE	2.524*** (0.000, 3551)	9028	0.634	0.393
<i>High MA-Score</i>				
None	-	4816	0.029	0.027
Acquirer FE	3.405*** (0.000, 2275)	4816	0.761	0.545
Year FE and Acquirer FE	3.360*** (0.000, 2275)	4816	0.764	0.545
<i>Low MA-Score</i>				
None	-	4212	0.038	0.036
Acquirer FE	1.985*** (0.000, 2111)	4212	0.680	0.355
Year FE and Acquirer FE	1.958*** (0.000, 2111)	4212	0.683	0.352

Table 11. Probit analysis on the relation of target companies' human capital value and acquirer managerial ability measured by three alternative measures

This table presents the probit regression results of acquirer managerial ability, measured by the prior year MA-Score, CEO compensation, or acquirer investment inefficiency (INEFFINV), on target's human capital value (HC-Value). HC-Value measures the capital resources a firm allocates to its human capital (total overhead and non-allocated expenses (e.g. selling, general and administrative (SG&A) expenses) over its total firm value. *Target HC-Value dummy* equals to 1 if the target company has high human capital value within its industry for the year before the M&A announcement, and 0 otherwise. *Stock Dummy* refers to 100% stock-financed deals; *Public Dummy* refers to public target firm M&As; *Foreign Dummy* refers to foreign target M&As, *Focused Dummy* refers to deals in which both merging firms are operating in the same industry, *Log (Acq. Value)* refers to the log value of acquirer's market capitalization 20 days prior to the deal's announcement, *Log (Trans. Value)* refers to the log value of deal size, *Log(Age)* refers to the acquirer age, which is computed as the difference between the M&A announcement year and the firm's IPO year (if IPO date is missing, we use the year when the acquirer entered the CRSP database), *Liquidity* refers to the ratio of acquirer cash and cash and equivalent to total assets in the most recent quarter obtained from Compustat, *D/E Ratio* is the ratio of acquirer debt to equity in the most recent quarter obtained from Compustat, *Tobin's Q* corresponds to the acquiring firm's Tobin's Q in previous year. We also report the z-values, and the asterisks *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	Target HC-Value Dummy		
MA-Score Dummy	0.214*		
	(1.90)		
CEO COMP Dummy		0.230*	
		(1.78)	
INEFFINV			-17.165*
			(-1.71)
Stock Dummy	-0.402***	-0.526***	-0.290**
	(-2.88)	(-3.88)	(-2.12)
Public Dummy	0.381	0.118	0.023
	(0.99)	(0.32)	(0.07)
Foreign Dummy	-0.347*	-0.565***	-0.559***
	(-1.81)	(-3.01)	(-3.00)
Focused Dummy	0.009	0.133	0.164
	(0.08)	(1.13)	(1.43)
Log (Acq. Value)	0.031	-0.081	0.056
	(0.37)	(-0.81)	(0.68)
Log (Trans. Value)	-0.559***	-0.369***	-0.510***
	(-6.77)	(-4.59)	(-6.18)
Log (Age)	-0.122	0.309	0.080
	(-0.56)	(1.36)	(0.36)
Liquidity	0.011	0.522	0.236
	(0.03)	(1.36)	(0.67)
D/E Ratio	0.002	0.005	-0.002
	(0.34)	(1.09)	(-0.40)
Tobin's Q	0.150***	0.149***	0.184***
	(3.02)	(2.95)	(2.68)
Constant	1.056	-0.280	1.953
	(0.88)	(-0.29)	(1.23)
Year FE	YES	YES	YES
Industry FE	YES	YES	YES
Wald Chi-squared	199.14	235.27	152.58
Pseudo R-squared	0.1679	0.278	0.145
# of Obs.	862	951	796

Table 12. Acquirer managerial ability and target intangible assets

This table presents the average target's intangible assets over its total assets and the log value of target's total intangible assets, in all deals, high and low managerial ability acquirers. Acquirer managerial ability is measured by the prior year MA-Score, CEO compensation, or acquirer investment inefficiency (INEFFINV). The statistical significance of differences between acquirer groups is tested using the t-test for the equality of means. The High-Low (or Low-High) column presents the mean difference between high and low managerial ability acquirers based on the two-sample t-test. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Target company variables	High MA-Score Acquirer	Low MA-Score Acquirer	All	High-Low	t-value
Intangible Assets/Total Assets (%)	15.909	13.306	14.797	2.603*	1.686
<i># of Obs.</i>	268	200	468		
Log (Intangible Assets)	4.192	3.471	3.876	0.721***	2.920
<i># of Obs.</i>	195	152	347		
	High CEO COMP Acquirer	Low CEO COMP Acquirer	All	High-Low	t-value
Intangible Assets/Total Assets (%)	17.578	15.096	16.685	2.482	1.192
<i># of Obs.</i>	194	109	303		
Log (Intangible Assets)	4.262	3.593	4.051	0.669**	2.098
<i># of Obs.</i>	169	78	247		
	Low INEFFINV Acquirer	High INEFFINV Acquirer	All	Low-High	t-value
Intangible Assets/Total Assets (%)	15.783	11.278	13.548	4.505***	2.961
<i># of Obs.</i>	257	253	510		
Log (Intangible Assets)	3.721	3.095	3.431	0.626**	2.288
<i># of Obs.</i>	196	169	365		

Table 13. Acquirer managerial ability, target financial distress and financial constrain

This table presents the average target's Altman's Z Score (Altman, 1968) and SA-Index (Hadlock and Pierce, 2010) in all deals, high and low managerial ability acquirers. Altman's Z Score is used to assess the financial distress status of targets, while the SA-index is used to identify the financially constrained status of targets. Acquirer managerial ability is measured by the prior year MA-Score, CEO compensation, or acquirer investment inefficiency (INEFFINV). The statistical significance of differences between acquirer groups is tested using the t-test for the equality of means. The High-Low (or Low-High) column presents the mean difference between high and low managerial ability acquirers based on the two-sample t-test. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	High MA-Score Acquirer	Low MA-Score Acquirer	All	High-Low	t-value
Altman's Z-Score	2.572	2.027	2.342	0.545***	2.591
# of Obs.	701	510	1211		
SA Index	-3.019	-3.022	-3.020	0.003	0.106
# of Obs.	1153	822	1975		
	High CEO COMP Acquirer	Low CEO COMP Acquirer	All	High-Low	t-value
Altman's Z-Score	2.603	1.673	2.347	0.931***	2.914
# of Obs.	635	241	876		
SA Index	-3.270	-3.202	-3.247	-0.068*	-1.891
# of Obs.	1049	535	1584		
	Low INEFFINV Acquirer	High INEFFINV Acquirer	All	Low-High	t-value
Altman's Z-Score	2.002	1.863	1.924	0.138	1.467
# of Obs.	646	501	1147		
SA Index	-3.098	-2.965	-3.023	-0.133***	-3.877
# of Obs.	801	1031	1832		