Birds of a Feather: How a Familiarity Bias of Target Shareholders Facilitates the Payment with Overvalued Equity in M&As

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January 6, 2023

Abstract

We show that a familiarity bias of target shareholders increases the probability of accepting payment with overvalued equity in M&As. We employ the Stambaugh, Yu and Yuan (2015) mispricing score to identify overvalued bidders, reconfirming that overvaluation is one of the main drivers of the payment choice in M&As. Using an instrumental variable approach, we provide novel evidence that acquirer mispricing causally affects the share of stock payment. Further analyses unveil that target shareholders more familiar with the bidder are more likely to accept overvalued equity despite adverse market reactions. Finally, we show that bidder CEOs with financial expertise are more likely to exploit overvaluation by paying in stock. Our results suggest that behavioral biases of shareholders and their exploitation by sophisticated acquirer CEOs contribute to the transmission of stock market inefficiencies to the market for corporate control.

Keywords: Mergers and Acquisitions, Stock Payment, Acquirer Mispricing, Familiarity Bias
JEL Classification: G34, G14

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1 Introduction

An important decision by the acquirer when conducting M&A transactions is the choice between paying in stock or cash. It is immediately obvious that overvalued acquirers have a strong incentive to use their own stock instead of cash as a method of payment. The central question is whether acquirers are able to "fool" target shareholders into accepting such overvalued equity. Shleifer and Vishny (2003) provide two potential explanations for such behavior: (1) target managers want to "sell out" either "for reasons of retirement or ownership of illiquid stock options" or (2) target management is paid by the acquirer for consenting to the deal. Essentially, there is an agency conflict between target shareholders and managers, causing target managers to recommend the deal to their shareholders even if it is not in the shareholders' best interest. Rhodes-Kropf and Viswanathan (2004) show that also a rational and honest target management might accept a stock offer from an overvalued acquirer when it overestimates the synergies from the deal. Such an overestimation is more likely when the stock market, and therefore also the acquirer, is overvalued. The implied inefficiency in the corporate takeover market is of first order importance as it would lead to reduced economic efficiency at large when the most overvalued and not the most suitable firms become the successful bidders.

The empirical literature on this question yields mixed insights as early research (e.g., Rhodes-Kropf, Robinson, and Viswanathan (2005); Ang and Cheng (2006); Dong, Hirshleifer, Richardson, and Teoh (2006)) provides supporting evidence for bidder opportunism in the M&A payment choice, whereas recent contributions have cast significant doubt on its importance (e.g., Eckbo, Makaew, and Thorburn (2018); de Bodt, Cousin, and Officer (2021)). We are going to provide new evidence based on a superior mispricing measure that overvalued acquirers prefer to pay with stock. Analyses based on exogenous variation in bidders' mispricing show that the effect is likely to be causal. Moreover, we will tackle the central question, why target shareholders actually accept overvalued equity. A question that received relatively little attention by the empirical M&A literature so far. Vijh and Yang (2013) conjecture that smaller targets are less likely to accept overvalued equity. Vermaelen and Xu (2014) argue that overvalued acquirers need to have a good reason for choosing stock payment. They provide evidence that more leveraged acquirers are more likely to convince target shareholders to accept overvalued equity.

Our paper argues that target shareholder irrationality and bidder management expertise facilitate bidder opportunism. Based on the prior investor behavior literature (e.g., Seasholes and Zhu (2010), Døskeland and Hvide (2011)), we argue that target shareholders suffer from a familiarity bias as they display an irrational preference for bidders akin to their current stock holdings. In line with this conjecture, we find that target shareholders are more likely to accept shares from acquirers familiar to them, yet stock deals between such firms lead to particularly adverse market reactions. On the flip side, using overvalued shares as acquisition currency is in the interest of bidders. Therefore, we posit that more sophisticated bidders will act more opportunistically. Using the financial expertise of bidders' CEOs to identify bidder sophistication confirms this argument. Financial expert CEOs are more likely to offer stock payment if their firms are overvalued. While corporate acquisitions initiated by financial expert CEOs are comparably well-received by the market, stock deals undertaken by them are disproportionately penalized.

Our main methodological innovation is the introduction of a new mispricing measure from the asset pricing literature to the M&A context. Large parts of the prior corporate finance literature rely on the market-to-book (M/B) ratio or its decomposition to identify corporate misvaluation, even though this approach remains controversial (see, for example, the discussion in Dong, Hirshleifer, Richardson, and Teoh (2006)). The main issue of M/B is that it simultaneously also proxies for a firm's future growth options (Servaes (1991); Jovanovic and Rousseau (2002)) and its risk profile (Daniel, Hirshleifer, and Subrahmanyam (2001)), potentially resulting in measurement error. For example, Martin (1996) and Faccio and Masulis (2005) use M/B as a proxy for the acquirer's future investment opportunities rather than mispricing and interpret its positive association with the share of stock payment as evidence for the target's preference for growing acquirers. Moreover, the return predictability of the M/B ratio initially documented by Fama and French (1993) has disappeared post publication (McLean and Pontiff (2016)), casting additional doubt on its suitability as mispricing proxy.

The M/B decomposition proposed by Rhodes-Kropf, Robinson, and Viswanathan (2005) tries to disentangle growth opportunities and misvaluation by breaking M/B into three components: (1) long-run value-to-book (measuring growth opportunities), (2) firm-specific misvaluation, and (3) sector-specific misvaluation. While this decomposition explicitly attempts to separate the bidder's firm-specific misvaluation from other M/B determinants, it imposes strong pricing assumptions as

it estimates the "fair" firm value via a small set of accounting inputs (book equity, net income, and leverage), also raising concerns of a measurement error. Additionally, the M/B decomposition requires a rather long time series of accounting data, including future observations, to estimate the different components. That means, for example, the estimation of misvaluation in 2000 incorporates information from 2010. Thus, the procedure from Rhodes-Kropf, Robinson, and Viswanathan (2005) estimates misvaluation ex-post (see also Ben-David, Drake, and Roulstone (2015)).

Therefore, we propose to borrow a measure for stock mispricing from the empirical asset pricing literature, which has made substantial progress in identifying misvaluation in recent years (e.g., Stambaugh and Yuan (2017); Asness, Frazzini, and Pedersen (2019); Daniel, Hirshleifer, and Sun (2020)). Specifically, we use the mispricing score proposed by Stambaugh, Yu, and Yuan (2015), which has been shown to predict subsequent excess returns in the US (Stambaugh and Yuan (2017)) and globally (Jacobs (2016)). Instead of using a single anomaly as measure of mispricing, Stambaugh, Yu, and Yuan (2015) combine 11 different stock market anomalies to create their mispricing proxy, allowing them to substantially reduce measurement noise. Stambaugh and Yuan (2017) show that "the spread between the alphas for portfolios of stocks in the top and bottom deciles of the average ranking across the 11 anomalies is nearly twice the average across those anomalies of the spread between the top- and bottom-decile alphas of portfolios formed using an individual anomaly". The asset pricing literature provides robust empirical evidence based on investor sentiment (Stambaugh, Yu, and Yuan (2012)), short-sale impediments (Stambaugh, Yu, and Yuan (2014)) and hedge fund flows (Akbas, Armstrong, Sorescu, and Subrahmanyam (2015)) that the composite score successfully captures cross-sectional mispricing. Therefore, the mispricing score is particularly well-suited to identify overvaluation of acquirers.

In the first step, we provide evidence that the mispricing score successfully predicts stock payment in M&As. The economic significance of the bidder's mispricing score is large as a one standard deviation increase raises the percentage of stock by 4.6 percentage points, showing that overvaluation is a first-order determinant of the payment choice. Importantly, the economic magnitude of the bidder's mispricing score exceeds all other bidder characteristics. Following Eckbo, Makaew, and Thorburn (2018) we instrument the mispricing score with bidder stock price pressure from mutual fund outflows and find an economically and statistically significant positive relationship between overvaluation and percentage of stock payment. Employing an improved measure of bidder

price pressure proposed by Wardlaw (2020) yields similar conclusions. These results imply that the relationship between overvaluation and stock payment is most likely causal, confirming that bidder opportunism is a central factor in the M&A payment choices. We argue that the (positively) insignificant coefficients found by Eckbo, Makaew, and Thorburn (2018) might be driven by limitations of M/B and its decomposition in measuring bidder overvaluation. We also address the recent criticism by de Bodt, Cousin, and Officer (2021), who provide evidence that the effect of bidder overvaluation on stock deals was caused by managerial incentives to qualify for pooling accounting, by showing that the bidder's mispricing score remains a central determinant after the abolishment of pooling accounting.

Then, we test our proposition that a target shareholder familiarity bias contributes to their acceptance of overvalued shares. Our starting point is the central analysis of Eckbo, Makaew, and Thorburn (2018), who employ industry complementarity, local bidders, urban bidders, recent acquirers and recent equity issuers as measures for the target's knowledge about the acquirer, and find that stock payment is more likely if the target ostensibly knows more about the acquirer. Based on these results, the authors conclude that bidder opportunism is at best of secondary order and interpret it as evidence for an alternative theory of the M&A payment choice, where bidders are concerned about adverse selection on the target side of the deal. Under their rational payment design hypothesis, the acquirer uses more stock payment to share the risks of the deal if the target knows the bidder well. In turn, the percentage of stock payment is reduced if the target undervalues the bidder, which is less likely if the target is well-informed about the bidder.

The literature on investor behavior has explored similar measures, arguing that investors' preference for local stocks (Seasholes and Zhu (2010)) and firms operating in familiar industries (Døskeland and Hvide (2011)) is indicative of a familiarity bias rather than superior information. Therefore, we propose a familiarity bias as an alternative explanation for the results documented by Eckbo, Makaew, and Thorburn (2018). In fact, both the rational payment design put forth by Eckbo, Makaew, and Thorburn (2018) and a familiarity bias yield the same prediction for the payment choice in M&A deals. Importantly, though, both frameworks make contrasting predictions for the market reaction to stock deals: if the rational payment design hypothesis holds true, one would expect stock deals between familiar firms to be particularly well-received. If target shareholders suffer from a familiarity bias, stock mergers between familiar firms are more likely to

be opportunistically driven and value-destructive. Our analyses show that bidder announcement returns are lower for deals with high stock payment and high familiarity between the target and the acquirer. We argue that the positive effect of the information asymmetry proxies on stock payments in combination with the adverse effect of these proxies on bidder announcement returns of stock mergers implies an irrational target shareholder preference for stocks of familiar acquirers. Our results imply that target shareholders' familiarity bias allows bidders to dupe targets into accepting overvalued stock.

Finally, we explore how the bidder management expertise affects opportunistically motivated acquisitions. Custódio and Metzger (2014) show that financial expert CEOs are more likely to act in line with financial theory. We argue that financial expert CEOs should then also be more responsive to their firms' mispricing and, thus, adjust the payment choice in M&A deals opportunistically. Our findings support this conjecture, showing that bidders managed by financial expert CEOs are more likely to pay in stock if their firm is overvalued. Furthermore, in line with the idea that financial expert CEOs are more capable in picking good targets, we find that bidder announcement returns are, on average, higher for financial expert CEOs. However, the market reacts more negatively to stock payment offered in such acquisitions.

Our contribution to the literature is fourfold. First, we provide strong evidence that stock market inefficiencies affect corporate actions by introducing a new measure of overvaluation to the corporate finance literature. Thereby, we circumvent the measurement issues associated with alternative proxies of mispricing widely used by prior research. Second, we provide evidence that target shareholders, which should be more familiar with the acquirer are more likely to be "fooled" by overvalued stock offers. We interpret this finding as evidence for a familiarity bias of target stockholders. Thus, we provide novel evidence why targets accept overvalued equity as acquisition currency beyond agency conflicts and inflated synergies: a familiarity bias exacerbates target shareholders' inability to accurately value the bidder. Third, we contribute to the growing literature on how managerial characteristics affect corporate actions (e.g. Malmendier and Tate (2005), Custódio and Metzger (2014), Gopalan, Gormley, and Kalda (2021)). We show that financial expert CEOs are systematically better at exploiting market inefficiencies, i.e., overvaluation. Therefore, our findings connect two rather separate strands of the (behavioral) corporate finance literature by highlighting the interplay of shareholder biases, management characteristics, and market inefficien-

cies. Finally, we contribute to the recently reignited debate on the effect of bidder opportunism on M&A payment choices (e.g., Eckbo, Makaew, and Thorburn (2018); de Bodt, Cousin, and Officer (2021)). We show that mispricing measured via stock market anomalies is a strong predictor of the M&A payment choice. Importantly, we are able to identify a causal relation between cross-sectional overvaluation and stock payments. These findings have important policy implications as they point to an inefficiency in the market for corporate control. Our results imply that the best suited buyer will not necessarily succeed in buying the target. Often it might just be the most overvalued one. Thus, we document how inefficiencies in the stock market transmit to the market of corporate control.

The remainder of this paper is organized as follows. Section 2 details our data sources, key variables and summary statistics. Section 3 presents the effect of the bidder's mispricing score on the M&A payment choice as well as causal evidence based on an instrumental variable (IV) approach. Section 4 provides evidence for a familiarity bias in the M&A payment choice. Section 5 discusses evidence based on the acquirer CEO's financial expertise. Section 6 examines the long-run stock performance of bidders. Section 7 concludes.

2 Data

2.1 Sample

Our M&A sample consists of all takeover bids of public US acquirers reported by the Thomson Reuters SDC database between January 1, 1980 and December 31, 2016. We focus on attempted acquisitions of more than 50% of the target firm shares. Following Eckbo, Makaew, and Thorburn (2018), we only include M&A deals with a recorded deal value larger than $10 million and in excess of 1% of the acquirer's equity market capitalization. We exclude spin-offs, recapitalizations, self-tenders, exchange offers, repurchases, privatizations and rumored deals. We add the mispricing score from Robert Stambaugh's website, while accounting data of the acquirer is obtained from Compustat.

2.2 Variables

Our primary dependent variables are percentage of stock (SDC: Percentage of Stock) and full stock payment (SDC: Consideration Structure) obtained from SDC. We calculate acquirer cumulative abnormal returns over a three day event window around the announcement [-1;+1]. Abnormal returns are determined using a market model with an estimation window from -280 to -31 days before the announcement.

The main explanatory variable we use in our analyses is the acquirer's mispricing score as proposed by Stambaugh, Yu, and Yuan (2015). This mispricing score is a cross-sectional measure comprised of 11 stock market anomalies. All included stock market anomalies are characterized by predicting subsequent stock returns beyond standard risk models such as the Fama and French (1993) 3-factor model. The 11 anomalies include net stock issues (Ritter (1991)), composite equity issues (Daniel and Titman (2006)), accruals (Sloan (1996)), net operating assets (Hirshleifer, Hou, Teoh, and Zhang (2004)), asset growth (Cooper, Gulen, and Schill (2008)), investment to assets (Titman, Wei, and Xie (2004)), distress (Campbell, Hilscher, and Szilagyi (2008)), o-score (Ohlson (1980)), momentum (Jegadeesh and Titman (1993)), gross profitability (Novy-Marx (2013)) and return on assets (Fama and French (2006)). Each month, all 11 underlying stock characteristics are calculated and ranked relative to the universe of NYSE/Amex/NASDAQ stocks with share prices larger than 5$. Stocks are ranked for each characteristic and the range is scaled between 0 and 100. Those stocks, whose anomaly characteristic imply the lowest subsequent stock returns and thus highest current overvaluation, receive the highest score of 100. Stocks are not ranked for a particular characteristic if less than 30 monthly observations are available. The final mispricing score is calculated as average of all available characteristic ranks, if more than five ranks can be estimated.

Combining the several anomalies into one mispricing proxy allows us to substantially reduce the noise that confounds other overvaluation measures. Stambaugh, Yu, and Yuan (2015) show that their measure is a substantially better predictor of future stock performance than an equal-weighted strategy based on the 11 anomalies. Additionally, Stambaugh and Yuan (2017) build a three-factor model including the mispricing score and show that it performs at least as well as alternative asset pricing models in explaining subsequent returns. Another advantage of the Stambaugh, Yu,

and Yuan (2015) mispricing score is its cross-sectional nature, indicating over- and undervaluation relative to the stock universe. It naturally excludes market-wide effects on firm valuation, isolating solely the firm-specific component of misvaluation. We measure the mispricing score at the end of the month prior to the announcement date. Per construction, any accounting data required to construct the underlying stock characteristics is incorporated with a 4-month lag. While we use the mispricing score directly obtained from Robert Stambaugh's website for our main tests, we also build the underlying stock characteristics to construct additional mispricing proxies. We describe the construction of the alternative mispricing score, which closely follows Stambaugh, Yu, and Yuan (2015) in detail in our Online Appendix.

We control for a set of standard variables identified by the prior literature on M&A payment methods in our regressions. We include bidder characteristics as in Eckbo, Makaew, and Thorburn (2018): natural logarithm of total assets (Compustat: AT), cash holdings (Compustat: CH), leverage (Compustat: LT) and asset tangibility (Compustat: PPENT) relative to total assets (Compustat: AT) and the M/B ratio as product of shares outstanding (Compustat: CSHO) and stock prices (Compustat: PRCC_F) relative to the difference of total assets (Compustat: AT) and liabilities (Compustat: LT). We include a dividend dummy indicating that the acquirer pays dividends (Compustat: DVT). R&D (Compustat: XRD) is defined relative to total assets. When missing, we set R&D to zero. Operating efficiency is calculated as sum of costs of good sold (Compustat: COGS) and sales, general and administrative expenses (Compustat: XSGA) relative to net operating assets, which is defined as net tangible assets (Compustat: PPENT) plus current assets (Compustat: ACT) minus cash holdings and current liabilities (Compustat: LCT). When sales, general and administrative expenses or cash holdings (Compustat: CH) are missing, we set them to zero, while we calculate the denominator as difference between total assets and liabilities, when current assets or liabilities are missing.[1]

Further control variables include deal characteristics, external pressures to pay in cash and industry and time period characteristics as defined by Eckbo, Makaew, and Thorburn (2018)). Large relative deal is a dummy variable indicating that the ratio of deal value to total bidder

[1] We conduct this replacement procedure to prevent a large loss of observations due missing components of operating efficiency, which produces exclusively insignificant coefficients in the reported regressions of Eckbo, Makaew, and Thorburn (2018). We report the baseline findings for the reduced sample with the same operating efficiency definition as Eckbo, Makaew, and Thorburn (2018) in the Appendix and find comparable results.

assets is in the top quartile of our sample. Eckbo, Makaew, and Thorburn (2018) proxy external pressures on bidders to pay in cash with competition from private buyers and cash-only sellers. Competition from private buyers is defined as share of private bidders in the target's Fama-French-49 (FF49) industry in a given year, while cash-only sellers is a dummy indicating that the target is a subsidiary or owned by a financial-sponsor. Similar to Maksimovic, Phillips, and Yang (2013) and Eckbo, Makaew, and Thorburn (2018), we calculate industry wave as the aggregate annual deal volume of an FF49 industry scaled by its aggregate total assets (Compustat: AT), normalized by its time series mean and standard deviation over the sample period. Post bubble is a dummy variable indicating that the deal was announced after 2001. The high tech dummy indicates that the bidder operates in an SIC industry identified by the American Electronic Association as high-tech industry.[2] We calculate the credit spread as difference between Moody's yield on AAA seasoned corporate bonds and the 3-month treasury bill based on data from the Federal Reserve website.

In some of our tests, we use alternative proxies for the acquirer's mispricing. We decompose the M/B ratio as proposed by Rhodes-Kropf, Robinson, and Viswanathan (2005). We regress the log market capitalization on equity, net income, a loss indicator and leverage for each Fama-French 12 industry-year to obtain estimates for the each firm's fair value (see model (3) in Rhodes-Kropf, Robinson, and Viswanathan (2005)). Then, the estimated intrinsic value is used to decompose the log M/B ratio into a long-run M/B ratio, a sector error, which represents a sectors' annual deviation from its fair-value, and a firm-specific error component, capturing the firm-specific misvaluation.

In some of our tests, we use the information asymmetry proxies proposed by Eckbo, Makaew, and Thorburn (2018). We obtain industry complementarity, which measures the degree to which acquirer and target share economic input and output industries as defined by Fan and Lang (2000), from Joseph Fan's website. We use two geographic proxies for the target's information about the bidder: local and urban deal. Local deal is a dummy variable indicating that the distance between bidder and target is smaller than 30 miles. We determine bidder and target locations using the latitude and longitude of the respective zip codes recorded in SDC (SDC: Acquiror Zip Code, Target Zip Code). Urban deal is a dummy variable indicating that the bidder's headquarter is located in

[2]Firms operating in the 4-digit SIC industries 2833-2835, 3571-3572, 3575, 3577-3579, 3651-3652, 3661, 3663, 3669, 3671-3672, 3674-3679, 3812, 3821-3827, 3829, 3844-3845, 3861, 4812-4813, 4822, 4841, 4899, 7371-7373, 7375-7379 are classified as high-tech.

one of the ten largest US metropolitan statistical areas.[3] Additionally, we identify bidders as recent acquirer or recent issuer of a seasoned equity offering, if SDC records a prior merger or a non-IPO follow-on offering in the 18 months before the M&A announcement date. For our interaction tests, we aggregate the five information asymmetry proxies into a single familiarity index. To that end, we first transform industry complementarity into a dummy variable, if a deal's value exceeds the sample median, and then sum up all five components. Thus, the familiarity index can take values between 0 and 5.

We follow Eckbo, Makaew, and Thorburn (2018) in using mutual fund outflows as instrument for the acquirer's overvaluation. We obtain fund returns from CRSP and mutual funds' stock holdings from Thomson Reuters. Following Eckbo, Makaew, and Thorburn (2018), we define the outflow $F_{j,t}$ of fund j in year t as change in total fund assets TA_j from $t-1$ to t net of the fund's return R_{jt}:

$$F_{jt} = TA_{j,t} - TA_{j,t-1}(1 + R_{j,t}). \tag{1}$$

Outflows which represent a change of more than -5% of the prior year's total assets are set to 0 in line with the prior literature (e.g., Coval and Stafford (2007), Edmans, Goldstein, and Jiang (2012), Wardlaw (2020)). Then the pressure on the bidder's stock price is defined as

$$PricePressure_{i,t} = \sum_{\tau=t-3}^{t} \frac{\sum_j F_{j,t} s_{i,j,\tau-1}}{Volume_i, \tau}, \tag{2}$$

where $s_{i,j,\tau-1}$ represents the portfolio weight of fund j in the stock of bidder i and $Volume_i, \tau$ is the bidder's stock volume. We follow Edmans, Goldstein, and Jiang (2012) by winsorizing price pressure at the 1st and 99th percentile.

For our tests using the CEO's financial expertise, we obtain additional data on managers' employment history from BoardEx. Following Custódio and Metzger (2014), we define financial expertise as dummy variable indicating that the CEO has previously worked in a financial role, at a major auditing firm, or in a financial firm. Financial roles are defined based on role names from BoardEx including the terms treasurer, CFO, finance or financial. We consider companies, whose

[3]The ten largest US metropolitan statistical areas include New York-Newark, Los Angeles-Long Beach, Chicago-Naperville, Washington-Baltimore-Arlington, San Jose-San Francisco-Oakland, Boston-Worcester-Providence, Dallas-Fort Worth, Philadelphia-Reading-Camden, Houston-The Woodlands and Miami-Fort Lauderdale-Port St. Lucie.

BoardEx name incorporates Deloitte, Touche, Marwick, Andersen, Coopers, PwC or Pricewaterhouse to be major auditors. Financial firms are identified via the FTSE industry classification for banking and private equity. If no BoardEx records are available for a given CEO, we set the financial expertise dummy to zero. However, we also report robustness checks based on the subsample of deals, where the acquirer CEO can be found in BoardEx.

2.3 Summary Statistics

Our final sample consists of 16,066 M&A transactions announced between 1980 and 2016. Descriptive statistics are reported in Table 1. The average deal size is $512 million and on average 24.47% is paid in stock, 41.30% in cash, and 12.03% using other means of payment. For 22.21% of the deals the method of payment is unknown. 26% of the targets are public and 90% of the deals are subsequently completed. In our sample, the average deal is well-received by the market as the acquirer's CAR of about 0.77% indicates. 8% of the acquirers use pooling accounting to incorporate their target's accounting statement into their own. On average, bidders' market capitalization equals $4.5 billion, has a leverage ratio of 22%, 10% cash holdings, 22% tangible assets and invests 3% into R&D. 56% of acquirers pay dividends and the operating efficiency equals 1.47. The mean M/B ratio equals 2.95 and the mispricing score is close to its cross-sectional mean at 50.56. The RRV M/B components are positive with a mean firm error of 0.26, a sector error of 0.09 and the long-run M/B component of 0.53. Overall, the descriptive statistics of our sample are comparable to the data set used by Eckbo, Makaew, and Thorburn (2018). However, there are some notable differences that can be traced to our larger sample. Instead of dropping observations with missing R&D or operating efficiency, we replace the missing values or its components with zero. We believe that allows us to include more smaller acquirers, which tend to acquire fewer public targets and more often from cash-only sellers. On average, bidders in our sample have a lower M/B ratio, which can be attributed to the inclusion of financial acquirers in our sample. While we exclude financial firms in some robustness checks, we keep them in our main sample as the choice of payment is subject to comparable considerations for financial and non-financial bidders. Lastly, the share of recent acquirers is significantly larger in our sample than in Eckbo, Makaew, and Thorburn (2018). We assume that the difference is driven by our choice to use the full set of mergers prior to applying

our filters rather than the final sample to identify acquirers who have conducted M&As in the prior 18 months.

3 Mispricing and Stock Payment in M&As

To the best of our knowledge we are the first to use the mispricing measure of Stambaugh, Yu, and Yuan (2015) as a proxy for acquirer overvaluation. Due to the ongoing debate about the importance of bidder opportunism in M&A deals (see e.g. Harford (2005), de Bodt, Cousin, and Officer (2021)), we initially confirm that the bidder's mispricing score is indeed a central determinant of stock payment in M&As. Then, we build on the instrumental variable approach proposed by Eckbo, Makaew, and Thorburn (2018), yielding novel causal evidence for stock market-based mispricing as central determinant of the payment choice in corporate acquisitions.

3.1 Regression Evidence

Table 2 reports six OLS regressions with the percentage of stock as dependent variable and the bidder's mispricing score as main explanatory variable. Independent of the number of included control variables and fixed effects we find a statistically and economically highly significant positive relationship between the mispricing score and the percentage of stock. Using column (6) as the most comprehensive specification, a one standard deviation increase in the mispricing score leads to an increase in stock share of 4.6 percentage points, which represents 18.8% of the dependent variable's sample mean.

To demonstrate the robustness of the effect of bidder mispricing on the M&A payment choice, we report several alternative specifications and tests in our Online Appendix. Probit regressions with full stock or cash payment as dependent variable yield comparable results about the influence of mispricing on M&A payment choice. Similarly, the mispricing score remains a statistically significant and economically important determinant of the M&A payment choice when including bidder-fixed effects. Additionally, we also report regressions based on an alternative mispricing score, which explicitly excludes all security-issue-based anomalies as well as the failure probability to preclude potential concerns about the underlying mechanism. Again, we find a significantly positive effect of the alternative mispricing score on stock payment.

Moreover, we also confirm that a firm's over- or undervaluation significantly affects the quarterly likelihood to issue or repurchase shares, providing further evidence that managers exploit temporary mispricing to the advantage of the existing shareholder base. Additionally, we report standardized OLS regressions in our Online Appendix, which show that the bidder's mispricing score exceeds all other bidder characteristics variables in economic magnitude.[4]

Lastly, we check whether the criticism put forth by de Bodt, Cousin, and Officer (2021), who provide compelling evidence that the relation between M/B as well as its misvaluation components and stock payments is spurious, also holds for the bidder's mispricing score. Building on de Bodt, Cousin, and Roll (2018), who show that the abolishment of pooling accounting has caused a decline in mergers fully paid in stock, the authors argue that the failure to control for pooling accounting leads to an omitted variable bias. Under the Accounting Principles Board Opinion No. 16, pooling accounting, which averted the recording of assets at fair value or the recording of goodwill, was allowed in the US until June 2001 for acquisitions of at least 90% of the targets voting stock, if the merger was fully paid in stock. Since managers' compensation is often linked to accounting-based performance measures, they have a strong personal motivation to avoid adverse impacts of inflated assets or goodwill impairment as both Aboody and Kasznik (2000) and de Bodt, Cousin, and Officer (2021) discuss. This adverse effect is exacerbated when target valuations are high, which just like acquirer valuations are correlated with the overall market, inducing a spurious relation between bidder M/B ratios and stock payments. We report in our Online Appendix results for regressions after the abolishment of pooling accounting in 2001 and among acquirers opting against pooling accounting, yielding statistically significant and economically large coefficients. Thus, the effect of the bidder mispricing score does not seem to be driven by managerial accounting incentives. In sum, these results strongly suggest that cross-sectional misvaluation is a first-order determinant of the payment choice in M&As as overvalued acquirers prefer to pay with stock.

3.2 Causal Evidence

To ensure that the effect of bidder overvaluation on stock mergers is causal, we adopt an IV regression approach based on mutual fund outflows initially proposed by Eckbo, Makaew, and

[4] Across the four regression specifications, which also include bidder characteristics as explanatory variables, the bidder's mispricing score has the largest standardized coefficient of the bidder variables in three cases. In the fourth specification, the ecoomic magnitude of R&D slightly exceeds the mispricing score (0.1290 vs. 0.1042).

Thorburn (2018) in the context of the M&A payment choice. Building on prior work by Edmans, Goldstein, and Jiang (2012), who employ large outflows from mutual funds as instrumental variables in the context of takeover probabilities, Eckbo, Makaew, and Thorburn (2018) use such outflows to identify negative price pressure on acquirers. The authors argue that large fund redemptions induce downward price pressure on the fund's portfolio companies, but do not represent fundamental information about the holding companies' valuation. Thus, large mutual fund outflows should allow us to identify exogenous variation in acquirer overvaluation to establish a causal effect of overvaluation on M&A stock payment, providing a strong test of the bidder opportunism hypothesis.

Eckbo, Makaew, and Thorburn (2018) instrument M/B and the RRV firm error using price pressure, finding positive, albeit statistically insignificant coefficients across their four specifications. Based on these results, the authors end up "rejecting the hypothesis that the fraction of stock in the deal payment is driven by exogenous variation in bidder valuation ratios" (Eckbo, Makaew, and Thorburn (2018), p. 460). We argue that the insignificantly positive coefficients are due to the fact that M/B and its components are noisy proxies for acquirer overvaluation. M/B and its close relative Tobin's q are probably best described as the Swiss army knifes of corporate finance, meaning that they proxy for many different things at the same time. For example, M/B also captures growth options of firms as well as industry or market wide valuation patterns (e.g., Servaes (1991); Jovanovic and Rousseau (2002)). Here, the cross-sectional nature of the Stambaugh, Yu, and Yuan (2015) mispricing score proves to be a crucial advantage, as it is unlikely to be impacted by market- or industry-wide economic conditions and it is unlikely to proxy for growth opportunities of firms. Therefore, we repeat the IV approach introduced by Eckbo, Makaew, and Thorburn (2018) and use the mispricing score as proxy for overvaluation.

Table 3 reports two IV regressions with the mispricing score as instrumented variable. The first-stage regressions reported in columns (1) and (3) regress the mispricing score on price pressure and additional control variables. Following Eckbo, Makaew, and Thorburn (2018), we report the Wald test statistic for exogeneity, and the F-statistics for the weak instrument test at the bottom of Table 3. Both test statistics are statistically highly significant, indicating that, firstly, controlling for endogeneity is warranted, and, secondly, price pressure is not a weak instrument for the mispricing score. Columns (2) and (4) report the coefficients from the second-stage of the IV regressions. In both specifications, the instrumented mispricing score has a significantly positive effect on the

percentage of stock. The implied economic effect is similarly large as in our prior analyses. A one standard deviation increase in the instrumented acquirer mispricing leads to an increase in the percentage of stock of 7.22 percentage points in the more conservative model II. These findings seem to suggest that acquirer overvaluation has a causal effect on stock payment in M&As consistent with the bidder opportunism hypothesis.

Wardlaw (2020), however, criticizes the use of price pressure induced by mutual fund outflows as instrument for nonfundamental price movements. By restating the definition of price pressure detailed in Equation 2, Wardlaw (2020) shows that it is a function of the prior period's gross return and contemporaneous share turnover. Since both components are arguably related to fundamental information about the stock, they violate the exclusion restriction and contaminate the measure. To address the shortcomings of the traditional price pressure definition, Wardlaw (2020) proposes two alternative measures, which avoid this contamination: Flow-to-Stock and Flow-to-Volume. While Flow-to-Stock uses share volume as scaling variable for fund outflows, Flow-to-Volume employs the ratio of lagged shares held by the fund and share volume to normalize fund outflows.[5] Wardlaw (2020) shows that several prior findings based on mutual fund IV regressions do not hold when Flow-to-Stock and Flow-to-Volume are used as instruments.

Therefore, we repeat the two prior IV regressions (Table 3) substituting price pressure with Flow-to-Volume and Flow-to-Stock and present the results in Table 4 Panel A and B, respectively. While the significance levels are reduced compared to Table 3, the instrumented mispricing score remains significantly positive across all specifications with t-values between 1.85 and 3.65. Furthermore, coefficients increase compared to Table 3, underscoring the economic significance of the instrumented mispricing score. Again, our regression evidence suggests that the effect of acquirer mispricing on the payment method in M&A deals is causal.

4 Familiarity Bias and Stock Payment in M&As

In this section, we examine how the target's familiarity with the bidder affects the M&A payment choice. While we confirm that targets are more likely to accept stock mergers from familiar bidders,

[5] See Wardlaw (2020) for additional details on the construction of Flow-to-Volume and Flow-to-Stock. The author provides a detailed program to calculate both measures, which we have adapted for the following analyses.

we provide new evidence that these deals result in particularly adverse market reactions. This pattern contradicts existing information-based explanations. Instead, we conjecture that target shareholders suffer from a familiarity bias where target shareholders have an irrational preference for shares of familiar firms. A similar mechanism has been documented in the literature on investor behavior (e.g., Seasholes and Zhu (2010), Døskeland and Hvide (2011)).

4.1 Familiarity and Stock Payment

The prediction that overvalued acquirers want to pay in stock raises the question why targets should accept stock offers given that they might be driven by opportunistic motives. While the literature has argued that governance issues (Hartzell, Ofek, and Yermack (2004)) and shareholder inertia (Baker, Coval, and Stein (2007)) might contribute to targets' acceptance of share offers, we provide a novel explanation line with evidence from the literature on investor behavior: a misguided preference of target shareholders for shares of bidders that are akin to their current stock holding.

Initially, we revisit the evidence from Eckbo, Makaew, and Thorburn (2018) who compellingly argue against bidder opportunism as cause for stock payment in M&As. They propose a competing hypothesis, the rational payment design hypothesis, as explanation for using stock as payment method in M&As and introduce several new tests to distinguish between the bidder opportunism and the rational payment design hypothesis. Under the rational payment design hypothesis, acquirers prefer stock payments as they do not commit them to a fixed target valuation and only reduce the stock share in payment, if the target undervalues the bidder. The authors rely on a simple and intuitive argument: if targets know more about the acquirer they should be more likely to reject the stock offers of overvalued acquirers, who make such offers due to bidder opportunism, and more likely to accept a stock offer, if the acquirer is highly valued but not overvalued. The proposed test based on the target's information about the acquirer does not require an explicit proxy for acquirer overvaluation but still provides a convincing test for the motivation of M&A payment choice. Eckbo, Makaew, and Thorburn (2018) propose five proxies to measure how well the target knows about the acquirer's true value: (1) industry complementarity, (2) local deal, (3) urban deal, (4) recent SEO, (5) recent merger. They find strong evidence that most of these proxies are positively related to stock payment and interpret the finding as confirmation of the rational

payment design hypothesis.

We start by replicating the central analysis of Eckbo, Makaew, and Thorburn (2018), which shows that targets who have more information about the acquirer are more likely to accept stock payment, and add the mispricing score as an additional explanatory variable. Table 5 reports these results for tobit regressions with the percentage of stock as dependent variable. Our sample yields broadly comparable insights about the effect of the five information asymmetry proxies used in Eckbo, Makaew, and Thorburn (2018) on the M&A payment method. Across almost all specifications, industry complementarity, recent acquirer, recent SEO and local deal dummy variables are significantly positively related to the percentage of stock. Finally, we find urban acquirers to be significantly less likely to pay in stock, whereas Eckbo, Makaew, and Thorburn (2018) document an insignificantly positive effect. The mispricing score remains positive and highly statistically significant across all specifications. The economic significance is somewhat larger compared to our prior analyses, where we did not control for the five information asymmetry proxies. A one standard deviation increase in mispricing increases the percentage of stock payment by 3.6 to 6.2 percentage points. Importantly, we also explicitly document in our Online Appendix that targets are also particularly likely to accept stock offers by acquirers they are more familiar with. Thus, we also provide new evidence that bidders' tendency to offer stock transmits to completed deals as targets also prefer share offers from familiar bidders.

4.2 Asymmetric Information or Familiarity Bias?

The results of our prior analyes are seemingly at odds as Section 3 demonstrates that acquirer overvaluation is a central motivation of stock swaps, yet targets are more likely to accept stock payment from acquirers they ostensibly know more about. Bidder opportunism, of course, does not preclude the possibility that the rational payment hypothesis by Eckbo, Makaew, and Thorburn (2018) also explains some of the variation in stock payment as do capital structure considerations and external pressure to pay in cash. Eckbo, Makaew, and Thorburn (2018), however, reach the conclusion that adverse selection on the target side of the deal is the primary driver of the payment choice on the observation that supposedly better informed targets are more willing to accept stock payment. If this conjecture holds true, we would expect that also the market reacts

favorably towards stock deals involving better informed targets. The alternative hypothesis would be that target shareholders might suffer from a familiarity bias. There is a longstanding debate in behavioral asset pricing literature whether the preference of retail and professional investors for familiar stocks is driven by superior information (similar to the argument of Eckbo, Makaew, and Thorburn (2018)) or an irrational familiarity bias. Interestingly, some of the proxies used for reduced information asymmetries by Eckbo, Makaew, and Thorburn (2018) have also been discussed by the asset pricing literature. For example, investors have been shown to prefer stocks from local firms (e.g., Ivković and Weisbenner (2005); Seasholes and Zhu (2010); Pool, Stoffman, and Yonker (2012)). Ivković and Weisbenner (2005) argue that the local bias is driven by investor's informational advantage, following the same line of argument as Eckbo, Makaew, and Thorburn (2018). Subsequent contributions on the local bias, however, find that local stocks of both individual investors (Seasholes and Zhu (2010)) and mutual fund managers (Pool, Stoffman, and Yonker (2012)) underperform, contrary to an information-based explanation. Therefore, these authors argue that the preference for local stocks is driven by an irrational familiarity bias, representing the unfounded perception of investors to have better information about these firms. Similarly, industry complementarity is meant to capture superior information about firms operating in related industries. Again, the asset pricing literature has documented a preference of individual investors for stocks in industries they are familiar with (e.g., Massa and Simonov (2006); Døskeland and Hvide (2011)). While Massa and Simonov (2006) argue that investments in familiar industries are information driven, Døskeland and Hvide (2011) find that such investments generate negative abnormal returns, providing evidence for an irrational familiarity bias.

Based on the recent evidence from the literature on investor biases, we argue that the positive relation between the five information proxies proposed by Eckbo, Makaew, and Thorburn (2018) and stock payments might be driven by a familiarity bias. Specifically, target shareholders (and managers), who are familiar with the bidder might have an irrational preference for the acquirer's shares, and therefore, might be more easily duped into accepting overvalued acquirer shares as payment method. Thus, we test a novel reason why targets fall prey to bidder opportunism.

We propose a simple test to distinguish between an information-based explanation and an irrational familiarity bias in line with the underlying idea of the tests used by the asset pricing literature. If the proxies capture better target information about the acquirer, we would expect

stock mergers with low information asymmetries to be welcomed more positively by the market. We know that average ACARs are lower in case of stock payment (e.g., Travlos (1987); Golubov, Petmezas, and Travlos (2016)). However, if the target has superior information about the acquirer and accepts stock payment that would be a strong signal to the market that the acquirer is not overvalued. Conversely, if the information proxies measure a familiarity bias, we should observe particularly low ACARs after the M&A announcement. We test these opposite predictions with a simple regression model, where we interact a familiarity score with the percentage of stock:

$$ACAR = Percentage\,of\,Stock + Familiarity + Percentage\,of\,Stock \times Familiarity + Controls + \epsilon. \tag{3}$$

Under the assumption that more familiarity leads to reduced information asymmetries, a positive coefficient on the interaction term would be expected, while an irrational familiarity bias would predict a negative coefficient on the interaction. To reduce the noise, we create a composite measure of familiarity by aggregating the five individual measures into one index. We first create a dummy variable for above median industry complementarity. Then we add up all five dummy variables: local deal, urban deal, recent SEO, recent acquirer, and high industry complementarity, creating an index that ranges from zero to five.

Table 6 reports the regression results. Across all six specifications we find a highly significant negative coefficient on the interaction of the familiarity index and the percentage of stock paid. The economic significance is large as well. A one standard deviation increase in the percentage of stock is associated with a 0.31 percentage point decrease in ACAR, if the familiarity index is at its mean. Increasing the familiarity index by one standard deviation leads to a 0.48 percentage point decrease at the mean of percentage of stock, equivalent of a to a reduction of 40% or 62% of average acquirer returns, respectively. We document in our Online Appendix that the negative interaction effect is robust to the inclusion of the bidder's mispricing score as additional control variable. Moreover, we show that Complementarity, which Eckbo, Makaew, and Thorburn (2018) dub the "perhaphs most straightforward proxy" for information asymmetries, is a particularly strong driver of the adverse market reaction to share deals.

These results show that the commonly reported negative effect of stock payments on ACAR

is particularly strong in M&A deals, where targets are familiar with the acquirer. This finding is hard to reconcile with the assumption that familiarity, as measured by the five information proxies, allows targets to better detect overvalued acquirer stock. It rather provides evidence that bidder opportunism can be successful because targets wrongly overestimate their ability to accurately value offers from familiar acquirers.

5 Financial Experts and Stock Payment in M&As

In this section, we examine how financial sophistication of the acquirer's CEO affects bidder opportunism. We hypothesize that financial expert CEOs, who have been shown by Custódio and Metzger (2014) to act in line with financial theory, are more likely to exploit their firm's overvaluation and adjust the M&A payment method accordingly. Our empirical analyses confirm this conjecture, yielding new evidence on the interplay of management characteristics and market inefficiencies.

5.1 Financial Expertise, Overvaluation and Stock Payment

The prior analyses have shown that bidder opportunism is an important driver of stock payment in M&As. Importantly, Section 4 documents how a familiarity bias on the target side determines the extent to which bidders can exploit their overvaluation. An open question is whether acquirers generally try to use overvalued stock as acquisition currency or whether certain acquirers are more likely to exploit such market misvaluations. Specifically, since opportunistic stock mergers are inherently advantageous for bidders, we posit that firms managed by financially sophisticated CEOs will exhibit stronger signs of bidder opportunism.

Following Custódio and Metzger (2014), we suspect that financial expert CEOs are more likely to exploit acquirer overvaluation. Custódio and Metzger (2014) define financial expert CEOs as those who have working experience in banking, auditing or a financial role. They find that financial expert CEOs are more sophisticated actors in financial markets as they do not fall for the WACC fallacy (Krüger, Landier, and Thesmar (2015)), are better at raising funds in tight credit conditions, were more responsive to the dividend and capital gains tax cuts and generally hold less cash, more debt and conduct more share repurchases. As the idea that overvalued acquirers dupe targets into accepting overvalued stock as merger currency relies on the ability of bidder CEOs to accurately

detect their own firm's mispricing, we hypothesize that financial expert CEOs are more (less) likely to offer stock payment in M&As if the acquirer is overvalued (undervalued). To test this hypothesis, we introduce an interaction effect in our standard regression specification with the percentage of stock as dependent variable:

$$\begin{aligned} Percentage\,of\,Stock \;=\; & Mispricing\,Score \;+\; Financial\,Expertise \\ & +\, Mispricing\,Score \;\times\; Financial\,Expertise \;+\; Controls \;+\; \epsilon \end{aligned} \tag{4}$$

If financial experts exploit their superior ability to recognize their firm's mispricing, we expect a positive interaction coefficient between the mispricing score and financial expertise.

Table 7 reports the regression results, using the same control variables as in Table 2, while our Online Appendix details the corresponding Tobit regressions. Across all specifications we find a significantly negative effect of financial expertise and a significantly positive coefficient for the interaction effect of financial expertise and the mispricing score. According to the specification in column (6), the percentage of stock in M&A deals of financial experts is 2.2 percentage point higher for financial expert CEOs, if the mispricing score is at its mean. Increasing the acquirer's mispricing score by one standard deviation raises the percentage of stock by 7.2 percentage points for financial experts and only 4.0 percentage points for non-financial expert CEOs. As predicted by our hypothesis above, financial expert CEOs are more likely to increase stock payment in M&As if own firm is overvalued. Similar findings hold in subsamples without financial firms, after excluding observations without sufficient BoardEx information, and acquirers using purchase accounting. All these robustness checks are reported in our Online Appendix. Moreover, we find that financial experts are more (less) likely to conduct SEOs (share repurchases) when their firm's stock is overvalued as reported in our Online Appendix, corroborating the conjecture that financial experts are better at exploiting their firm's misvaluation at the expense of less informed investors. Finally, we also provide evidence in our Online Appendix that targets are more likely to accept stock offers from bidders managed by financial experts, indicating that financial expert CEOs are better at convincing targets to accept mispriced shares.

5.2 Financial Expertise, Overvaluation and Market Reactions

Custódio and Metzger (2014) have demonstrated that financial expert CEOs act to the benefit of their shareholders and, thus, one might expect that they are particularly good at selecting targets. Given, however, that the prior analysis suggests that financial expert CEOs also tend to exploit their firms' overvaluation through stock swaps, thus indicating that stock mergers initiated by them are at least partially driven by opportunistic motives, their stock mergers are less likely to be well-received. Therefore, we conjecture that the markets' reaction to acquistions made by financial expert CEOs should worsen in the percentage of stock included in the M&A deal.

Therefore, we regress bidder announcement returns on an interaction of the acquirer CEO's financial expertise and the percentage of stock offered in the transaction. Table 8 reports the corresponding regression results, using the same set of control variables as in Table 6. Across all specifications, we observe significantly negative interaction effects between bidder CEO financial expertise and the percentage of stock offered as well as positive baseline effects of financial expertise. The effect is also economically meaningful. Using our most comprehensive specification (6), acquisitions by financial expert CEOs are, on average, received significantly better than mergers by non-financial experts as ACAR are 1.14 percentage points higher, if the percentage of stock is at its mean. Increasing the stock share, however, has a disproportionally negative effect on acquisitions by financial expert CEOs: while an increase in the stock share by one standard deviation reduces the announcement returns for acquirers managed by financial experts by 0.53 percentage points, it only reduces the ACAR of other firms by 0.28 percentage points. Thus, our analyses support the twofolded prediction that financial expert CEOs tend to conduct better acquisitions, yet markets react disproportionally negative to the share of stock included in their offers. Our findings are in line with the notion that bidder financial expert CEOs are more likely to opportunistically employ share deals to sell-off their firms' overvalued shares

6 Long-Run Performance of Overvalued Bidders

Eckbo, Makaew, and Thorburn (2018) build their argument against bidder opportunism on three major pieces of evidence: (1) the insignificant coefficient of their proxies for bidder mispricing in IV regressions, (2) the positive relation of proxies for target information about bidders and stock

payment, and (3) the long-run stock returns of share acquirers. While Section 3 demonstrates that exogenous variation in bidders' stock market-based mispricing is a significant predictor of stock payment and Section 4 provides an argument in favor of targets' familiarity bias, the long-run performance of stock acquirers remains to be investigated. Eckbo, Makaew, and Thorburn (2018) argue that, since the market seemingly fails to correct the mispricing at the M&A announcement, stock acquirers should underperform cash acquirers in the long-run if stock payment is caused by bidder overvaluation. Therefore, Eckbo, Makaew, and Thorburn (2018) form calendar-time portfolios based on all-stock and all-cash acquirers for high-M/B and low-M/B acquirers, respectively, and build a trading strategy that goes long in cash acquirers and short in stock acquirers for 36 months after the deal announcement. After regressing the long-short returns on four factors, namely the excess return on the CRSP value-weighted market portfolio r_m^e, the Fama-French size and value factors SMB and HML (Fama and French (1993)) and momentum UMD (Jegadeesh and Titman (1993)), they find statistically insignificant and economically small long-short returns. Thus, the authors conclude that there is no evidence that stock acquirers systematically underperform cash acquirers, interpreting this finding as additional evidence against the bidder opportunism hypothesis.

Again, the test could suffer from a noisy proxy of acquirer overvaluation, which might lead to a false rejection of the bidder opportunism hypothesis due to insignificant results. Hence, we rerun a similar test, using the acquirer's mispricing score instead of M/B to split the sample. Importantly, Stambaugh and Yuan (2017) have already documented extensively that stocks with a high mispricing score underperform stocks with a low mispricing score. Nonetheless, we explicitly test the prediction that deals financed entirely by stock underperform deals fully paid in cash, particularly among overvalued acquirers. Therefore, we split the all-stock and all-cash samples at the median acquirer mispricing score of their subsample and construct four calendar-time portfolios, creating an all-stock and all-cash portfolio for both relatively over- and undervalued acquirers. Stocks of acquirers are assigned to the portfolio in the month after the deal announcement recorded in SDC, holding them there for the subsequent 36 months unless they are delisted before. Following Eckbo, Makaew, and Thorburn (2018), we calculate abnormal excess returns r_{pt}^e monthly for each

portfolio and regress these on the Fama-French 3-factor model (Fama and French (1993)):

$$r^e_{pt} = \alpha + \beta_1 r^e_m + \beta_2 SMB + \beta_3 HML + \epsilon \tag{5}$$

where ϵ represents the error term and α is the intercept, measuring the abnormal excess returns and serving as performance measure. Unlike Eckbo, Makaew, and Thorburn (2018), we exclude momentum as explanatory risk factor since it is one of the 11 components of the mispricing score. Generally, it is still debated whether momentum represents a risk factor or a stock market anomaly caused by investor irrationality. The behavioral finance literature argues that an initial underreaction (overreaction) to negative (positive) news leads to a subsequent underperformance (overperformance) of low (high) momentum stocks, implying that momentum is driven by mispricing (e.g., Barberis, Shleifer, and Vishny (1998); Daniel, Hirshleifer, and Subrahmanyam (1998); Hong and Stein (1999)).

Table 9 reports the corresponding abnormal returns (α) as well as portfolio factor loadings for value-weighted and equal-weighted portfolios in Panel A and B, respectively. Columns (1) to (3) report the portfolio characteristics for acquirers with above median mispricing score, whereas columns (4) to (6) focus on the acquirers with below median mispricing score. For value-weighted returns of high mispricing score sample, we find a highly significant α of the long-short strategy of 73 basis points per month. Aside from the statistical significance, the abnormal returns are economically large as they imply that full stock deals underperform full cash deals in the high mispricing score category by more than 9 percentage per year. The corresponding α of the long-short strategy based on equal-weighted returns is 32 basis points and marginally significant. Interestingly, we also find that the long-short strategy across the group of low mispricing score acquirers is statistically significant. The α is about 40% smaller for value-weighted returns and of similar magnitude for equal-weighted returns.

Thus, across all four long-short strategies, we find that cash acquirers outperform stock acquirers. However, only overvalued stock acquirers underperform the market significantly. We also find the by far largest long-short return for overvalued acquirers using value-weighted returns. Overall these results suggest that full stock bids are done more frequently by overvalued acquirers providing additional support for the bidder opportunism hypothesis.

7 Conclusion

In this paper, we provide novel evidence on an important question in the M&A literature: Do overvalued bidders opportunistically use their own stock as acquisition currency as originally proposed by Shleifer and Vishny (2003) and Rhodes-Kropf and Viswanathan (2004)? We argue that the target shareholder irrationality and bidder management expertise drive the ability of potential acquirers to dupe targets into accepting overvalued equity as acquisition currency. Our empirical analyses strongly support this conjecture as targets seem to suffer from a familiarity bias, exhibiting an irrational preference for firms operating in similar industries and geographical proximity despite adverse market reactions to these stock swaps. Moreover, we show that the ability of bidders to exploit their overvaluation depends on their CEOs' financial expertise. Thus, our results suggest that the importance of bidder opportunism in M&A deals is contingent on both target irrationality and bidder expertise.

Since the most prominent measures of misvaluation in the M&A context, namely the M/B ratio and decomposition, have been subjected to criticism (Dong, Hirshleifer, Richardson, and Teoh (2006); Ben-David, Drake, and Roulstone (2015)), we start with a methodological innovation and adopt the Stambaugh, Yu, and Yuan (2015) mispricing score as proxy for over- and undervaluation. Employing this stock market-based mispricing score reveals that bidder overvaluation is a first-order determinant of the M&A payment choice, exceeding the economic magnitude of all further considered bidder characteristics. In fact, a one standard deviation increase in the bidder's mispricing score raises the share of stock on a corporate transaction by 4.6 percentage points. Given that an increase in the share of stock is associated with a substantially worse market reception, these results suggest a large-scale loss in valuations across our sample. To ensure that the effect of the mispricing score on the M&A payment choice is causal, we adopt an instrumental variable approach based on price pressure exuded by large mutual fund outflows initially proposed by Eckbo, Makaew, and Thorburn (2018) in the context of bidder opportunism, yielding significant results. After ensuring that the effect of bidder overvaluation is robust to the methodological criticism raised by Wardlaw (2020), we conclude that the effect of bidder mispricing on corporate acquisitions is likely causal.

Moreover, we address the question why targets should accept stock payment in M&A deals if bidder opportunism is a central motivator of the payment choice. Recent research has found that

targets are more likely to accept stock payment from acquirers that operate in similar industries, are headquartered closeby and have recently conducted SEOs or M&As, interpreting the finding as evidence for an information-based theory of payment choices (Eckbo, Makaew, and Thorburn (2018)). We propose an alternative hypothesis motivated by evidence from the asset pricing literature: target shareholders suffer from a familiarity bias, which is an irrational preference for shares of bidders that are similar to their current stocks. In line with a familiarity bias, stock deals between familiar targets are perceived to be particularly value-destructive by the market. We conclude that the target's familiarity bias is one of the mechanisms opportunistic acquirers can exploit.

Then, we turn to the question how acquirer's sophistication affects bidder opportunism. Borrowing insights from the managerial bias literature, where Custódio and Metzger (2014) show that financial expert CEOs act more in line with financial theory, we argue that bidders managed by financial experts should exploit their overvaluation through stock swaps. In line with our prediction, financial expert CEOs are more (less) likely to engage in stock deals, when their firms' stock is overvalued (undervalued). Moreover, the market, on average, reacts postively to transactions conducted by financial experts, yet particularly negative to their stock deals, indicating that these deals are perceived to be opportunistically motivated.

In sum, our empirical analyses provide strong and consistent evidence that overvalued acquirers prefer to pay in stock and that targets accept overvalued stock. In particular, we find that behavioral biases shape the conditions, under which targets are susceptible to such stock offers. These findings are particularly important as they imply that the best suited acquirer might not always win the target but rather the most overvalued one, pointing to a potentially distorted disciplinary role of the market for corporate control.

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Table 1: Summary Statistics

This table displays descriptive statistics for the main variables used in our analyses. Mispricing score is the acquirer's Stambaugh, Yu, and Yuan (2015) mispricing score, obtained from Robert Staumbaugh's website. The RRV components are calculated based on model 3 from Rhodes-Kropf, Robinson, and Viswanathan (2005) (see Section 2 for additional detail). All bidder characteristic variables are defined at the end of the bidder's fiscal year prior to the M&A announcement date. Market Cap is the bidder's market capitalization in million USD. Leverage is the ratio of the bidder's total liabilities and total assets. Cash Holding is the ratio of the bidder's cash and total assets. M/B is the ratio of stock price times shares outstanding, relative to the difference of total assets and liabilities. Dividend Dummy is a dummy variable indicating whether a dividend has been recorded in the prior fiscal year. R&D is the ratio of expenses for research and development and total assets. Asset tangibility is the ratio of tangible assets and total assets. Operating Efficiency is the sum of costs of goods sold and sales, general and administrative expenses, relative to net operating assets. Net operating assets are defined as tangible assets plus current assets minus cash holdings and current liabilities. Competition is the share of private bidders in the FF-49 industry in a given year. Cash-Only Seller is a dummy equal to 1 if the target is a subsidiary or owned by a financial sponsor. Percentage Stock (Cash) is the share of stocks (cash) offered as payment by the acquirer for a given takeover offer. Percentage Other refers to the share of alternative payment methods, while Percentage Unknown is the share of unknown consideration reported in SDC. Completed Deal is a dummy indicating whether the proposed deal was subsequently finalized. Deal Size is the total value of the transaction as reported by SDC in million USD. Public Target is a dummy variable indicating that the target is a publicly listed company. Pooling Accounting is a dummy variable indicating that the acquirer subsequently used pooling accounting to integrate the target's financial statement. ACAR are abnormal bidder announcement returns (in %) computed using the [-1,+1] event window and a market model estimated over days [-280,-31]. Industry Wave is the ratio of the aggregate annual deal volume of an FF49 industry scaled by its aggregate total assets on Compustat, standardized to a z-score. Post Bubble is a dummy variable indicating that the announcement date was after 2001. High Tech is a dummy variable indicating that the acquirer operates in an SIC-industry classified as technologically advanced. Complementarity measures the industrial relatedness between target and acquirer as proposed by Fan and Lang (2000). Local Deal is a dummy variable indicating that the distance between bidder and target ZIP codes is smaller than 30 miles. Urban Deal is a dummy variable indicating that the bidder's headquarter is located in one of the ten largest US metropolitan statistical areas. Recent SEO is a dummy variable indicating that the bidder has conducted an SEO in the prior 18 months. Recent Acquirer is a dummy variable indicating that the bidder has announced an M&A transaction in the prior 18 months.

Variable	Mean	Median	Std	Min	P25	P75	Max	N
Mispricing Proxies								
Mispricing Score	50.56	50.21	13.16	9.06	41.22	59.40	98.75	16,066
RRV Firm Error	0.26	0.19	0.57	-2.29	-0.08	0.55	4.89	15,721
RRV Sector Error	0.09	0.11	0.27	-1.40	-0.08	0.26	1.32	15,721
RRV Long-Run M/B	0.53	0.51	0.40	-1.80	0.30	0.78	3.44	15,721
Bidder Characteristics								
Market Cap	4,467.61	820.58	17,805.66	1.66	281.48	2,398.07	508,329.50	16,066
Leverage	0.22	0.18	0.19	0.00	0.06	0.32	1.78	15,994
Cash Holding	0.10	0.05	0.12	-0.03	0.02	0.13	0.99	15,367
M/B	2.95	2.15	25.68	-1,256.24	1.43	3.43	1,811.27	16,027
Dividend Dummy	0.56	1.00	0.50	0.00	0.00	1.00	1.00	16,066
R&D	0.03	0.00	0.06	0.00	0.00	0.03	1.49	16,066
Asset Tangibility	0.22	0.14	0.23	0.00	0.04	0.33	0.96	15,958
Operating Efficiency	1.47	1.67	47.73	-4,471.96	0.73	3.08	866.69	15,367
External Pressures								
Competition	0.21	0.19	0.10	0.00	0.14	0.25	1.00	15,218
Cash-Only Seller	0.34	0.00	0.47	0.00	0.00	1.00	1.00	16,066
Deal Characteristics								
Percentage Stock	24.47	0.00	39.48	0.00	0.00	48.67	100.00	16,066
Percentage Cash	41.30	8.86	45.20	0.00	0.00	100.00	100.00	16,066
Percentage Other	12.03	0.00	28.00	0.00	0.00	0.00	100.00	16,066
Percentage Unknown	22.21	0.00	41.01	0.00	0.00	0.00	100.00	16,066
Completed Deal	0.90	1.00	0.30	0.00	1.00	1.00	1.00	16,066
Deal Size	512.61	72.50	3,011.81	10.01	29.00	232.88	145,785.30	16,066
Public Target	0.26	0.00	0.44	0.00	0.00	1.00	1.00	16,066
Pooling Accounting	0.08	0.00	0.27	0.00	0.00	0.00	1.00	16,066
ACAR [-1, +1] (%)	0.77	0.38	6.81	-70.14	-2.17	3.35	101.97	15,716
Industry and Time Characteristics								
Industry Wave	0.00	-0.34	1.00	-1.98	-0.67	0.35	7.92	16,066
Post Bubble	0.47	0.00	0.50	0.00	0.00	1.00	1.00	16,066
High-Tech	0.22	0.00	0.42	0.00	0.00	0.00	1.00	16,066
Information Asymmetry								
Complementarity	0.65	1.00	0.42	-0.04	0.17	1.00	1.00	15,550
Local Deal	0.08	0.00	0.27	0.00	0.00	0.00	1.00	16,066
Urban Deal	0.39	0.00	0.49	0.00	0.00	1.00	1.00	15,005
Recent SEO	0.22	0.00	0.41	0.00	0.00	0.00	1.00	16,066
Recent Acquirer	0.47	0.00	0.50	0.00	0.00	1.00	1.00	16,066

Table 2: Mispricing and Stock Payment

This table presents results for OLS regressions of the percentage of stock in M&A takeover offers on the bidder's mispricing score. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Percentage of Stock					
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.4237***	0.2106***	0.3162***	0.3540***	0.3589***	0.3467***
	(18.37)	(9.61)	(12.55)	(14.82)	(14.50)	(14.25)
M/B			0.0219	0.0149	0.0133	0.0140
			(0.87)	(0.73)	(0.76)	(0.77)
Market Cap			1.2534***	1.1049***	1.7915***	1.4098***
			(6.05)	(5.40)	(8.65)	(6.78)
Leverage			-16.7928***	-15.7586***	-11.9094***	-13.2904***
			(-9.20)	(-9.15)	(-6.75)	(-7.55)
Cash Holding			7.7979***	6.1885**	5.4551*	3.8873
			(2.64)	(2.19)	(1.90)	(1.38)
Asset Tangibility			-4.2170**	-4.1735**	-3.4914*	-3.3659*
			(-2.08)	(-2.18)	(-1.76)	(-1.70)
Dividend Dummy			-0.5587	-0.4953	-1.9975***	-0.2405
			(-0.83)	(-0.77)	(-3.04)	(-0.37)
R&D			82.8306***	69.9339***	68.2933***	64.8425***
			(11.46)	(10.57)	(10.43)	(9.95)
Operating Efficiency			-0.0086	-0.0066	-0.0090**	-0.0071*
			(-1.56)	(-1.44)	(-2.04)	(-1.65)
Public Target				18.6983***	13.6705***	13.5770***
				(23.96)	(15.81)	(16.20)
Large Relative Size				13.7088***	14.8662***	14.4303***
				(17.21)	(18.23)	(17.87)
Cash-only sellers					-12.3844***	-12.9320***
					(-20.99)	(-22.01)
Competition					-28.0368***	-9.5925***
					(-9.42)	(-2.88)
Industry Wave					0.9323***	
					(2.96)	
Credit Spread					0.6350***	
					(2.90)	
Post Bubble					-16.4250***	
					(-24.02)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	16,066	16,066	14,815	14,815	14,054	14,054
Adjusted R^2	0.020	0.249	0.283	0.349	0.335	0.369

Table 3: Instrumentation of Acquirer Mispricing via Mutual Fund Outflows

This table presents results for instrumental variable regressions for bidder misvaluation, using price pressure on the bidder from mutual fund outflows as instrument for the acquirer's mispricing score. The odd-numbered columns display first-stage regression results on the mispricing score, while even-numbered columns show the second-stage regression results on the percentage of stock. Model II differs from Model I by the additional inclusion of industry-fixed effects based on the bidder's Fama and French 49 industry. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Model	I		II	
Dep. Var.:	Mispricing Score	Percent Stock	Mispricing Score	Percent Stock
	(1)	(2)	(3)	(4)
Price Pressure	-563.1362***		-434.8784***	
	(-12.64)		(-10.33)	
Instrumented Mispricing Score		1.7168***		1.1262***
		(8.19)		(4.50)
HHI	-22.7635***	-18.5455***	-15.7687***	36.3366***
	(-11.60)	(-2.58)	(-4.61)	(3.30)
M/B	0.0160***	-0.0117	0.0171***	0.0005
	(7.15)	(-0.91)	(5.62)	(0.03)
Market Cap	-1.7215***	3.0071***	-1.3527***	2.8769***
	(-24.74)	(7.14)	(-19.21)	(7.22)
Leverage	18.7558***	-43.6620***	19.0785***	-26.6944***
	(27.87)	(-9.83)	(27.60)	(-5.15)
Cash Holding	-9.3086***	7.9269**	-5.2709***	9.5712***
	(-8.22)	(2.12)	(-4.63)	(2.96)
Asset Tangibility	-3.6580***	-17.4944***	-0.8061	-3.0114
	(-7.68)	(-11.00)	(-1.05)	(-1.44)
Dividend Dummy	-2.8310***	7.0926***	-4.4881***	1.4599
	(-11.97)	(7.60)	(-17.61)	(1.09)
R&D	-5.1221**	47.2177***	5.0268**	63.4479***
	(-2.26)	(7.22)	(2.15)	(9.00)
Operating Efficiency	-0.0005	-0.0094***	0.0005	-0.0091**
	(-0.36)	(-2.61)	(0.39)	(-2.13)
Public Target	0.4489*	16.7929***	-0.7482***	14.1998***
	(1.71)	(18.30)	(-2.91)	(15.92)
Large Relative Size	-2.1877***	13.2553***	-0.8628***	15.4261***
	(-7.63)	(13.03)	(-3.05)	(17.66)
Cash-only sellers	-0.6423***	-13.4392***	-0.1258	-12.2853***
	(-2.65)	(-19.53)	(-0.54)	(-19.77)
Competition	-12.7166***	-26.1077***	-5.1050***	-24.0884***
	(-11.36)	(-6.11)	(-4.46)	(-7.10)
Industry Wave	0.0171	0.6925*	0.0358	1.0144***
	(0.15)	(1.95)	(0.33)	(3.10)
Credit Spread	0.1722**	0.4879*	0.0970	0.5298**
	(2.08)	(1.95)	(1.21)	(2.31)
Post Bubble	1.2986***	-17.8818***	0.8956***	-16.3815***
	(5.15)	(-24.10)	(3.60)	(-23.23)
Industry FE	No	No	Yes	Yes
Wald Statistic	4,678.08		8,548.36	
p-value	0.0000		0.0000	
F Statistic	159.71		106.65	
p-value	0.0000		0.0000	
N	14,054	14,054	14,054	14,054

Table 4: Instrumentation of Acquirer Mispricing - Flow-to-Volume and Flow-to-Stock

This table presents results for instrumental variable regressions for bidder misvaluation, using price pressure on the bidder from mutual fund outflows as instrument for the acquirer's mispricing score. We employ Flow-to-Volume and Flow-to-Stock as defined by Wardlaw (2020) to identify nonfundamental price pressure on bidders' stocks. The odd-numbered columns display first-stage regression results on the mispricing score, while even-numbered columns show the second-stage regression results on the percentage of stock. Model II differs from Model I by the additional inclusion of industry-fixed effects based on the bidder's Fama and French 49 industry. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Model	I		II	
Dep. Var.:	Mispricing Score	Percent Stock	Mispricing Score	Percent Stock
	(1)	(2)	(3)	(4)
Panel A: Flow-to-Volume				
Flow-to-Volume	-4.7434***		-4.3678***	
	(-4.26)		(-4.26)	
Instrumented Mispricing Score		2.5679***		1.7619***
		(3.65)		(2.79)
HHI	-23.2881***	1.5833	-15.2831***	46.2286***
	(-11.79)	(0.09)	(-4.48)	(3.14)
Bidder Characteristics	Yes	Yes	Yes	Yes
External Pressures	Yes	Yes	Yes	Yes
Deal Characteristics	Yes	Yes	Yes	Yes
Industry and Time Characteristics	Yes	Yes	Yes	Yes
Industry FE	No	No	Yes	Yes
Wald Statistic	3,594.44		6,776.41	
p-value	0.0000		0.0000	
F Statistic	18.14		18.17	
p-value	0.0000		0.0000	
N	14,054	14,054	14,054	14,054
Panel B: Flow-to-Stock				
Flow-to-Stock	-0.1574**		-0.1359**	
	(-2.26)		(-2.09)	
Instrumented Mispricing Score		4.8116**		3.2343*
		(2.29)		(1.85)
HHI	-23.4861***	54.6541	-15.4314***	69.1380**
	(-11.88)	(1.08)	(-4.52)	(2.26)
Bidder Characteristics	Yes	Yes	Yes	Yes
External Pressures	Yes	Yes	Yes	Yes
Deal Characteristics	Yes	Yes	Yes	Yes
Industry and Time Characteristics	Yes	Yes	Yes	Yes
Industry FE	No	No	Yes	Yes
Wald Statistic	1,654.66		3,814.07	
p-value	0.0000		0.0000	
F Statistic	5.11		4.36	
p-value	0.0238		0.0367	
N	14,054	14,054	14,054	14,054

Table 5: Mispricing and Information Asymmetries

This table presents results coefficient estimates for Tobit regressions of the percentage of stock in M&A takeover offers. The main explanatory variable is the bidder's mispricing score defined according to Stambaugh, Yu, and Yuan (2015). All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Percentage of Stock				
	(1)	(2)	(3)	(4)	(5)
Mispricing Score	0.4729***	0.2737***	0.2917***	0.2747***	0.2913***
	(18.16)	(10.31)	(11.17)	(10.35)	(11.43)
Complementarity	7.4164***	2.2801***	2.8744***	2.3518***	0.9965
	(9.87)	(2.78)	(3.56)	(2.87)	(1.26)
Recent Acquirer	2.5293***	3.5228***	2.6710***	3.5060***	1.6276***
	(3.92)	(5.59)	(4.30)	(5.56)	(2.67)
Recent SEO	2.8417***	3.7092***	2.0180***	3.6867***	2.5855***
	(3.58)	(4.82)	(2.65)	(4.79)	(3.44)
Local Deal	8.6876***	5.5439***	6.5244***	5.5972***	5.8052***
	(7.57)	(4.98)	(5.96)	(5.03)	(5.44)
Urban Deal	-5.4191***	-3.1575***	-3.6543***	-3.1665***	-3.0187***
	(-8.49)	(-4.96)	(-5.83)	(-4.97)	(-4.94)
Size	-0.1663	-1.3558***	0.0545	-1.3047***	0.1067
	(-0.75)	(-6.07)	(0.24)	(-5.79)	(0.47)
Leverage	-21.7933***	-11.9654***	-12.8326***	-11.9561***	-14.7030***
	(-11.73)	(-6.31)	(-6.87)	(-6.30)	(-8.07)
Cash Holding	-9.1512***	-0.6833	5.2999*	-0.6039	3.5292
	(-3.01)	(-0.22)	(1.76)	(-0.20)	(1.20)
M/B	0.0099	0.0184*	0.0149	0.0180*	0.0150
	(0.92)	(1.77)	(1.45)	(1.73)	(1.50)
Dividend Dummy	5.7086***	1.0972	-0.9532	1.1395	0.5481
	(7.92)	(1.46)	(-1.28)	(1.52)	(0.75)
Asset Tangibility	-16.8140***	4.1346*	-3.8874*	3.6259	-3.3824
	(-11.13)	(1.85)	(-1.74)	(1.62)	(-1.55)
Operating Efficiency	-0.0122**	-0.0096*	-0.0089	-0.0095*	-0.0070
	(-2.06)	(-1.68)	(-1.58)	(-1.67)	(-1.28)
Cash-only sellers	-13.7958***	-11.3111***	-11.4354***	-11.2055***	-12.2454***
	(-18.82)	(-15.83)	(-16.26)	(-15.67)	(-17.84)
Competition	-56.4560***	-42.5012***	-27.1859***	-41.2070***	-8.4838**
	(-16.57)	(-12.19)	(-7.75)	(-11.73)	(-2.18)
Large Relative Size	11.7108***	13.3049***	13.2888***	13.2827***	13.1510***
	(13.70)	(16.05)	(16.29)	(16.03)	(16.54)
Public Target	17.0323***	15.3997***	14.0351***	15.3639***	13.6353***
	(20.95)	(19.55)	(18.05)	(19.51)	(17.99)
Industry Wave	2.3127***	2.7369***	1.2890***	2.5108***	0.5833*
	(7.34)	(8.95)	(4.17)	(7.85)	(1.71)
R&D	48.0962***	75.0315***	69.0337***	73.5464***	64.7782***
	(8.73)	(12.38)	(11.52)	(12.08)	(11.08)
HHI	-32.1100***	53.5377***	27.3874***	52.7757***	43.6762***
	(-5.29)	(5.18)	(2.67)	(5.11)	(4.24)
Post Bubble			-14.2569***		
			(-20.64)		
High Tech			2.8794**	3.1095**	2.7404**
			(2.19)	(2.33)	(2.14)
Credit Spread				-0.5597**	
				(-2.34)	
Year FE	No	No	No	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes
N	12,775	12,775	12,775	12,775	12,775
Pseudo R^2	0.030	0.038	0.041	0.038	0.046

Table 6: Stock Payments, Familiarity and ACAR

This table presents results for OLS regressions of acquirer announcement returns on an interaction of the percentage of stock and the familiarity index. The familiarity index is constructed as sum of the Recent Acquirer, Recent SEO, Local Deal and Urban Deal and a dummy variable equal to 1 if Complementarity lies above its sample median. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	ACAR					
	(1)	(2)	(3)	(4)	(5)	(6)
Familiarity	-0.0479	-0.0704	-0.0240	-0.0226	0.0080	-0.0004
	(-0.81)	(-1.10)	(-0.35)	(-0.33)	(0.11)	(-0.01)
Percentage of Stock	-0.0024	-0.0015	-0.0037	-0.0024	0.0008	-0.0010
	(-0.67)	(-0.39)	(-0.96)	(-0.62)	(0.20)	(-0.26)
Familiarity x Perc. of Stock	-0.0061***	-0.0056***	-0.0045**	-0.0039**	-0.0042**	-0.0041**
	(-3.60)	(-3.27)	(-2.57)	(-2.24)	(-2.37)	(-2.30)
M/B			-0.0009	-0.0010	-0.0011	-0.0010
			(-0.56)	(-0.58)	(-0.69)	(-0.61)
Market Cap			-0.5019***	-0.3629***	-0.3481***	-0.3715***
			(-11.65)	(-8.34)	(-7.68)	(-8.28)
Leverage			0.2352	0.3614	0.4163	0.3454
			(0.56)	(0.86)	(0.97)	(0.80)
Cash Holding			-0.5803	-1.0524	-0.9128	-0.9502
			(-0.74)	(-1.35)	(-1.16)	(-1.21)
Asset Tangibility			-0.3688	-0.3136	-0.2705	-0.1401
			(-0.78)	(-0.66)	(-0.55)	(-0.29)
Dividend Dummy			-0.2181	-0.1498	-0.2624*	-0.2295
			(-1.38)	(-0.96)	(-1.65)	(-1.42)
R&D			-2.6785*	-3.2560**	-3.5447**	-3.4060**
			(-1.67)	(-2.05)	(-2.19)	(-2.12)
Operating Efficiency			-0.0010	-0.0012	-0.0012	-0.0012
			(-1.07)	(-1.28)	(-1.31)	(-1.28)
Public Target				-1.6938***	-1.6133***	-1.5486***
				(-11.05)	(-9.92)	(-9.58)
Large Relative Size				1.2567***	1.2340***	1.2070***
				(5.83)	(5.56)	(5.50)
Cash-only sellers					0.5959***	0.5347***
					(4.07)	(3.64)
Competition					-1.9719***	-1.1426
					(-2.86)	(-1.45)
Industry Wave					0.0401	
					(0.59)	
Credit Spread					0.1268***	
					(2.84)	
Post Bubble					0.3209**	
					(2.20)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	14,676	14,676	13,491	13,491	12,816	12,816
Adjusted R^2	0.009	0.021	0.034	0.046	0.045	0.048

Table 7: Financial Experts, Mispricing and Stock Mergers

This table presents results for OLS regressions of the percentage of stock in M&A takeover offers on an the bidder's mispricing score and the bidder CEO's financial expertise. Following Custódio and Metzger (2014), we identify financial expert CEOs based on prior work experience in financial firms and roles. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Percentage of Stock					
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.3172***	0.1685***	0.2722***	0.3146***	0.3096***	0.3038***
	(12.56)	(7.04)	(10.01)	(12.22)	(11.57)	(11.59)
Financial Expertise	-16.8541***	-9.7793***	-9.8752***	-9.1915***	-10.1582***	-9.9843***
	(-5.61)	(-3.74)	(-3.69)	(-3.57)	(-3.83)	(-3.79)
Mispricing x Fin. Exp.	0.5107***	0.2501***	0.2509***	0.2229***	0.2754***	0.2398***
	(8.61)	(4.77)	(4.70)	(4.35)	(5.22)	(4.59)
M/B			0.0211	0.0142	0.0124	0.0132
			(0.85)	(0.71)	(0.73)	(0.75)
Market Cap			1.2568***	1.1104***	1.7547***	1.4140***
			(6.06)	(5.42)	(8.48)	(6.80)
Leverage			-16.4987***	-15.5071***	-11.7125***	-13.0344***
			(-9.04)	(-9.01)	(-6.64)	(-7.41)
Cash Holding			8.7193***	6.9334**	6.4980**	4.6700*
			(2.95)	(2.45)	(2.27)	(1.65)
Asset Tangibility			-4.7159**	-4.5845**	-3.9397**	-3.7925*
			(-2.32)	(-2.39)	(-1.98)	(-1.91)
Dividend Dummy			-0.6029	-0.5250	-1.9698***	-0.2698
			(-0.90)	(-0.82)	(-3.00)	(-0.41)
R&D			82.6627***	69.8661***	67.9068***	64.7446***
			(11.43)	(10.57)	(10.37)	(9.95)
Operating Efficiency			-0.0086	-0.0065	-0.0089**	-0.0071
			(-1.55)	(-1.42)	(-2.03)	(-1.62)
Public Target				18.6202***	13.5603***	13.5027***
				(23.84)	(15.71)	(16.11)
Large Relative Size				13.6807***	14.7895***	14.3975***
				(17.19)	(18.15)	(17.85)
Cash-only sellers					-12.3690***	-12.9188***
					(-20.98)	(-22.00)
Competition					-28.0790***	-9.9640***
					(-9.45)	(-3.00)
Industry Wave					0.9596***	
					(3.05)	
Credit Spread					0.6866***	
					(3.15)	
Post Bubble					-17.4928***	
					(-25.06)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	16,066	16,066	14,815	14,815	14,054	14,054
Adjusted R^2	0.033	0.251	0.285	0.350	0.338	0.370

Table 8: Financial Experts, Mispricing and ACAR

This table presents results for OLS regressions of acquirer announcement returns on the percentage of stock offered and the bidder CEO's financial expertise. Following Custódio and Metzger (2014), we identify financial expert CEOs based on prior work experience in financial firms and roles. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	ACAR					
	(1)	(2)	(3)	(4)	(5)	(6)
Financial Expertise	0.1420	0.2884*	0.4104**	0.4067**	0.4824***	0.4253**
	(0.95)	(1.80)	(2.44)	(2.43)	(2.82)	(2.45)
Percentage of Stock	-0.0119***	-0.0101***	-0.0101***	-0.0082***	-0.0055**	-0.0070***
	(-6.35)	(-4.89)	(-4.63)	(-3.77)	(-2.52)	(-3.11)
Financial Exp. x Perc. of Stock	-0.0098***	-0.0067**	-0.0081**	-0.0057*	-0.0059*	-0.0064**
	(-3.20)	(-2.17)	(-2.55)	(-1.80)	(-1.83)	(-1.98)
M/B			-0.0007	-0.0008	-0.0008	-0.0008
			(-0.43)	(-0.48)	(-0.51)	(-0.47)
Market Cap			-0.5245***	-0.3794***	-0.3702***	-0.3850***
			(-12.48)	(-9.00)	(-8.42)	(-8.85)
Leverage			0.1267	0.2728	0.3440	0.2786
			(0.32)	(0.68)	(0.84)	(0.68)
Cash Holding			-0.8926	-1.3558*	-1.1434	-1.2159
			(-1.17)	(-1.79)	(-1.49)	(-1.58)
Asset Tangibility			-0.4976	-0.4357	-0.2938	-0.2057
			(-1.08)	(-0.95)	(-0.62)	(-0.44)
Dividend Dummy			-0.1466	-0.0741	-0.1752	-0.1393
			(-0.97)	(-0.49)	(-1.15)	(-0.90)
R&D			-2.7367*	-3.3471**	-3.5253**	-3.4083**
			(-1.72)	(-2.13)	(-2.20)	(-2.14)
Operating Efficiency			-0.0009	-0.0011	-0.0012	-0.0011
			(-1.00)	(-1.22)	(-1.29)	(-1.24)
Public Target				-1.7493***	-1.6411***	-1.5784***
				(-11.82)	(-10.47)	(-10.12)
Large Relative Size				1.3693***	1.2945***	1.2779***
				(6.53)	(6.01)	(6.00)
Cash-only sellers					0.6397***	0.5782***
					(4.48)	(4.03)
Competition					-2.0339***	-1.1790
					(-2.99)	(-1.54)
Industry Wave					0.0571	
					(0.86)	
Credit Spread					0.1359***	
					(3.14)	
Post Bubble					0.3203**	
					(2.18)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	15,716	15,716	14,490	14,490	13,743	13,743
Adjusted R^2	0.007	0.020	0.034	0.047	0.046	0.048

Table 9: Long-Run Acquirer Returns

This table presents results for calendar-time portfolio regressions. The dependent variable is the monthly return on portfolios of bidders sorted first by payment choice (full stock. vs. full cash payment) and then by the median bidder's mispricing score. Bidders enter the respective portfolio in the month after the takeover announcement and remain within the sample for 36 months or until delisting, if that happens sooner. The explanatory variables are the three Fama and French (1993) factors, r_m^e, SMB and HML. The T-statistics are reported in small font size below the estimates. Monthly returns are value-weighted in Panel A and equal-weighted in Panel B. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Acquirer valuation:	Overvalued (High Mispricing Score)			Undervalued (Low Mispricing Score)		
Payment method:	All Stock	All Cash	Long Cash Short Stock	All Stock	All Cash	Long Cash Short Stock
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Value-weighted returns						
α	-0.0085***	-0.0016	0.0073***	-0.0016	0.0027***	0.0045**
	(-3.60)	(-1.34)	(2.83)	(-0.91)	(3.35)	(2.23)
r_m^e	1.2985***	1.1340***	-0.1665*	1.1585***	0.9146***	-0.2587***
	(15.63)	(31.87)	(-1.85)	(18.76)	(39.36)	(-3.46)
SMB	0.2280***	0.0361	-0.1746*	-0.0246	-0.1207***	-0.1125
	(3.25)	(0.53)	(-1.70)	(-0.35)	(-2.62)	(-1.19)
HML	0.7626***	0.1056	-0.6679***	-0.0547	0.0622	0.0970
	(5.73)	(1.26)	(-4.23)	(-0.47)	(1.51)	(0.70)
N	474	473	473	480	472	472
Adjusted R^2	0.590	0.784	0.112	0.683	0.833	0.098
Panel B: Equal-weighted returns						
α	-0.0043***	-0.0015	0.0032*	-0.0012	0.0022**	0.0037**
	(-2.83)	(-1.21)	(1.72)	(-0.94)	(2.53)	(2.56)
r_m^e	1.1669***	1.1943***	0.0257	1.1725***	1.0238***	-0.1704***
	(23.73)	(29.45)	(0.40)	(30.21)	(47.30)	(-3.87)
SMB	0.6286***	0.5034***	-0.1100	0.4368***	0.3877***	-0.0740
	(9.13)	(5.49)	(-1.31)	(8.12)	(6.33)	(-1.11)
HML	0.4309***	0.2336**	-0.2068*	0.0544	0.2851***	0.2093***
	(6.49)	(2.47)	(-1.75)	(0.93)	(7.14)	(2.89)
N	474	473	473	480	472	472
Adjusted R^2	0.766	0.814	0.023	0.808	0.868	0.125

Internet Appendix for

"Birds of a Feather: How a Familiarity Bias of Target Shareholders Facilitates the Payment with Overvalued Equity in M&As"

Nils Lohmeier and Christoph Schneider

This appendix presents additional results to accompany the paper "Birds of a Feather: How a Familiarity Bias of Target Shareholders Facilitates the Payment with Overvalued Equity in M&As."

Table A1: Mispricing, SEOs and Share Repurchases

This table presents results for OLS regressions of the quarterly likelihood to conduct a SEO (column 1-3) or repurchase shares (column 4-6). All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	SEO Dummy			Repurchase Dummy		
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.0120***	0.0063***	0.0386***	-0.1508***	-0.1295***	-0.0744***
	(5.96)	(2.67)	(16.98)	(-21.75)	(-18.92)	(-23.30)
M/B		0.0002***	0.0002***		0.0001***	0.0002***
		(31.15)	(34.33)		(6.96)	(9.21)
Market Cap		0.3995***	0.2542***		2.2382***	1.0269***
		(16.82)	(16.52)		(18.43)	(33.06)
Leverage		2.1428***	1.4257***		0.8273	0.3074
		(4.66)	(7.70)		(1.44)	(1.53)
Asset Tangibility		1.4547***	0.9610***		-2.6048***	-1.9540***
		(7.44)	(6.76)		(-3.08)	(-8.53)
Dividend Dummy		-0.8729***	-0.8616***		3.4200***	0.4463***
		(-10.25)	(-12.75)		(10.13)	(3.65)
R&D		37.4820***	36.3469***		-20.0968***	-19.7754***
		(13.43)	(14.72)		(-6.02)	(-11.15)
Lagged SEO			9.0504***			
			(24.66)			
Lagged Repurchase						65.6176***
						(162.28)
Year x Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
N	457,293	445,229	434,377	457,293	445,229	445,229
Between R^2	0.013	0.047	0.228	0.337	0.376	0.890
Within R^2	0.004	0.007	0.005	0.292	0.292	0.491

Table A2: Mispricing and Full Stock Payment

This table presents results for probit regressions of the likelihood to pay fully in stock. All explanatory variables are described in Table 1 of the paper. Average marginal effects are reported and scaled by 100. The Z-statistics are reported in small font size below the estimates. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Dep. var.:	Full Stock Payment					
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.3051***	0.1377***	0.2096***	0.2305***	0.2159***	0.2250***
	(13.69)	(6.60)	(9.25)	(10.48)	(9.28)	(9.96)
M/B			0.0074	0.0055	0.0079	0.0090
			(0.87)	(0.66)	(0.63)	(1.02)
Market Cap			1.5605***	1.4287***	1.4272***	1.5767***
			(8.53)	(7.84)	(7.55)	(8.42)
Leverage			-12.1400***	-11.8275***	-9.4011***	-9.6064***
			(-6.69)	(-6.68)	(-4.51)	(-5.31)
Cash Holding			5.4205**	4.9349*	3.6419	3.0463
			(1.99)	(1.87)	(1.38)	(1.13)
Asset Tangibility			-3.7229*	-3.3587	-1.7473	-2.7337
			(-1.70)	(-1.57)	(-0.73)	(-1.23)
Dividend Dummy			-1.3004*	-1.2917*	-1.1255	-1.2922*
			(-1.79)	(-1.81)	(-1.54)	(-1.76)
R&D			38.7672***	31.9466***	29.4907***	28.0390***
			(7.67)	(6.52)	(5.79)	(5.67)
Operating Efficiency			-0.0084	-0.0077	-0.0099***	-0.0086
			(-1.50)	(-1.29)	(-2.74)	(-1.33)
Public Target				10.1103***	6.1039***	6.1633***
				(18.23)	(9.82)	(10.15)
Large Relative Size				7.2020***	7.7924***	7.7089***
				(10.76)	(11.05)	(11.20)
Cash-only sellers					-12.8234***	-12.8457***
					(-16.06)	(-16.40)
Competition					-11.1258***	0.9168
					(-3.03)	(0.22)
Industry Wave					-0.3991	
					(-1.40)	
Credit Spread					-0.3398	
					(-1.44)	
Post Bubble					-21.1300***	
					(-33.13)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	16,066	16,039	14,788	14,788	14,031	14,031
Pseudo R^2	0.013	0.232	0.262	0.301	0.310	0.324

Table A3: Mispricing and Full Cash Payment

This table presents results for probit regressions of the likelihood to pay fully in cash. All explanatory variables are described in Table 1 of the paper. Average marginal effects are reported and scaled by 100. The Z-statistics are reported in small font size below the estimates. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Dep. var.:	Full Cash Payment					
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	-0.5163***	-0.2973***	-0.2979***	-0.3177***	-0.3247***	-0.3184***
	(-18.15)	(-10.32)	(-9.21)	(-9.87)	(-9.84)	(-9.68)
M/B			-0.0301*	-0.0227	-0.0161	-0.0199
			(-1.73)	(-1.34)	(-1.10)	(-1.18)
Market Cap			1.1398***	0.5047*	0.4659*	0.3231
			(4.35)	(1.86)	(1.72)	(1.16)
Leverage			2.9031	1.9765	0.9961	0.4433
			(1.23)	(0.84)	(0.42)	(0.19)
Cash Holding			-1.8296	1.2266	2.0598	2.3989
			(-0.48)	(0.32)	(0.55)	(0.62)
Asset Tangibility			-4.6503*	-4.8256*	-6.3200**	-4.7691*
			(-1.68)	(-1.75)	(-2.23)	(-1.69)
Dividend Dummy			-1.2642	-1.6004*	-1.3272	-1.9520**
			(-1.34)	(-1.71)	(-1.38)	(-2.04)
R&D			-67.6122***	-58.8429***	-59.2467***	-56.6142***
			(-7.47)	(-6.51)	(-6.85)	(-6.24)
Operating Efficiency			0.0018	0.0013	0.0015	0.0013
			(0.22)	(0.16)	(0.23)	(0.16)
Public Target				-1.1584	2.1181**	2.3968**
				(-1.22)	(2.08)	(2.32)
Large Relative Size				-13.3318***	-13.5291***	-13.5886***
				(-13.25)	(-13.12)	(-13.23)
Cash-only sellers					8.3594***	8.3678***
					(9.24)	(9.43)
Competition					14.9213***	3.5904
					(3.34)	(0.71)
Industry Wave					0.2815	
					(0.68)	
Credit Spread					-0.3576	
					(-1.13)	
Post Bubble					17.6223***	
					(20.23)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	16,066	16,064	14,813	14,813	14,053	14,053
Pseudo R^2	0.015	0.094	0.104	0.114	0.113	0.121

Table A4: Mispricing and Stock Payment - Alternative Mispricing Score

This table presents results for OLS regressions of the percentage of stock in M&A takeover offers on the acquirer's alternative mispricing score. We closely follow the procedure outlined by Stambaugh, Yu, and Yuan (2015) and Stambaugh and Yuan (2017) to calculate an alternative mispricing score based on 8 of the 11 anomalies: accruals, net operating assets, asset growth, investment to assets, o-score, momentum, gross profitability and return on assets. For each anomaly we create a monthly rank among the common stocks listed on the NYSE, AMEX or NASDAQ with a share price larger than 5 USD, if more than 30 monthly anomaly observations are available. If more than 5 anomalies can be computed for a given stock-month observation, the alternative mispricing score is calculated as average of the 8 anomaly ranks. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Percentage of Stock			
	(1)	(2)	(3)	(4)
Alternative Mispricing	0.1781***	0.2094***	0.2071***	0.2045***
	(6.94)	(8.64)	(8.27)	(8.24)
M/B	0.0116	0.0051	0.0050	0.0045
	(0.53)	(0.29)	(0.34)	(0.29)
Market Cap	1.2727***	1.2262***	1.5824***	1.4723***
	(5.82)	(5.62)	(7.16)	(6.58)
Leverage	-10.4698***	-9.0334***	-5.8592***	-6.9672***
	(-5.67)	(-5.20)	(-3.31)	(-3.91)
Cash Holding	15.0218***	11.6877***	12.2382***	9.7572***
	(4.97)	(4.04)	(4.20)	(3.37)
Asset Tangibility	-5.1527**	-5.0425***	-3.9688**	-4.1272**
	(-2.51)	(-2.60)	(-1.97)	(-2.06)
Dividend Dummy	-2.7776***	-2.5891***	-3.4304***	-2.3255***
	(-4.06)	(-3.98)	(-5.16)	(-3.48)
R&D	83.6754***	72.1151***	69.7373***	67.4282***
	(11.55)	(10.82)	(10.48)	(10.21)
Operating Efficiency	-0.0091*	-0.0075*	-0.0091*	-0.0080*
	(-1.68)	(-1.65)	(-1.92)	(-1.82)
Public Target		16.4293***	10.7502***	11.1846***
		(18.13)	(10.77)	(11.33)
Large Relative Size		14.4642***	15.5102***	15.2978***
		(17.69)	(18.51)	(18.45)
Cash-only sellers			-11.1845***	-11.5602***
			(-19.04)	(-19.67)
Competition			-14.9189***	-6.1675*
			(-5.00)	(-1.85)
Industry Wave			0.5825*	
			(1.76)	
Credit Spread			0.5116**	
			(2.33)	
Post Bubble			-18.9675***	
			(-25.96)	
Year FE	Yes	Yes	No	Yes
Industry FE	Yes	Yes	Yes	Yes
N	12,213	12,213	11,492	11,492
Adjusted R^2	0.180	0.256	0.261	0.278

Table A5: Mispricing and Stock Payment - Standardized Coefficients

This table presents results for OLS regressions of the percentage of stock in M&A takeover offers on the bidder's mispricing score. All coefficients are reported as standardized beta coefficient, i.e. all have a standard deviation of 1. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Percentage of Stock					
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.1412***	0.0702***	0.1042***	0.1167***	0.1170***	0.1131***
	(18.37)	(9.61)	(12.55)	(14.82)	(14.50)	(14.25)
M/B			0.0147	0.0100	0.0091	0.0095
			(0.87)	(0.73)	(0.76)	(0.77)
Market Cap			0.0519***	0.0457***	0.0736***	0.0579***
			(6.05)	(5.40)	(8.65)	(6.78)
Leverage			-0.0810***	-0.0760***	-0.0571***	-0.0637***
			(-9.20)	(-9.15)	(-6.75)	(-7.55)
Cash Holding			0.0235***	0.0187**	0.0165*	0.0117
			(2.64)	(2.19)	(1.90)	(1.38)
Asset Tangibility			-0.0242**	-0.0239**	-0.0199*	-0.0192*
			(-2.08)	(-2.18)	(-1.76)	(-1.70)
Dividend Dummy			-0.0070	-0.0062	-0.0248***	-0.0030
			(-0.83)	(-0.77)	(-3.04)	(-0.37)
R&D			0.1290***	0.1089***	0.1074***	0.1020***
			(11.46)	(10.57)	(10.43)	(9.95)
Operating Efficiency			-0.0105	-0.0080	-0.0111**	-0.0089*
			(-1.56)	(-1.44)	(-2.04)	(-1.65)
Public Target				0.2042***	0.1493***	0.1483***
				(23.96)	(15.81)	(16.20)
Large Relative Size				0.1383***	0.1490***	0.1446***
				(17.21)	(18.23)	(17.87)
Cash-only sellers					-0.1448***	-0.1512***
					(-20.99)	(-22.01)
Competition					-0.0664***	-0.0227***
					(-9.42)	(-2.88)
Industry Wave					0.0231***	
					(2.96)	
Credit Spread					0.0209***	
					(2.90)	
Post Bubble					-0.2044***	
					(-24.02)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	16,066	16,066	14,815	14,815	14,054	14,054
Adjusted R^2	0.020	0.249	0.283	0.349	0.335	0.369

Table A6: Mispricing and Stock Payment - Bidder-Fixed Effects

This table presents results for OLS regressions of the percentage of stock in M&A takeover offers on the bidder's mispricing score. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Percentage of Stock				
	(1)	(2)	(3)	(4)	(5)
Mispricing Score	0.1084***	0.0854**	0.1413***	0.1412***	0.1386***
	(3.26)	(2.31)	(3.97)	(3.84)	(3.79)
M/B		0.0321	0.0198	0.0173	0.0185
		(1.62)	(1.43)	(1.43)	(1.54)
Market Cap		2.3919***	2.1807***	2.8395***	2.1741***
		(3.33)	(3.21)	(4.37)	(3.12)
Leverage		5.6956	8.4135**	9.4363***	8.7945**
		(1.53)	(2.41)	(2.64)	(2.43)
Cash Holding		6.9044	4.5762	5.8328	3.1280
		(1.33)	(0.94)	(1.17)	(0.64)
Asset Tangibility		-4.9825	-5.9163	0.6095	-2.9497
		(-0.77)	(-0.97)	(0.09)	(-0.46)
Dividend Dummy		-0.6595	-1.1755	-1.4048	-0.6209
		(-0.41)	(-0.78)	(-0.90)	(-0.40)
R&D		43.1673**	36.6111**	42.0463**	32.4172*
		(2.45)	(2.22)	(2.43)	(1.93)
Operating Efficiency		-0.0142**	-0.0147***	-0.0145**	-0.0142***
		(-2.44)	(-2.79)	(-2.56)	(-2.66)
Public Target			17.9312***	13.6157***	13.5596***
			(18.72)	(12.86)	(13.07)
Large Relative Size			13.1334***	14.1202***	13.9041***
			(13.38)	(13.79)	(13.58)
Cash-only sellers				-10.4478***	-10.6601***
				(-13.45)	(-13.76)
Competition				-19.7534***	-9.6112**
				(-5.61)	(-2.48)
Industry Wave				0.2482	
				(0.66)	
Credit Spread				0.4732*	
				(1.81)	
Post Bubble				-20.0223***	
				(-15.24)	
Year FE	Yes	Yes	Yes	No	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
N	16,066	14,815	14,815	14,054	14,054
Within R^2	0.077	0.082	0.167	0.162	0.188

Table A7: Mispricing and Stock Payment - Alternative Operating Efficiency

This table presents results for OLS regressions of the percentage of stock in M&A takeover offers on the acquirer's mispricing score in the subsample, where all operating efficiency components are non-missing. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Percentage of Stock					
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.2368***	0.2149***	0.3098***	0.3472***	0.3448***	0.3397***
	(9.19)	(8.61)	(11.21)	(13.28)	(12.71)	(12.68)
M/B			0.0066	-0.0004	0.0020	0.0005
			(0.17)	(-0.01)	(0.08)	(0.02)
Market Cap			1.4629***	1.5928***	1.9429***	1.8171***
			(6.33)	(6.91)	(8.29)	(7.66)
Leverage			-12.4640***	-10.9952***	-7.8659***	-8.9899***
			(-6.37)	(-6.00)	(-4.20)	(-4.76)
Cash Holding			15.8233***	12.4085***	13.1785***	10.6369***
			(5.04)	(4.15)	(4.36)	(3.55)
Asset Tangibility			-4.8579**	-4.5365**	-3.0049	-3.5321
			(-2.20)	(-2.18)	(-1.38)	(-1.63)
Dividend Dummy			-2.3531***	-2.1178***	-2.9515***	-1.8155***
			(-3.31)	(-3.13)	(-4.24)	(-2.61)
R&D			86.4348***	73.6106***	69.5552***	68.2052***
			(10.41)	(9.52)	(8.90)	(8.85)
Operating Efficiency			-0.0083	-0.0068	-0.0083	-0.0072
			(-1.51)	(-1.43)	(-1.63)	(-1.55)
Public Target				15.3614***	9.8874***	10.3285***
				(16.34)	(9.58)	(10.13)
Large Relative Size				15.0099***	15.9724***	15.7386***
				(17.79)	(18.47)	(18.38)
Cash-only sellers					-10.9692***	-11.3044***
					(-18.07)	(-18.62)
Competition					-13.9589***	-5.4150
					(-4.52)	(-1.58)
Industry Wave					0.5301	
					(1.51)	
Credit Spread					0.4879**	
					(2.17)	
Post Bubble					-19.3302***	
					(-25.38)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	11,172	11,172	11,137	11,137	10,458	10,458
Adjusted R^2	0.008	0.162	0.193	0.268	0.270	0.289

Table A8: Mispricing and Stock Payments after 2001

This table presents results for probit regressions of the likelihood to pay fully in stock within the sample of post-2001 takeover offers. All explanatory variables are described in Table 1 of the paper. Average marginal effects are reported and scaled by 100. The Z-statistics are reported in small font size below the estimates. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Dep. var.:	Full Stock Payment					
	(1)	(2)	(3)	(4)	(5)	(6)
RRV M/B	-0.9769***	-1.0925***				
	(-2.58)	(-2.81)				
RRV Firm Error			0.5795	0.4445		
			(1.26)	(0.96)		
RRV Sector Error			-1.0232	-1.0442		
			(-1.01)	(-0.81)		
RRV Long-Run M/B			-3.7716***	-3.9718***		
			(-6.12)	(-6.30)		
Mispricing Score					0.1767***	0.1774***
					(8.51)	(8.54)
Year FE	No	Yes	No	Yes	No	Yes
N	7,399	7,399	7,399	7,399	7,555	7,555
Pseudo R^2	0.002	0.013	0.014	0.025	0.026	0.037

Table A9: Mispricing and Stock Payment after 2001

This table presents results for OLS regressions of the percentage of stock in M&A takeover offers on the bidder's mispricing score after 2001. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Percentage of Stock					
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.4167***	0.2274***	0.2510***	0.2928***	0.3101***	0.3118***
	(14.93)	(8.39)	(7.93)	(10.02)	(10.16)	(10.23)
M/B			0.0358***	0.0208***	0.0191***	0.0197***
			(8.85)	(4.96)	(4.62)	(4.51)
Market Cap			0.1659	-0.2542	-0.2577	-0.0906
			(0.64)	(-1.00)	(-1.00)	(-0.34)
Leverage			-6.1968***	-5.7712***	-5.1265***	-5.1036***
			(-3.00)	(-3.04)	(-2.59)	(-2.58)
Cash Holding			3.7689	1.6770	0.2490	1.0903
			(1.24)	(0.59)	(0.08)	(0.37)
Asset Tangibility			-0.3361	-1.0582	-0.3235	-1.0908
			(-0.15)	(-0.50)	(-0.15)	(-0.49)
Dividend Dummy			0.1272	0.0633	0.3457	0.2110
			(0.18)	(0.10)	(0.52)	(0.32)
R&D			62.5344***	44.4589***	45.3910***	43.2065***
			(7.19)	(5.47)	(5.46)	(5.28)
Operating Efficiency			0.0014	0.0050	0.0056	0.0049
			(0.24)	(0.88)	(0.97)	(0.86)
Public Target				19.7211***	18.2592***	18.1551***
				(18.38)	(16.25)	(16.17)
Large Relative Size				12.7323***	13.2909***	13.2895***
				(12.54)	(12.69)	(12.69)
Cash-only sellers					-3.4226***	-3.4630***
					(-5.86)	(-5.94)
Competition					-4.3857	-7.0166**
					(-1.35)	(-1.97)
Industry Wave					0.4216	
					(1.01)	
Credit Spread					0.7996***	
					(3.57)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	7,555	7,555	7,227	7,227	6,894	6,894
Adjusted R^2	0.030	0.215	0.247	0.351	0.348	0.352

Table A10: Mispricing and Stock Payment among Purchase Acquirers

This table presents results for probit regressions of the likelihood to pay fully in stock within the sample of pre-2001 takeover offers, where SDC indicates the use of purchase accounting. All explanatory variables are described in Table 1 of the paper. Average marginal effects are reported and scaled by 100. The Z-statistics are reported in small font size below the estimates. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Dep. var.:	Full Stock Payment					
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.2793***	0.1523***	0.2316***	0.2418***	0.2320***	0.2315***
	(8.42)	(4.46)	(5.93)	(6.26)	(5.79)	(5.79)
M/B			0.0023	0.0026	0.0099	0.0091
			(0.19)	(0.21)	(0.82)	(0.75)
Market Cap			1.7856***	1.8604***	1.7451***	2.0777***
			(5.50)	(5.60)	(5.15)	(6.05)
Leverage			-11.3149***	-11.1656***	-9.5824***	-8.3735***
			(-3.73)	(-3.70)	(-3.09)	(-2.71)
Cash Holding			8.7052*	7.5031	2.1023	2.8255
			(1.74)	(1.53)	(0.42)	(0.56)
Asset Tangibility			-1.8760	-1.1879	-0.4339	-1.1211
			(-0.53)	(-0.34)	(-0.12)	(-0.31)
Dividend Dummy			-2.5326**	-2.3366*	-0.9640	-2.6148**
			(-2.02)	(-1.88)	(-0.77)	(-2.02)
R&D			43.3018***	39.3626***	33.4366***	34.7011***
			(5.10)	(4.70)	(3.96)	(4.16)
Operating Efficiency			-0.0177	-0.0164	-0.0161	-0.0176
			(-1.60)	(-1.44)	(-1.45)	(-1.45)
Public Target				7.7126***	2.1365*	1.9530*
				(7.73)	(1.95)	(1.78)
Large Relative Size				6.1991***	6.8120***	6.7982***
				(5.18)	(5.46)	(5.48)
Cash-only sellers					-16.9503***	-16.6732***
					(-13.14)	(-12.87)
Competition					5.2511	-6.1952
					(0.91)	(-0.92)
Industry Wave					-0.9959**	
					(-2.17)	
Credit Spread					-0.9736**	
					(-2.10)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	6,804	6,788	5,913	5,913	5,511	5,511
Pseudo R^2	0.011	0.123	0.150	0.168	0.195	0.203

Table A11: Mispricing and Stock Payments after 2001

This table presents results for probit regressions of the likelihood to pay fully in stock within the sample of post-2001 takeover offers. All explanatory variables are described in Table 1 of the paper. Average marginal effects are reported and scaled by 100. The Z-statistics are reported in small font size below the estimates. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Dep. var.:	Full Stock Payment					
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.1767***	0.1222***	0.1226***	0.1505***	0.1531***	0.1558***
	(8.51)	(5.44)	(5.10)	(6.51)	(6.39)	(6.53)
M/B			0.0166	0.0037	0.0008	0.0030
			(0.62)	(0.25)	(0.06)	(0.21)
Market Cap			0.3496*	0.2922*	0.2786	0.3284*
			(1.91)	(1.68)	(1.53)	(1.81)
Leverage			0.2395	0.2165	0.6899	0.2241
			(0.14)	(0.13)	(0.40)	(0.13)
Cash Holding			1.5387	0.3445	0.1946	0.5214
			(0.58)	(0.13)	(0.07)	(0.20)
Asset Tangibility			0.4181	-0.2379	0.0224	-0.3601
			(0.18)	(-0.10)	(0.01)	(-0.15)
Dividend Dummy			-0.5272	-0.5032	-0.4890	-0.3761
			(-0.71)	(-0.70)	(-0.66)	(-0.50)
R&D			16.6801***	7.7634	8.4081	7.4264
			(3.20)	(1.51)	(1.61)	(1.41)
Operating Efficiency			0.0037	0.0074	0.0093	0.0083
			(0.29)	(0.60)	(0.72)	(0.64)
Public Target				6.9194***	6.6134***	6.6016***
				(12.21)	(10.65)	(10.63)
Large Relative Size				5.7685***	6.0241***	6.1003***
				(8.35)	(8.35)	(8.48)
Cash-only sellers					-1.4595*	-1.3314*
					(-1.93)	(-1.75)
Competition					0.1711	2.6764
					(0.05)	(0.65)
Industry Wave					-0.1712	
					(-0.51)	
Credit Spread					0.5478***	
					(2.74)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	7,555	7,027	6,706	6,706	6,432	6,432
Pseudo R^2	0.026	0.113	0.130	0.234	0.223	0.233

Table A12: Mispricing and Full Stock Payment

This table presents results for probit regressions of the likelihood to pay fully in stock among pre-2001 acquisitions using purchase accounting. The sample consists of the subsample of the de Bodt, Cousin, and Officer (2021) sample kindly provided by the authors, which can be merged with the mispricing score. All explanatory variables are described in Table 1 of the paper. Average marginal effects are reported and scaled by 100. The Z-statistics are reported in small font size below the estimates. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Dep. var.:	Full Stock Payment		
	(1)	(2)	(3)
Mispricing Score	0.5174***	0.3256***	0.3938***
	(6.73)	(3.82)	(3.81)
M/B			0.3051
			(1.54)
Market Cap			1.6588**
			(2.17)
Leverage			-13.9367
			(-1.54)
Cash Holding			-4.4435
			(-0.30)
Asset Tangibility			-14.5439
			(-1.37)
Dividend Dummy			-4.0167
			(-1.11)
R&D			76.0945***
			(2.76)
Operating Efficiency			-0.1809
			(-0.49)
Year FE	No	Yes	Yes
Industry FE	No	Yes	Yes
N	1,676	1,561	1,316
Pseudo R^2	0.022	0.157	0.177

Table A13: Stock Payments, Familiarity and Deal Success

This table presents results for OLS regressions of a "Completed Deal" dummy in M&A takeover offers on an the bidder's mispricing score and the familiarity index. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Completed Deal					
	(1)	(2)	(3)	(4)	(5)	(6)
Familiarity	-0.4647*	-0.6129**	-0.5817*	-0.5279*	-0.4057	-0.3909
	(-1.67)	(-2.11)	(-1.90)	(-1.74)	(-1.30)	(-1.25)
Percentage of Stock	-0.0633***	-0.0691***	-0.0726***	-0.0362**	-0.0244	-0.0355**
	(-4.49)	(-4.69)	(-4.79)	(-2.39)	(-1.58)	(-2.28)
Familiarity x Perc. of Stock	0.0291***	0.0275***	0.0263***	0.0270***	0.0237***	0.0243***
	(4.56)	(4.34)	(4.05)	(4.21)	(3.62)	(3.73)
M/B			-0.0142*	-0.0128*	-0.0133*	-0.0127*
			(-1.96)	(-1.94)	(-1.93)	(-1.91)
Market Cap			0.3509**	0.5266***	0.7957***	0.6200***
			(2.00)	(2.89)	(4.28)	(3.30)
Leverage			-4.1717**	-4.4386***	-4.0828**	-5.0479***
			(-2.49)	(-2.68)	(-2.38)	(-2.95)
Cash Holding			-3.4041	-3.3022	-1.8737	-2.3956
			(-1.33)	(-1.31)	(-0.73)	(-0.93)
Asset Tangibility			-6.2994***	-6.0836***	-4.9739**	-4.4968**
			(-3.04)	(-2.97)	(-2.37)	(-2.14)
Dividend Dummy			1.0014	1.1714*	0.7151	1.3581**
			(1.59)	(1.89)	(1.11)	(2.11)
R&D			7.0634*	8.4763**	8.3926**	7.9528**
			(1.75)	(2.12)	(2.07)	(1.97)
Operating Efficiency			-0.0015	-0.0020	-0.0017	-0.0019
			(-0.39)	(-0.52)	(-0.42)	(-0.48)
Public Target				-9.0414***	-9.4830***	-9.1108***
				(-12.18)	(-12.49)	(-12.04)
Large Relative Size				-4.4454***	-4.4357***	-4.4361***
				(-6.01)	(-5.79)	(-5.81)
Cash-only sellers					-1.0165*	-1.2115**
					(-1.75)	(-2.08)
Competition					-9.8238***	-0.0784
					(-3.07)	(-0.02)
Industry Wave					0.3961	
					(1.41)	
Credit Spread					-0.0519	
					(-0.25)	
Post Bubble					3.2387***	
					(5.18)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	16,066	16,066	14,815	14,815	14,054	14,054
Adjusted R^2	0.002	0.025	0.026	0.046	0.037	0.045

Table A14: Stock Payments, Complementarity and ACAR

This table presents results for OLS regressions of acquirer announcement returns on an interaction of the percentage on stock and industry complementarity. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	ACAR					
	(1)	(2)	(3)	(4)	(5)	(6)
Complementarity	0.1646	0.1999	0.1013	0.1259	0.2045	0.1473
	(1.19)	(1.30)	(0.62)	(0.77)	(1.21)	(0.86)
Percentage of Stock	-0.0017	-0.0017	-0.0031	-0.0015	0.0024	0.0005
	(-0.42)	(-0.42)	(-0.73)	(-0.36)	(0.56)	(0.12)
Compl. x Perc. of Stock	-0.0171***	-0.0137***	-0.0121**	-0.0107**	-0.0126***	-0.0122**
	(-3.85)	(-3.00)	(-2.54)	(-2.28)	(-2.61)	(-2.52)
M/B			-0.0007	-0.0008	-0.0009	-0.0009
			(-0.45)	(-0.47)	(-0.55)	(-0.49)
Market Cap			-0.5142***	-0.3729***	-0.3626***	-0.3815***
			(-12.01)	(-8.71)	(-8.12)	(-8.65)
Leverage			0.1702	0.3083	0.3543	0.2928
			(0.42)	(0.75)	(0.85)	(0.70)
Cash Holding			-1.0621	-1.5774**	-1.2763*	-1.3256*
			(-1.37)	(-2.05)	(-1.64)	(-1.70)
Asset Tangibility			-0.3814	-0.3263	-0.2199	-0.1150
			(-0.80)	(-0.69)	(-0.45)	(-0.24)
Dividend Dummy			-0.1809	-0.1051	-0.1896	-0.1514
			(-1.17)	(-0.69)	(-1.22)	(-0.97)
R&D			-2.6804*	-3.2882**	-3.5392**	-3.4480**
			(-1.69)	(-2.09)	(-2.21)	(-2.16)
Operating Efficiency			-0.0007	-0.0009	-0.0009	-0.0009
			(-0.75)	(-0.98)	(-1.05)	(-0.98)
Public Target				-1.7609***	-1.6171***	-1.5621***
				(-11.76)	(-10.22)	(-9.92)
Large Relative Size				1.3309***	1.2666***	1.2526***
				(6.23)	(5.79)	(5.79)
Cash-only sellers					0.6720***	0.6125***
					(4.65)	(4.22)
Competition					-1.9905***	-1.2398
					(-2.85)	(-1.58)
Industry Wave					0.0518	
					(0.78)	
Credit Spread					0.1349***	
					(3.06)	
Post Bubble					0.4067***	
					(2.87)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	15,223	15,223	14,060	14,060	13,400	13,400
Adjusted R^2	0.009	0.021	0.035	0.047	0.046	0.049

Table A15: Stock Payments, Familiarity and ACAR - Mispricing Score

This table presents results for OLS regressions of acquirer announcement returns on an interaction of the percentage on stock and a familiarity index. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	ACAR			
	(1)	(2)	(3)	(4)
Familiarity	-0.0149	-0.0101	0.0217	0.0128
	(-0.21)	(-0.14)	(0.30)	(0.18)
Percentage of Stock	-0.0036	-0.0021	0.0010	-0.0008
	(-0.92)	(-0.56)	(0.26)	(-0.20)
Familiarity x Perc. of Stock	-0.0045**	-0.0039**	-0.0042**	-0.0041**
	(-2.57)	(-2.25)	(-2.37)	(-2.30)
Mispricing Score	-0.0040	-0.0054	-0.0059	-0.0056
	(-0.68)	(-0.94)	(-1.00)	(-0.94)
M/B	-0.0008	-0.0009	-0.0010	-0.0009
	(-0.52)	(-0.52)	(-0.62)	(-0.55)
Market Cap	-0.5082***	-0.3717***	-0.3578***	-0.3808***
	(-11.47)	(-8.31)	(-7.69)	(-8.28)
Leverage	0.3087	0.4614	0.5236	0.4464
	(0.70)	(1.04)	(1.17)	(0.99)
Cash Holding	-0.6050	-1.0851	-0.9471	-0.9830
	(-0.77)	(-1.39)	(-1.20)	(-1.25)
Asset Tangibility	-0.3692	-0.3140	-0.2719	-0.1409
	(-0.78)	(-0.66)	(-0.56)	(-0.29)
Dividend Dummy	-0.2335	-0.1707	-0.2858*	-0.2515
	(-1.45)	(-1.07)	(-1.77)	(-1.53)
R&D	-2.6650*	-3.2346**	-3.5200**	-3.3820**
	(-1.66)	(-2.04)	(-2.18)	(-2.10)
Operating Efficiency	-0.0010	-0.0012	-0.0012	-0.0012
	(-1.07)	(-1.27)	(-1.30)	(-1.27)
Public Target		-1.7025***	-1.6214***	-1.5563***
		(-11.13)	(-9.98)	(-9.63)
Large Relative Size		1.2482***	1.2253***	1.1988***
		(5.78)	(5.51)	(5.45)
Cash-only sellers			0.5979***	0.5368***
			(4.09)	(3.65)
Competition			-1.9910***	-1.1549
			(-2.88)	(-1.46)
Industry Wave			0.0404	
			(0.59)	
Credit Spread			0.1272***	
			(2.85)	
Post Bubble			0.3279**	
			(2.25)	
Year FE	Yes	Yes	No	Yes
Industry FE	Yes	Yes	Yes	Yes
N	13,491	13,491	12,816	12,816
Adjusted R^2	0.034	0.046	0.045	0.048

Table A16: Financial Experts, Mispricing and Deal Success

This table presents results for OLS regressions of a "Completed Deal" dummy in M&A takeover offers on an the bidder's mispricing score and the CEO's financial expertise. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Completed Deal					
	(1)	(2)	(3)	(4)	(5)	(6)
Financial Expertise	2.1354***	-0.0326	-0.4360	-0.2823	0.3830	-0.3743
	(3.20)	(-0.05)	(-0.60)	(-0.39)	(0.52)	(-0.50)
Percentage of Stock	-0.0173**	-0.0208**	-0.0268***	0.0091	0.0128	0.0051
	(-2.39)	(-2.57)	(-3.12)	(1.05)	(1.42)	(0.56)
Financial Exp. x Perc. of Stock	0.0270**	0.0240*	0.0269*	0.0304**	0.0394***	0.0327**
	(2.07)	(1.74)	(1.92)	(2.17)	(2.76)	(2.30)
M/B			-0.0138*	-0.0123*	-0.0126*	-0.0124*
			(-1.90)	(-1.88)	(-1.86)	(-1.86)
Market Cap			0.3705**	0.5273***	0.7858***	0.6261***
			(2.22)	(3.05)	(4.41)	(3.50)
Leverage			-4.1089***	-4.3244***	-3.9819**	-4.8919***
			(-2.58)	(-2.75)	(-2.43)	(-2.99)
Cash Holding			-3.3199	-3.1213	-1.6388	-2.3021
			(-1.34)	(-1.27)	(-0.66)	(-0.92)
Asset Tangibility			-5.4303***	-5.2531***	-4.4098**	-3.9620**
			(-2.76)	(-2.70)	(-2.21)	(-1.98)
Dividend Dummy			1.0272*	1.1855**	0.7245	1.3282**
			(1.71)	(1.99)	(1.17)	(2.15)
R&D			5.9065	7.5234*	7.5435*	7.1573*
			(1.47)	(1.89)	(1.86)	(1.77)
Operating Efficiency			-0.0018	-0.0024	-0.0022	-0.0023
			(-0.48)	(-0.64)	(-0.55)	(-0.60)
Public Target				-8.6592***	-9.0500***	-8.6654***
				(-12.10)	(-12.36)	(-11.88)
Large Relative Size				-4.3997***	-4.3789***	-4.4016***
				(-6.17)	(-5.92)	(-5.96)
Cash-only sellers					-0.7934	-0.9646*
					(-1.41)	(-1.71)
Competition					-9.4782***	-0.4179
					(-3.13)	(-0.12)
Industry Wave					0.3717	
					(1.37)	
Credit Spread					0.0744	
					(0.37)	
Post Bubble					2.9416***	
					(4.75)	
Year FE	No	Yes	Yes	Yes	No	Yes
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	16,066	16,066	14,815	14,815	14,054	14,054
Adjusted R^2	0.002	0.025	0.026	0.046	0.037	0.045

Table A17: Financial Expertise, Mispricing and Stock Mergers - Subsamples

This table presents results for OLS regressions of the percentage of stock in subsamples of M&A takeover offers on the acquirer's mispricing score. Columns (1) and (2) exclude observations where no information on the CEO can be matched on BoardEx. Columns (3) and (4) exclude financial firms (SIC codes 6000 to 6999). Columns (5) and (6) exclude mergers recorded under pooling accounting. All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	Percentage of Stock					
	Full BoardEx		Non-Financials		Purchase Accounting	
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.3212***	0.3283***	0.3026***	0.2959***	0.2874***	0.2839***
	(9.88)	(10.11)	(10.97)	(10.86)	(11.10)	(11.13)
Financial Expertise	-8.6219***	-7.5662***	-11.0621***	-11.0076***	-10.6210***	-10.7503***
	(-3.11)	(-2.73)	(-3.90)	(-3.88)	(-4.10)	(-4.15)
Mispricing x Fin. Exp.	0.1775***	0.1645***	0.2268***	0.2264***	0.2837***	0.2583***
	(3.15)	(2.93)	(3.88)	(3.88)	(5.35)	(4.89)
M/B	0.0321***	0.0330***	0.0040	0.0036	0.0137	0.0136
	(3.69)	(3.89)	(0.15)	(0.13)	(0.88)	(0.89)
Market Cap	1.0745***	1.1729***	1.8682***	1.7137***	0.9698***	0.6690***
	(4.51)	(4.86)	(8.27)	(7.50)	(4.64)	(3.17)
Leverage	-9.1171***	-9.6494***	-8.0644***	-9.1053***	-7.5153***	-8.4377***
	(-4.61)	(-4.87)	(-4.50)	(-5.05)	(-4.39)	(-4.94)
Cash Holding	4.9563	5.2486*	13.3520***	10.7617***	4.4827	3.5796
	(1.56)	(1.66)	(4.48)	(3.63)	(1.59)	(1.29)
Asset Tangibility	-4.0866*	-4.7176**	-2.9851	-3.1536	-1.9608	-1.8916
	(-1.76)	(-2.02)	(-1.46)	(-1.55)	(-1.06)	(-1.02)
Dividend Dummy	-0.3182	-0.2096	-2.7950***	-1.7269**	-1.3801**	-0.1118
	(-0.44)	(-0.29)	(-4.16)	(-2.57)	(-2.25)	(-0.18)
R&D	65.7745***	63.4901***	68.6294***	66.4916***	60.9773***	58.0225***
	(8.73)	(8.52)	(10.42)	(10.17)	(9.40)	(9.03)
Operating Efficiency	0.0082	0.0080	-0.0097**	-0.0084**	-0.0106**	-0.0100**
	(1.36)	(1.33)	(-2.20)	(-2.00)	(-2.18)	(-2.12)
Public Target	14.4872***	14.4400***	10.4768***	10.9532***	13.1821***	13.0656***
	(14.35)	(14.36)	(10.46)	(11.07)	(14.86)	(14.99)
Large Relative Size	14.1345***	14.0902***	15.3792***	15.1748***	12.8903***	12.6280***
	(14.94)	(14.95)	(18.24)	(18.18)	(15.91)	(15.70)
Cash-only sellers	-10.0439***	-10.2267***	-11.0173***	-11.3866***	-8.5601***	-9.0590***
	(-15.68)	(-15.99)	(-18.43)	(-19.04)	(-15.43)	(-16.34)
Competition	-13.2357***	-10.7603***	-14.8105***	-5.8338*	-14.8094***	-11.6146***
	(-3.83)	(-2.84)	(-4.97)	(-1.75)	(-5.38)	(-3.70)
Industry Wave	0.9417**		0.5151		0.6969**	
	(2.53)		(1.54)		(2.24)	
Credit Spread	0.6204***		0.5503**		0.8385***	
	(2.68)		(2.49)		(4.04)	
Post Bubble	-19.6544***		-18.8281***		-8.7667***	
	(-22.21)		(-25.29)		(-12.63)	
Year FE	No	Yes	No	Yes	No	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
N	9,519	9,519	11,192	11,192	12,885	12,885
Adjusted R^2	0.382	0.390	0.268	0.285	0.261	0.285

Table A18: Financial Experts, Mispricing, SEOs and Repurchases

This table presents results for OLS regressions of the quarterly likelihood to conduct a SEO (column 1-3) or repurchase shares (column 4-6).
All explanatory variables are described in Table 1 of the paper. The T-statistics are reported in small font size below the estimates. Standard errors are calculated using the method by White (1980) to account for heteroskedasticity. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. A constant term is included but not reported.

Dep. var.:	SEO Dummy			Repurchase Dummy		
	(1)	(2)	(3)	(4)	(5)	(6)
Mispricing Score	0.0110***	0.0035	0.0173***	-0.2180***	-0.1843***	-0.1190***
	(3.04)	(0.92)	(4.73)	(-15.76)	(-13.45)	(-18.56)
Financial Expertise	-1.2552***	-1.2736***	-1.2195***	5.5084***	5.5957***	3.1424***
	(-4.03)	(-4.05)	(-4.21)	(3.36)	(3.41)	(4.67)
Mispricing x Fin. Ex.	0.0192***	0.0223***	0.0212***	-0.0781***	-0.0860***	-0.0496***
	(2.98)	(3.43)	(3.45)	(-2.83)	(-3.11)	(-3.96)
M/B		0.0002***	0.0002***		0.0001***	0.0002***
		(27.38)	(29.82)		(10.09)	(11.77)
Market Cap		0.2378***	0.1878***		3.2304***	1.6388***
		(5.74)	(7.06)		(14.74)	(31.27)
Leverage		2.1021***	2.0318***		0.2784	0.3631
		(2.59)	(3.37)		(0.38)	(1.16)
Asset Tangibility		1.9906***	1.8195***		-5.3570***	-3.0620***
		(5.30)	(6.45)		(-2.96)	(-7.39)
Dividend Dummy		-0.7585***	-0.8121***		4.9433***	0.8426***
		(-6.32)	(-7.32)		(8.55)	(4.19)
R&D		52.8499***	50.4718***		-21.4020***	-27.7856***
		(13.45)	(13.57)		(-3.91)	(-9.65)
Lagged SEO			6.8605***			
			(13.45)			
Lagged Repurchase						64.4555***
						(151.39)
Year x Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
N	245,698	241,344	237,167	245,698	241,344	241,344
Between R^2	0.012	0.062	0.168	0.150	0.233	0.880
Within R^2	0.005	0.009	0.009	0.287	0.288	0.477