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# Connected Directors—Advisors and Mergers and Acquisitions Outcomes

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**We examine the impact of social ties between directors (directors or senior managers) of acquiring firms and their corresponding advisors on several mergers and acquisitions outcomes. The social ties between acquirers' directors and their advisors are positively related to acquirers' gains in the short and long run. This is due to lower takeover premia, lower advisory fees and shorter period to deal completion. This relation is more pronounced in deals involving inexperienced acquirers, targets in more opaque industries and targets recommended by advisors. We also find that acquirers are more likely to withdraw from deals with high premia if they hire a socially connected advisor. Identification is addressed by using instrumental variables, excluding deals that are prone to endogeneity and using the propensity score matching and the entropy balancing methods.**

'...Investment bankers have faced a series of large judgments and settlements in recent years over accusations of providing self-interested M&A advice...' [FT (1 June 2017)]

## Introduction

The role of social ties, or connections, between merging firms' directors or senior managers (directors) and acquirer advisors (advisors) has received limited attention in the mergers and acquisitions (M&A) literature. A rich array of studies offers compelling evidence that advisors can provide valuable expertise and guidance to companies involved in M&A, in addition to helping to ensure successful and profitable outcomes for all parties involved (Allen *et al.*, 2004; Bao and Edmans, 2011; Chang *et al.*, 2016; Chemmanur, Ertugrul and Krishnan, 2019).<sup>1</sup> These studies further show that advisors' valuable capabilities often emerge from their prior M&A experience, from executing securities sales and trading and through their performance of general advi-

sory services (Francis, Hasan and Sun, 2014; Wang, Xie and Zhang, 2022). However, an important source of this valuable expertise can emerge from advisors' connections with their clients, which has largely been neglected in the literature. Specifically, the social ties between advisors and their clients often build strong and valuable information and liquidity channels, which may appear very valuable in subsequent services they provide to their clients. Ivashina *et al.* (2009) study the likelihood of being acquired by firms that borrow from banks from which the target is also a borrower, such that banks can offer an 'information transmission' channel. Chang *et al.* (2016) also document that acquirers benefit from hiring ex-advisors of their targets by obtaining valuable information about the target. It therefore remains an empirical question calling for a thorough investigation whether the social ties between acquirers' directors (both insiders and outsiders) and acquirers' advisors impact M&A outcomes, and if so via what channel. We fill this void in the literature. Our approach differs from others given the granularity of our director–advisor social ties measure, which makes it possible for us to comprehensively uncover the role of such social ties on M&A decision-making and outcomes.

On the theoretical front, there are several reasons why social ties between acquirers and their corresponding advisors matter to M&A outcomes. Connected

<sup>1</sup>Advising an M&A is a lucrative business for investment banks. In 2016 alone, US-based firms were involved in more than 1788 M&A transactions with a total transaction value in excess of \$883 billion. Investment banks advised on 40.68% of these deals and received \$2544 million in advisory fees from acquirers.

advisors are likely to go beyond contractual obligations and be more prepared to share valuable information. Therefore, social ties may facilitate information sharing between acquirers' directors and advisors and improve M&A quality through the reduction of adverse selection. Moreover, contracting with a 'friend' may alleviate the moral hazard problem (Cooney *et al.*, 2015; Corwin and Schultz, 2005). Essentially, information is shown to be dispersedly disseminated through social networks, for example education or employment networks (Cohen, Frazzini and Malloy, 2008; Schmidt, 2015). Cai and Sevilir (2012) show that acquirers have an information advantage and enjoy higher value gains when they share common directors with their targets. Superior knowledge about the acquirer also helps connected advisors to select more suitable targets that lead to higher synergies. This may offer an efficient information transmission channel, which should be more pronounced when gaining access to valuable information on potential targets is more difficult.

More recently, Yawson and Zhang (2021) and Chaudhry, Kontonikas and Vagenas-Nanos (2022) have investigated the position of M&A advisors in the network of investment banks using the 'degree', 'closeness' and 'betweenness' centrality measures as proxies for network connections, and examine how M&A outcomes are impacted. We extend their findings by explicitly focusing not only on connections among advisors, but also on director–advisor social ties using a direct connection measure between the directors of acquiring firms and their advisors. The dynamic nature of the M&A decision-making process and the essential role of advisors render the social ties between merging firms' directors and acquirer advisors highly valuable.

What are the social ties between acquirers' directors and their corresponding advisors likely to deliver? First, social ties between directors and advisors are expected to be associated with lower transaction costs in M&A. Specifically, a potential cost-cutting due to the choice of a familiar advisor is the avoidance of a costly search for an alternative. Kuhnen (2009) shows that directors of mutual funds tend to hire a connected advisor as searching for other, non-familiar advisors can be very costly. Second, connected advisors may also structure deals to reduce transaction costs in either the pre- or post-merger phase. For example, due to having high-quality information about the acquirer, advisors may design more agreeable offer prices and potentially reduce the takeover premia, offer more effective guidance on the choice of financing and payment methods and help with the integration phase of the deal (Cooney *et al.*, 2015). It is worth noting that the economic gains of the acquirers in this process are likely to be at the expense of the targets' interests. Third, the social ties between acquirer directors and their advisors can help merging firms to reduce unnecessary advisory services

and avoid hidden fees. Therefore, 'friend' contracts reduce the advisory fees paid to investment banks.

We test these predictions by exploring the relation between several M&A outcomes and the extent of the interpersonal social ties between the acquiring firms' directors and advisors. We primarily focus on employment background and define a social tie between two individuals if they have worked for the same company prior to the M&A announcement. Using a sample of 1647 M&A announced by US listed firms over the period from 2000 to 2022 (inclusive), we find that social ties between the acquirers' directors and their advisors are present in about 45% of all M&A. Our baseline results show that acquiring firms' 3-day cumulative abnormal returns (CAR) are positively related to the extent of the social ties between the acquiring firms' directors and their corresponding advisors (hereafter, A-AA social ties). This is highly consistent with our main prediction that hiring connected advisors adds value to acquirers.

What are the channels through which the social ties between acquirers and their advisors deliver higher gains to acquirers? We first examine the information channel and test whether connected advisors are more valuable in deals with higher information asymmetry. Relative to high-analyst-coverage industries, low-analyst-coverage industries exhibit a higher degree of asymmetric information. Consequently, it is likely to be more challenging for acquirers to collect information on targets that operate in low-analyst-coverage industries and accurately evaluate the potential synergies from M&A. We find that the positive relation between the extent of A-AA social ties and acquirer gains is more pronounced when the target operates in an industry with low analyst following. In addition, frequent acquirers and those new to acquisitions may exhibit distinct behaviour (Macias, Rau and Stouraitis, 2023). Experienced acquirers should have more knowledge about the acquisition process, be more capable of collecting information, exhibit better negotiation skills and be more proficient at operational combinations. Thus, they may rely less on M&A advisors. In turn, we find that A-AA social ties are particularly valuable when the acquirers have less M&A experience. Lastly, we explore the value of connected advisors for initiating M&A deals by relying on hand-collected initiation information from SEC EDGAR company filings. Our findings support the notion that acquiring a target firm that is recommended by a connected advisor is associated with better merger outcomes, compared to deals initiated by targets or acquirers themselves.

We also conjecture that socially connected advisors help acquirers to better structure deals and reap higher gains. If that is true, we should find that such gains are potentially due to lower fees associated with such deals or at the expense of the target shareholders. Our findings confirm this: deals classified as having stronger A-AA

social ties are associated with a lower takeover premium, suggesting that connected advisors help acquirers negotiate and eventually acquire their targets at a relatively lower premium.<sup>2</sup> Therefore, acquirers' gains that originate from hiring connected advisors impose a lower share of the deal's surplus on target firms. Finally, we examine whether connected advisors are likely to recommend a stop-loss action to protect acquirer shareholders' interests. We find that acquirers with connected advisors are more inclined to terminate M&A transactions when the takeover premia are relatively high. Our results are robust to alternative measures of acquirer gains and measures of social ties. Lastly, we address identification using instrumental variables (IVs), excluding deals that are prone to endogeneity and using the propensity score matching (PSM) and entropy balancing methods.

Our paper makes three distinct contributions to the literature on social ties. First, we empirically show the significant impact of social ties between external advisors (the acquirer advisors) and the directors of the acquiring firm on merger outcomes (e.g. acquirer gains, takeover premia and advisor fees). This important relation has been neglected by previous studies. Specifically, while existing research has separately explored the effects of financial and familial ties, board connections (Cai and Sevilir, 2012; Fracassi and Tate, 2012; Larcker, So and Wang, 2013) and social ties (Hwang and Kim, 2009; Ishii and Xuan, 2014) on firm value, and others have examined the effectiveness of financial advisors, none has investigated the effect of the interplay between acquirer directors and their advisors on firm value. Second, we contribute to the existing literature on advisor selection in M&A transactions and its impact on merger outcomes. Previous studies have primarily focused on various attributes of merging entities and investment banks, including market share, reputations of investment banks (Bao and Edmans, 2011; Rau, 2000), international diversification (Rajamani *et al.*, 2017), business relationships (Allen *et al.*, 2004; Sleptsov, Anand and Vasudeva, 2013), prior client performance (Sibilkov and McConnell, 2014), advisors' expertise (Song Wei and Zhou, 2013), ex-advisors of the target (Chang *et al.*, 2016), as well as the human capital of investment bankers (Chemmanur, Ertugrul and Krishnan, 2019). We argue that the social ties between acquirers' directors and their advisors represent a significant determinant of the valuation effects associated with advisor selection, a novel insight in the literature. We show that acquirers contracting with advisors that share interpersonal social ties, through their current or previous professional experience, enjoy

higher gains from M&A. Third, we extend the scope of existing research by investigating the effects of deals initiated by either the acquirer or the financial advisors. Masulis and Simsir (2018) and Fidrmuc and Xia (2019) document that target shareholders earn lower premia and experience fewer wealth effects in target-initiated deals than in bidder-initiated deals. Our study shows that deals involving targets recommended by connected advisors are associated with higher acquirer CAR, suggesting that such advisors can add significant value for acquirers by helping them to identify suitable targets. The findings extend our knowledge of the critical role advisors play in identifying suitable acquisition targets.

## Theoretical framework and hypotheses

Several branches of the literature help us to understand how social ties between the acquiring firm's directors and external advisors can affect merger outcomes, and the channels through which this effect occurs. Relevant are studies that investigate how board connections and other financial or familial ties, as well as social ties across several dimensions, affect firm value. Also relevant are studies that analyse the effectiveness of external advisors in guiding corporate takeovers, and how they impact firm value.

Early studies show that boards or other forms of social ties may affect firm value through various channels. Fracassi and Tate (2012) show that firms with more powerful chief executive officers (CEOs) are more likely to appoint directors connected to the CEO, which leads to lower firm value and value-destroying acquisitions. Hwang and Kim (2009) show that when CEOs select directors who are socially connected to them, it has a significant impact on directors' monitoring and disciplinary effectiveness. As a result, social ties between CEOs and directors may affect the selection of directors, which, as shown by Fracassi and Tate (2012), should have a negative effect on firm value. Ishii and Xuan (2014) further show that the extent of cross-firm social ties between directors and senior executives at acquiring and target firms has a significantly negative effect on the acquirer abnormal returns and on the combined entity upon merger announcement. However, Cai and Sevilir (2012) explore current board connections and find that acquirers enjoy higher gains in transactions with (a) a first-degree connection where the acquirer and target share a common director and (b) a second-degree connection where one acquirer director and one target director serve on the same third board. Notably, first-degree connections benefit acquirers with lower takeover premia while second-degree connections benefit acquirers with greater value creation.

Along these lines, a much longer and richer literature investigates the effectiveness of external advisors in

<sup>2</sup>We also find that the extent of the social ties between acquirers and their advisors has a significantly negative effect on deal completion time and the targets' announcement returns and relative gains from the deals.

influencing merger outcomes. In early studies investigating the skilled-advice hypothesis, it has been argued that, if banks provide valuable advice, it is reasonable to expect that the highest-quality advisors lead to the best outcomes. However, studies generally fail to find evidence in support of this relation. Bowers and Miller (1990) and Michel, Shaked and Lee (1991) measure an advisor's quality by the prestige of its name and find no link with acquirer returns. Rau (2000) uses market share to measure quality and documents a negative relation. Servaes and Zenner (1996) find no benefit in hiring any advisor compared with executing the deal in-house. On the contrary, Kale, Kini and Ryan (2003) find gains in employing market-leading advisors. More recently, Bao and Edmans (2011) document a significant investment bank fixed effect in the announcement returns of M&A deals. In the same vein of research, Yawson and Zhang (2021) show that acquirers hiring more centrally positioned M&A advisors enjoy higher announcement abnormal returns and pay lower takeover premia. Chaudhry, Kontonikas and Vagenas-Nanos (2022) further show that more central advisors are associated with higher announcement abnormal returns for the acquirer, higher abnormal combined returns and higher long-run operating performance for the new entity; they emphasize that central advisors are able to mitigate information asymmetries, resulting in lower premia paid by bidders.

While these two branches of studies have developed along parallel trends, the impact of social ties between acquirers' directors and external advisors has been neglected to date. The findings discussed above indicate a complex interplay of social ties between acquirers' directors and external advisors, potentially influencing merger outcomes in opposing ways. Consequently, the impact of social ties between acquirers' directors and external advisors on merger outcomes warrants empirical investigation. Essentially, socially connected acquirer directors and advisors may share common objectives and perspectives, facilitate the sharing of information and offer insightful advice, be associated with lower takeover premia and potentially foster a more collaborative workspace. Therefore, we posit that *social ties between acquirers' directors and external advisors are likely to lead to positive merger outcomes*.

## Data and sample description

### Sample

Our dataset is collected from several sources. The sample of M&A deals is retrieved from the Security Data Company (SDC) M&A database. We start with all M&A between US public acquirers and US public, private and subsidiary targets with announcement dates

between 1 January 2000 and 31 December 2022.<sup>3</sup> We restrict our sample to deals for which information on the acquirers' advisors is available. We exclude spinoffs, tender offers, self-tender offers, repurchases, recapitalization, privatization, exchange offers, leveraged buyouts, acquisitions of remaining interests and partial equity stake purchases, as well as deals in which the transaction value is less than \$1 million and those where the acquirer's market capitalization is less than \$1 million 20 trading days prior to the M&A announcement. We also exclude small transactions in which the deal value is less than 1% of the acquirer's market capitalization. We retain an acquisition only if the acquirer owns less than 50% of the target's shares before the M&A and 100% of the target's shares after the deal's completion, as in Baker, Pan and Wurgler (2012). We also require that neither the acquirer nor the target operate in the financial industry. These restrictions allow us to obtain an initial sample of 2804 M&A. We then merge our M&A sample with data obtained from the Center for Research in Security Prices (CRSP) and Compustat.

The data on the social connections among directors between the acquiring and target firms are obtained from the BoardEx database. BoardEx offers detailed biographical information on senior directors, such as employment history, educational background and affiliations to professional and social organizations. We manually match the initial M&A sample with the BoardEx database through company name, CUSIP or ticker codes. We further collect information from company websites, news items and the Bloomberg dataset to ensure there are no matching errors. This conservative procedure ensures that the matched firms from the two databases are indeed identical. Our matching procedure yields a final sample of 1647 M&A, involving 1049 acquiring firms and 232 advisors.

### Main variables

We construct our measure of social connections between the acquirers' directors and their advisors by focusing on their employment histories, which are extracted from BoardEx.<sup>4</sup> We classify a person from the acquiring firm (the 'director') and one from the advisory firm (the 'advisor') as being socially connected if, at some time prior to the acquisition year, they worked for the same company at the same time (i.e. an overlap).<sup>5</sup>

<sup>3</sup>We began our sample period in 2000 because the BoardEx starts with partial coverage in 1999 and becomes greater over time (Ishii and Xuan, 2014).

<sup>4</sup>Senior managers include CEO, chief financial officer (CFO), chief operating officer (COO) and other senior vice presidents.

<sup>5</sup>In our study, we focus on employment connections because alumni networks from educational institutions formed at a



To ensure the effectiveness of such social connections, we require the overlap to be within the 20 years prior to the announcement date of the M&A.

In order to reduce size-related bias in the social ties measure, we first create a matrix including all possible pairs of individuals composed of one member of the acquirer and one of the advisory firm.<sup>6</sup> The number of pairs in the matrix equals the total number of directors of the acquirer multiplied by the total number of directors of its advisor. Then, we construct the key explanatory variable of interest in our paper, the intensity of the social connection between the acquirer and its advisor (All A-AA), as the number of socially connected pairs scaled by the total number of possible pairs. This ratio captures the extent to which the decision-makers of the acquirer and its advisor are socially connected.<sup>7</sup> As different forms of directors and executives may have different degrees of influence on board decision-making (see Duchin, Matsusaka and Ozbas, 2010), we classify the members of an acquirer into *insiders* and *outsiders*, and separately calculate their corresponding social connection measures using the same approach as we do for All A-AA. Details on the construction of the social tie measures are provided in Section 2 of the Supplementary Material.

Our primary measure of M&A outcome utilizes the CAR from 1 day before to 1 day after the announcement date (CAR [-1, +1]). Following a standard event study methodology, we estimate a market model for each acquiring firm over the window (-241, -41) with the CRSP value-weighted return as the market index, where day 0 is the announcement date (e.g. Masulis, Wang and Xie, 2007). Additionally, we measure the takeover premia as the offer price divided by the target stock price available in 4 (or 1) week(s) preceding the announcement date minus 1 (e.g. Eckbo, 2009). We winsorize all consecutive measures at the top and bottom 1% of the distribution.

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young age may be less effective than relationships established through employment activity, which are likely to be more recent. Our results remain robust when we include both past employment and educational ties to measure social connections.

<sup>6</sup>Notably, board size exhibits a large variation across acquiring firms and M&A advisory firms. For example, the board size of a 'boutique' advisor (e.g. Greenhill) is typically much smaller than that of a full-service bank (e.g. Morgan Stanley).

<sup>7</sup>Ishii and Xuan (2014) and Jandik and Salikhova (2023) use a similar method to construct their social tie measures. In addition, we use the number of socially connected pairs scaled by the total number of directors and executives of the acquirer as an alternative social tie measure and find that our results are robust.

### Summary statistics

Table 1 presents summary statistics for our sample.<sup>8</sup> The average social connections ratio between the acquirer and its advisor (A-AA) is approximately 0.003 for all senior managers and directors. The intensity of the connections between the acquirer's insiders and its advisor is lower than that between the acquirer's outsiders and its advisor (0.003 vs 0.005), suggesting that outsiders are more active in social networks. The average social connections ratio between the acquirer and the target is 0.052. For firm and deal characteristics, the mean values of the 3-day CAR for the acquirers and targets are 0.000 and 0.221, respectively. The average 1-year and 2-year growth rates of ROA are 0.005 and 0.001, respectively, suggesting an improvement in the acquirers' profitability after the acquisitions. The means of Firm size, Tobin's Q, Leverage, Free cash flow and Stock price run-up are 8.203, 1.657, 0.244, 0.024 and 0.067, respectively, and the acquirer has 11.019 directors and 4.052 directors or senior managers with investment banking experience on average. In terms of deal characteristics, about 55% of deals involve publicly traded target firms and 20% (29%) of deals are settled with a pure stock (cash) payment. 21.7% of our sample deals are diversified acquisitions in which the acquirer and the target do not share the same industry (Fama–French 12-industry classification). The means of the takeover premia and advisor fee are 0.356 and 1.051, respectively. Detailed definitions of the variables can be found in Appendix A.

### Connected advisors and acquirer performance

#### *Do director–advisor social ties impact acquirers' announcement returns?*

If social ties between directors and advisors improve the information flow between the merging firms and the advisors in the benefit of the acquirers, that is improving the quality of the advisory services offered to the acquirers, we should find that they are associated with more informed acquisition decisions and higher value gains during the announcement and post-merger periods.<sup>9</sup>

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<sup>8</sup>The distribution of acquisitions by year and the industry of the acquiring firm are reported in Section 1 of the Supplementary Material.

<sup>9</sup>Before investigating the relation between the social connection and acquirer performance, we first explore whether such connections play a role in the choice of M&A advisors in the first step of the M&A. We find that acquiring firms' directors are more likely to hire their 'friends' (i.e. those with whom they have social connections) as advisors in corporate mergers. A detailed discussion of this test is provided in Section 3 of the Supplementary Material.

Table 1. Summary statistics

	N	Min	25%	Median	Mean	75%	Max	SD
<b>Dependent variables</b>								
Acq. CAR [-1, +1]	1647	-0.160	-0.034	-0.001	0.000	0.029	0.221	0.063
$\Delta$ ROA ( $\pm 1$ year)	1447	-0.262	-0.008	0.001	0.005	0.021	0.307	0.060
$\Delta$ ROA ( $\pm 2$ year)	1407	-0.297	-0.015	0.000	0.001	0.019	0.253	0.062
Premia 4W	813	-0.178	0.156	0.282	0.356	0.475	1.728	0.326
Tar. CAR [-1, +1]	772	-0.132	0.076	0.173	0.221	0.319	1.207	0.219
$\Delta$ STCAR	510	-0.186	0.007	0.038	0.045	0.075	0.480	0.063
Advisor fee	1641	-2.303	0.150	1.128	1.051	1.960	3.292	1.186
<b>Connection measures</b>								
All A-AA	1647	0.000	0.000	0.000	0.003	0.001	0.100	0.013
Insider A-AA	1647	0.000	0.000	0.000	0.003	0.001	0.117	0.015
Outsider A-AA	1647	0.000	0.000	0.000	0.005	0.001	0.139	0.020
If All A-AA	1647	0.000	0.000	0.000	0.450	1.000	1.000	0.498
CEO A-AA	1647	0.000	0.000	0.000	0.004	0.000	0.167	0.021
All A-AA 10 Y	1647	0.000	0.000	0.000	0.003	0.000	0.099	0.012
All A-AA club tie	1647	0.000	0.000	0.000	0.000	0.000	0.003	0.000
All A-T	1647	0.000	0.000	0.002	0.052	0.018	0.917	0.167
<b>Firm-level characteristics</b>								
Firm size (ln)	1647	3.105	7.099	8.189	8.203	9.358	11.338	1.656
Tobin's Q	1647	0.748	1.059	1.277	1.657	1.834	7.339	1.025
Leverage	1647	0.000	0.086	0.203	0.244	0.356	0.902	0.201
Free cash	1647	-0.540	0.011	0.022	0.024	0.068	0.209	0.094
Stock price run-up	1647	-0.640	-0.124	0.015	0.067	0.199	1.873	0.337
Directors	1647	2.000	9.000	11.000	11.019	13.000	20.000	3.213
IB people	1647	0.000	1.000	3.000	4.052	5.000	22.000	13.550
AA market size (ln)	1647	3.214	10.069	12.182	11.541	13.289	14.670	2.277
AA centrality	1647	0.000	41.500	58.692	50.854	66.021	81.500	22.982
Frequent acquirer	1620	0.000	0.000	0.000	0.469	1.000	1.000	0.499
Analyst following	1647	8.259	8.814	9.604	10.281	11.158	16.157	1.832
<b>Deal-level characteristics</b>								
Public target	1647	0.000	0.000	1.000	0.550	1.000	1.000	0.498
Private target	1647	0.000	0.000	0.000	0.231	0.000	1.000	0.422
Pure cash	1647	0.000	0.000	0.000	0.290	0.000	1.000	0.454
Pure stock	1647	0.000	0.000	0.000	0.200	0.000	1.000	0.400
Diversify	1647	0.000	0.000	0.000	0.217	0.000	1.000	0.413
High tech	1647	0.000	0.000	0.000	0.055	0.000	1.000	0.229
Relative deal size	1647	0.010	0.041	0.120	0.220	0.336	0.876	0.234
If withdraw	909	0.000	0.000	0.000	0.075	0.000	1.000	0.263
Premia 1W	909	-0.196	0.136	0.266	0.333	0.443	1.531	0.314
Acquirer_initiated	439	0.000	0.000	0.000	0.371	1.000	1.000	0.415
Advisor_recommended	439	0.000	0.000	0.000	0.210	1.000	1.000	0.481

Note: This table reports the summary statistics for the acquisitions in our samples. Detailed definitions of the variables are given in Appendix A.

Table 2 reports our findings from our baseline regression analysis of acquirer CAR against acquirers' directors–advisors social connections (i.e. All A-AA, Insider A-AA and Outsider A-AA, respectively), in addition to several control factors. The dependent variable in all regressions is the acquirer's 3-day CAR. The main independent variables are the measures of social ties intensity, as described previously. We separately examine the effect of All A-AA, Insider A-AA and Outsider A-AA on the acquirer's CAR. We control for numerous acquiring firm and deal-specific characteristics that have been shown in prior studies to affect the stock market's reaction to acquisition announcements, as well as for year and industry fixed effects (e.g. Chaudhry,

Kontonikas and Vagenas-Nanos, 2022; Dong, Li and Li, 2021; Huang *et al.*, 2014; Ishii and Xuan, 2014; Zhang and Ausloos, 2021). Firm characteristics include Firm size, Tobin's Q, Leverage, Free cash flow, Market value and Stock price run-up; deal characteristics include the means of payment, whether the deal is diversifying and involving a public target, or the acquirer and the target are both from high-tech industries and the relative deal size. In addition, we include the acquirer's board size to control for the size effect on the intensity of social connections, IB people to control for the investment banking experience of acquirer's directors, All A-T to control for social ties between the acquirer and target, AA market size to control for the advisor's M&A

Table 2. Connected advisor and acquirer announcement return

	Acquirer CAR [−1, +1]					
	Full sample			With A-AA only		
	(1)	(2)	(3)	(4)	(5)	(6)
All A-AA	0.434*** (0.000)			0.463*** (0.000)		
Insider A-AA		0.422*** (0.000)			0.433*** (0.000)	
Outsider A-AA			0.188** (0.023)			0.196** (0.035)
Firm size	−0.002 (0.176)	−0.002 (0.199)	−0.002 (0.178)	−0.005** (0.020)	−0.005** (0.023)	−0.005** (0.017)
Tobin's Q	−0.004** (0.023)	−0.004** (0.024)	−0.004** (0.021)	−0.008*** (0.007)	−0.007*** (0.007)	−0.008*** (0.005)
Leverage	0.028*** (0.003)	0.029*** (0.002)	0.028*** (0.003)	0.015 (0.225)	0.015 (0.202)	0.016 (0.195)
Free cash	0.0004 (0.990)	0.011 (0.700)	−0.0004 (0.990)	0.005 (0.902)	0.006 (0.883)	0.004 (0.923)
Stock price run-up	−0.009* (0.097)	−0.008 (0.134)	−0.009 (0.114)	−0.005 (0.554)	−0.005 (0.529)	−0.004 (0.585)
Public target	−0.022*** (0.000)	−0.023*** (0.000)	−0.022*** (0.000)	−0.019*** (0.002)	−0.020*** (0.002)	−0.019*** (0.002)
Private target	−0.004 (0.456)	−0.004 (0.375)	−0.004 (0.456)	−0.008 (0.275)	−0.009 (0.223)	−0.007 (0.293)
Pure cash	0.010*** (0.010)	0.009** (0.013)	0.010*** (0.009)	0.009* (0.084)	0.009* (0.084)	0.009* (0.072)
Pure stock	−0.005 (0.237)	−0.006 (0.165)	−0.005 (0.242)	−0.002 (0.830)	−0.002 (0.767)	−0.001 (0.861)
Diversify	−0.012*** (0.005)	−0.013*** (0.003)	−0.012*** (0.006)	−0.011* (0.056)	−0.011* (0.056)	−0.011* (0.065)
High tech	−0.009 (0.285)	−0.008 (0.311)	−0.009 (0.271)	−0.012 (0.275)	−0.011 (0.334)	−0.013 (0.252)
Relative deal size	0.005 (0.635)	0.006 (0.576)	0.005 (0.593)	0.003 (0.842)	0.004 (0.798)	0.003 (0.809)
Directors	0.009 (0.868)	0.010 (0.856)	−0.003 (0.963)	0.034 (0.692)	0.026 (0.755)	0.023 (0.791)
IB people	0.015 (0.222)	0.012 (0.332)	0.023* (0.058)	0.020 (0.110)	0.018 (0.138)	0.029** (0.027)
AA market size	−0.062 (0.527)	−0.073 (0.454)	−0.065 (0.504)	0.240 (0.178)	0.215 (0.214)	0.181 (0.315)
AA centrality	0.002 (0.735)	0.003 (0.699)	0.002 (0.787)	−0.002 (0.915)	−0.003 (0.862)	−0.003 (0.830)
All A-T	−0.012 (0.329)	−0.012 (0.322)	−0.012 (0.337)	−0.004 (0.835)	−0.005 (0.787)	−0.004 (0.853)
Constant	0.034* (0.060)	0.036** (0.044)	0.036** (0.044)	0.040 (0.197)	0.043 (0.156)	0.053* (0.088)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	1647	1647	1647	741	741	741
R <sup>2</sup>	0.118	0.121	0.115	0.169	0.172	0.162

Note: This table reports regression results for the acquirer's 3-day CAR around the announcement of the M&A. The main independent variables – All A-AA, Insider A-AA and Outsider A-AA – are the ratios of existing professional social ties to potential social ties involving all, insider and outsider members of the acquirer, respectively. The sample consists of 1647 US deals completed between 2000 and 2022, where the acquirer, target and acquirer's advisor are recorded by BoardEx. Columns (1)–(3) report the results of the full sample. Columns (4)–(6) report the results of a subgroup of samples which have A-AA ties. Definitions of variables are given in Appendix A. All models include year and industry fixed effects. Standard errors are clustered at the firm level. The corresponding p-values are reported in parentheses. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively.



experience and AA centrality to control for the centrality of the advisor.<sup>10</sup> Across all columns, we use robust standard errors adjusted for acquiring-firm clustering.

Results reported in column (1) uncover a strong positive relation between All A-AA and the acquirer CAR, which is depicted by the coefficient estimate for All A-AA of 0.434, significant at the 1% level. In economic terms, a one-standard-deviation increase in the intensity of the social connections (0.013) increases the acquirer's 3-day CAR by 0.56%. Therefore, social ties between acquirers' directors and their advisors appear to help acquirers reap higher gains from M&A. The coefficient estimates of the control variables are generally consistent with those reported in prior studies (e.g. Adra, Barbopoulos and Saunders, 2020; Barbopoulos, Adra and Saunders, 2020; El-Khatib, Fogel and Jandik, 2015; Masulis, Wang and Xie, 2007; Travlos, 1987).

As pointed out earlier, the effect of social ties on M&A outcomes may vary depending on whether they originate from directors classified as insiders or outsiders to the acquiring firm, as they may not be equally important for M&A decisions. To accommodate this notion in our analysis, we estimate separate regressions that account for the effects of insider and outsider director social ties with their advisors. Results are reported in columns (2) and (3), respectively. The coefficient estimate for Insider A-AA is positive and statistically significant at the 1% level. This result indicates that an insider director–advisor social tie can improve M&A decision-making and benefit the acquirer's shareholders. Similarly, we calculate the social connection variable based only on the involvement of the acquirer's non-executive directors and find that the coefficient on Outsider A-AA is also positive and statistically significant.

We repeat our baseline regressions using a reduced sample that includes only those M&A where the acquirers' directors (all, insiders and outsiders) are socially connected with their advisors, and excluding deals without social connections. The subsample results from regressions using All A-AA, Insider A-AA and Outsider A-AA as the social connection measures are reported in columns (4)–(6). The results are in general consistent with those reported in columns (1)–(3). We find an incremental effect of socially connected advisors on M&A outcomes and confirm that the extent of the social connections between the acquirers' directors and senior managers and their advisors has a positive impact on the acquirers' CAR.

<sup>10</sup>Yawson and Zhang (2021) and Chaudhry, Kontonikas and Vagenas-Nanos (2022) find that the centrality of M&A advisors within the network of investment banks affects M&A performance. Therefore, we include the centrality of the M&A advisor, proxied by betweenness centrality, as a control variable in our empirical specifications.

### Addressing endogeneity concerns

Our results thus far show that the social ties between the directors of the acquiring firms and their advisors are associated with higher acquirer CAR after we control for the effect of a large set of firm and deal characteristics. However, inferring causality when interpreting this contemporaneous positive relationship is exposed to potential endogeneity concerns. It is possible that social ties are not randomly distributed among firms and that their presence is related to both firms' and directors' preferences.

We first perform subsample analyses and exclude two sets of observations that are likely to suffer from such endogeneity problems. Realizing the complexity of M&A transactions, firms that plan to make acquisitions are likely to adjust their board composition by appointing directors who have connections with advisors so as to facilitate the anticipated acquisitions. If this concern is plausible, the period between the announcement date and the appointment of socially connected directors should be relatively short. Therefore, we follow Field and Mkrtchyan (2017) and exclude directors and senior managers who joined the acquiring firm less than 3 years prior to the M&A announcement, and then recalculate our three social connection variables. We re-estimate the baseline regressions using the newly constructed social connection measures and report the results in columns (1)–(3) of Table 3. The coefficient estimates for the social connection variables are all positive and highly significant.

If the appointment of socially connected directors is indeed due to their connections with advisors, restricting our focus to the directors who gain connections after joining the acquirer should alleviate the endogeneity concern. Similar to Huang *et al.* (2014) and Field and Mkrtchyan (2017), we re-run our regressions excluding connections that were built prior to the individual's recruitment to the company. The results, which are reported in columns (4)–(6) of Table 3, remain qualitatively similar to those obtained through the baseline regressions, further showing that the acquirer–advisor social ties formed during the current employment are associated with higher acquirer CAR.

Moreover, senior managers and directors with connections to advisors tend to be experienced and skilled, and could have a certain amount of freedom to choose the firms that best suit their skills and preferences or that will potentially generate better merger outcomes, which, in turn, will also result in a non-random matching between firms and directors (or senior managers). Therefore, we employ an IV approach with a two-stage framework estimation to formally address the endogeneity concerns. Our IV is defined as the passenger volume of the local airport nearest to the acquirer's headquarters. The data are collected from the Air Carrier

Table 3. Tackling endogeneity issues

	Excluding directors <3-year tenure			Excluding ties before recruitment			2SLS Local airport passenger volume		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All A-AA	0.347*** (0.001)			0.597*** (0.002)			3.328** (0.044)		
Insider A-AA		0.364*** (0.000)			1.157*** (0.001)			3.496* (0.061)	
Outsider A-AA			0.196* (0.051)			0.307** (0.012)			1.789** (0.040)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	1556	1556	1556	1647	1647	1647	1168	1168	1168
R <sup>2</sup>	0.117	0.115	0.113	0.117	0.119	0.115	0.138	0.137	0.138

Note: This table reports the results of three tests relating to endogeneity issues in the baseline regression (columns (1)–(3) of Table 2). Columns (1)–(6) report outcomes of two subsample tests. The first subsample (columns (1)–(3)) only includes company members who have worked for the acquirer for at least 3 years before the M&A. The second subsample (columns (4)–(6)) omits individuals’ A-AAs that were built prior to the individual’s recruitment to the company. Columns (7)–(9) report the results of the second-stage regression of the 2SLS, in which the instrumental variable is the local airport’s annual passenger volume. The sample consists of US deals completed between 2000 and 2022, where the acquirer, target and acquirer’s advisor are recorded by BoardEx. The dependent variable is the acquirer’s 3-day CAR around the announcement of the M&A. The main independent variables – All A-AA, Insider A-AA and Outsider A-AA – are the ratios of existing professional social ties to potential social ties involving all, insider and outsider members of the acquirer, respectively. Definitions of variables are given in Appendix A. All models include year and industry fixed effects. Standard errors are clustered at the firm level. The corresponding p-values are reported in parentheses. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively.

Activity Information System database on the website of the US Federal Aviation Administration. This IV exploits time-series variation. The passenger volume of an airport represents the convenience and accessibility of local transport. A convenient local airport makes it easier for people to travel and helps them to enlarge their social networks and for local companies to attract and retain high-calibre employees. Therefore, we argue that convenient transportation increases the probability of acquiring firms’ directors and advisors being connected socially. Conversely, the degree of air traffic density of the local airport is less likely to directly affect the announcement returns of the acquiring firm. Thus, our IV should satisfy the relevant requirement and the exclusion restriction.

In the first-stage regressions, we find that the passenger volume of the local airport is highly correlated with the intensity of social connections between the acquirer and the advisor, satisfying the relevance condition.<sup>11</sup> The results of the second-stage regressions are reported in columns (7)–(9) of Table 3. The estimated coefficients on all predicted social connection variables are positive and significant at the 10% level, confirming the positive im-

pact of social ties between acquirers’ directors and their advisors on acquirers’ CAR. Finally, we employ both PSM and entropy balanced matching techniques to address the selection bias associated with the observable firm and deal characteristics. The results are presented in Section 5 of the Supplementary Material. The findings, in line with our main results, support the view of a causal relation between acquirer director–advisor connections and acquirer CAR.

*Do director–advisor social ties affect post-acquisition operating performance?*

The above analysis shows that acquirer–advisor social ties help acquirers obtain higher gains from acquisitions. To account for the possibility that the effect is temporary, we examine another indicator of merger synergies: the post-merger operating performance of the newly merged firm. We calculate the change in the acquiring firm’s ROA from pre-merger to post-merger as a measure of the long-term operating performance (obtained from Compustat) of the newly merged firm (e.g. Acharya, Amihud and Litov, 2011; Cai and Sevilir, 2012). Specifically, the pre-merger and post-merger periods are taken as the 1 (or 2) year(s) before and 1 (or 2) year(s) after the deal’s completion. We include the same set of independent variables and control variables as in our previous announcement–return regressions.

Table 4 reports the results for the post-merger changes in ROA. We find that the estimated coefficients on all

<sup>11</sup>For brevity, we do not report the first-stage results, but they can be provided upon request. The Cragg–Donald Wald F-statistics of the IV for All A-AA, Insider A-AA and Outsider A-AA are 15.549, 10.834 and 17.406, respectively, suggesting that the IV passes the weak identification test (i.e., they are all in excess of 10).

Table 4. Acquirer long-term operating performance and acquirer–advisor social ties

	1-year change in ROA			2-year change in ROA		
	(1)	(2)	(3)	(4)	(5)	(6)
All A-AA	0.528*** (0.004)			0.473*** (0.006)		
Insider A-AA		0.611*** (0.000)			0.537*** (0.000)	
Outsider A-AA			0.219* (0.062)			0.202* (0.069)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1447	1447	1447	1407	1407	1407
R <sup>2</sup>	0.264	0.267	0.262	0.196	0.199	0.194

Note: This table shows regression estimates of models where the dependent variable is the difference between acquirer's post- and pre-merger ROA (1-year changes in columns (1)–(3); 2-year changes in columns (4)–(6)). The sample of deals consists of US M&A completed between 2000 and 2022, where the acquirer, target and acquirer's advisor are recorded by BoardEx. The main independent variables – All A-AA, Insider A-AA and Outsider A-AA – are the ratios of existing professional social ties to potential social ties involving all, insider and outsider members of the acquirer, respectively. Control variables are defined in Appendix A. All models include year and industry fixed effects. All standard errors are clustered at the firm level. The corresponding p-values are reported in parentheses. \*\*\*, \*\* and \* stand for statistical significance based on two-sided tests at the 1%, 5% and 10% levels, respectively.

types of social connections are positively and significantly related to the change in ROA. These results provide evidence that acquirers with connected advisors are associated with greater improvements in post-merger operating performance, mirroring the earlier findings that the acquirer–advisor social connection is associated with greater value creation as measured by the abnormal announcement return in the stock market.

## Further analysis

### *When do director–advisor ties have an edge?*

In this section, we examine the magnitude of the impact of social ties on acquirer CAR across different M&A deals, which are characterized by different degrees of information asymmetry and valuation risk. M&A are widely known to be subject to significant information asymmetry among the merging firms, which affects their value creation potential through various negotiation channels (Barbopoulos and Sudarsanam, 2012; Chang, 1998; Draper and Paudyal, 2008; Fuller, Netter and Stegemoller, 2002). Advisors are capable of producing and processing information in financial markets, through facilitating equity issues and merger activities (Allen *et al.*, 2004; Chemmanur, Ertugrul and Krishnan, 2019). Therefore, the effective exchange and transmission of information through M&A advisors is expected to be a key success factor in M&A. However, several factors may depreciate advisors' willingness to share information, such as the contingent fee advisory contract (Rajamani *et al.*, 2017), or high involvement in the stock or option trading of the acquirers (Lowry, Rossi and Zhu, 2019). Our main hypothesis encom-

passes that the interpersonal social ties between the acquirers' directors and their advisors facilitate the transfer of consequential information. A contract with a 'friend' is therefore expected to alleviate the moral hazard problem and help acquirers identify more suitable targets and ultimately structure value-enhancing deals. We expect that social ties between the acquirers' directors and advisors are likely to play a more important and valuable role when the acquirer faces restricted access to information about potential targets.

Previous studies suggest that analyst coverage plays an imperative role in reducing the level of information asymmetry for firms (e.g. Amiram, Owens and Rozenbaum, 2016; Martens and Sextroh, 2021). Therefore, we use the analyst coverage of the targets to proxy for the level of information asymmetry between merging firms.<sup>12</sup> The coverage variable (Analyst following) is calculated as the average number of unique analysts who provided 1-year-ahead annual forecasts over the 3 years preceding the deal at the target firm's specific 3-digit SIC industry level (Boone and White, 2015).<sup>13</sup> To test our

<sup>12</sup>Compared to publicly traded firms, privately held firms are typically more opaque and have highly concentrated ownership. The acquisition of private firms requires more intense due diligence from the acquiring firms and their advisors, which hinders challenging integration (Chang, 1998; Fuller, Netter and Stegemoller, 2002). We also use a private target dummy as an alternative indicator for information asymmetry. We repeat the tests and our findings are robust.

<sup>13</sup>There are two reasons for using the industry level of analyst coverage to measure information asymmetry. First, analysts not only disseminate firm-specific information but also provide an array of industry and competitor information (Martens and Sextroh, 2021). Thus, information tends to flow more freely in

Table 5. Information asymmetry and M&A experience

	Interaction = Analyst following			Interaction = Frequent acquirer		
	(1)	(2)	(3)	(4)	(5)	(6)
All A-AA	1.911*** (0.000)			0.253*** (0.000)		
All A-AA × Interaction	−0.151*** (0.002)			−0.172** (0.013)		
Insider A-AA		1.690*** (0.000)			0.531*** (0.000)	
Insider A-AA × Interaction		−0.130*** (0.002)			−0.217 (0.188)	
Outsider A-AA			1.070*** (0.000)			0.327*** (0.009)
Outsider A-AA × Interaction			−0.086** (0.024)			−0.271* (0.054)
Interaction	−0.003* (0.065)	−0.003* (0.059)	−0.003* (0.064)	0.003 (0.327)	0.003 (0.426)	0.003 (0.406)
Constant	0.058** (0.012)	0.062*** (0.008)	0.060*** (0.010)	0.033* (0.062)	0.033* (0.065)	0.036** (0.045)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	1647	1647	1647	1620	1620	1620
R <sup>2</sup>	0.123	0.125	0.120	0.121	0.125	0.118

Note: This table reports the slope heterogeneities of the baseline regression (columns (1)–(3) of Table 2) based on two interaction items. The interaction item in columns (1)–(3) is the average number of unique analysts who provide 1-year-ahead annual forecasts in the 3 years before the announcement to public firms at the target firm’s 3-digit SIC industry level; in columns (4)–(6), the interaction item is a dummy variable which equals 1 if the acquirer undertakes at least two M&A within 5 years prior to the announcement year. Definitions of variables are given in Appendix A. All models include year and industry fixed effects. Standard errors are clustered at the firm level. The corresponding p-values are reported in parentheses. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively.

conjecture, we add Analyst following and its interactions with our social ties measures in the baseline specifications. The estimation results are presented in columns (1)–(3) of Table 5. We find that the coefficients on A-AA-related variables are significantly positive; however, the coefficients on the interaction terms are negative and significant. These results suggest that increased information production by analysts can reduce the advantages of engaging socially connected advisors. The findings support our conjecture that market investors acknowledge that the connected advisors can more effectively mitigate information asymmetry and create value for the acquirers when the target firms are opaque.

In addition, some existing studies document that more active/experienced acquirers have learned how to perform value-creating M&A transactions (see e.g. Aktas, De Bodt and Roll, 2013; Harford and Schonlau, 2013). Experienced acquirers should know much about the acquisition process, be more proficient at collecting information, negotiating and operational combinations and rely less on M&A advisors. Thus, we conjecture that connected advisors will be more

industries with more analyst coverage. Second, a significant proportion of the targets in our sample are private firms, which are not covered by financial analysts. Our findings remain robust when considering firm-level analyst coverage.

valuable and helpful when the acquirers have less prior acquisition experience. We construct a dummy variable (Frequent acquirer) that equals 1 if the acquirer had undertaken two or more M&A transactions over the 5-year period before the announcement date, to capture the acquirer’s M&A experience. We then augment the baseline specification by adding the indicator variable and its interactions with our social ties variables as additional explanatory variables. We present the results in columns (4)–(6) of Table 5 and find the coefficients for the interaction terms are negative and significant when the measures of social ties are All A-AA and Outsider A-AA, which suggests that the value created by the acquirer–advisor social ties is lower when acquirers have more M&A experience. The findings indicate that investors emphasize the value of acquirer–advisor social connections and react more positively to deals involving such connections when the acquirer has less acquisition experience.<sup>14</sup> The results, on the other hand, contradict

<sup>14</sup>We also conduct subsample analysis to examine the impact of acquisition experience on the relationship. We divide the sample into two subgroups: one consisting of frequent acquirers and the other of fresh acquirers. This classification is based on whether the acquirer undertook at least two M&A within the 5 years prior to the announcement year (Billett and Qian, 2008). We find that all three A-AA measures are positive and



Table 6. The impact of connections on takeover premia and deal withdrawal

	Premia 4W			If withdrawal	
	(1)	(2)	(3)	(4)	(5)
All A-AA	-1.568*			-0.625	-0.599
	(0.071)			(0.144)	(0.186)
Insider A-AA		-1.223**			
		(0.039)			
Outsider A-AA			-0.823		
			(0.183)		
Premia 1W				-0.773	
				(0.271)	
Premia 1W × If All A-AA				1.788**	
				(0.035)	
Premia 4W					-1.255
					(0.105)
Premia 4W × If All A-AA					1.768*
					(0.071)
Constant	0.760***	0.764***	0.748***	-3.674**	-3.365**
	(0.000)	(0.000)	(0.000)	(0.013)	(0.021)
Controls	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Obs.	813	813	813	909	909
R <sup>2</sup> /Pseudo-R <sup>2</sup>	0.196	0.196	0.195	0.189	0.186

Note: This table reports results relating to the takeover premia and the probability of an M&A deal withdrawal. The sample of deals consists of US M&A completed between 2000 and 2022, where the acquirer, target and acquirer's advisor are recorded by BoardEx. The dependent variable in columns (1)–(3) is the takeover Premia 4W and that in columns (4) and (5) is a dummy variable which equals 1 if the acquirer withdraws from the M&A deal, and 0 otherwise. Premia 4W (or Premia 1W) is defined as the offer price divided by the target stock price 4 weeks (or 1 week) prior to the deal, minus 1. If All A-AA is a dummy variable which indicates the existence of an A-AA tie. Logit regressions are used for columns (4) and (5). Definitions of variables are given in Appendix A. All models include year and industry fixed effects. Standard errors are clustered at the firm level. The corresponding p-values are reported in parentheses. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively.

an explanation involving an omitted variable problem in which experienced acquirers would be more likely to gain connections with M&A advisors and, at the same time, also be less likely to make value-destroying deals (Jaffe, Pedersen and Voetmann, 2013).

#### *When do acquirers have an edge, given the director–advisor social ties?*

Our analysis thus far conveys a superior acquirer performance when the acquirers hold social ties with their advisors. In this section, we explore potential channels for the value creation associated with such connections. We put forward that the superior performance of acquirers with social ties (with their advisors) may be due to an informational advantage, driven by informed advisors structuring deals in an abstemious manner for acquirers. Strong interpersonal connections could strengthen advisors' motivation to shoulder more responsibility for the deals, which together with good access to the acquirer's internal information may result in a relatively agreeable and low price being paid to the target. Then, the gains of the acquirers may be transferred to losses from the target firms. Moreover, the connections weaken the reliance on fairness opinions

and other services otherwise required in M&A, reducing the advisors' costs when pricing and structuring the deals. Thus, connected advisors may charge relatively low advisory fees on such deals.

*The impact of acquirers' director–advisor social ties on premia and target gains.* One potential source of value creation could be an enhanced willingness of connected advisors to share information, which provides acquirers with an advantage in pricing potential target firms. Thus, acquirers hiring connected advisors are less likely to overpay in transactions. The takeover premium is regarded as one of the most important factors to determine whether deals are value-enhancing or value-destroying for acquirers (Cai and Sevilir, 2012; Song, Wei and Zhou, 2013). Put simply, we predict that socially connected advisors help acquirers pay lower takeover premia and can advise acquirers to withdraw from transactions if the demanded premia are too high, thus protecting shareholder value and enhancing long-term performance. Columns (1)–(3) of Table 6 report the results on the relation between social connections

significant in the subsample of acquirers with limited acquisition experience, while All A-AA and Outsider A-AA lose their significance in the subsample of experienced acquirers.



Table 7. The impact of connections on target CAR

	Target CAR [−1, +1]			Δ\$TCAR		
	(1)	(2)	(3)	(4)	(5)	(6)
All A-AA	−1.328*** (0.008)			−0.619*** (0.001)		
Insider A-AA		−0.995** (0.021)			−0.516*** (0.006)	
Outsider A-AA			−0.683* (0.083)			−0.428*** (0.000)
Constant	0.393*** (0.000)	0.372*** (0.000)	0.384*** (0.000)	0.049* (0.073)	0.036 (0.183)	0.048* (0.079)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	772	772	772	510	510	510
R <sup>2</sup>	0.300	0.301	0.298	0.215	0.218	0.217

Note: This table reports results relating to the value change of the target. The dependent variable in columns (1)–(3) is the target’s 3-day CAR; in columns (4)–(6), it is the relative gain of the target versus the acquirer. Definitions of variables are given in Appendix A. All models include year and industry fixed effects. Standard errors are clustered at the firm level. The corresponding p-values are reported in parentheses. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively.

and takeover premia, while columns (4) and (5) focus on the impact of social connections on the relation between takeover premia and the probability of deal withdrawal. We measure the takeover premia as the offer price divided by the target stock price 4 weeks (or 1 week) prior to the announcement date minus 1 (Yawson and Zhang, 2021). All regressions control for the same set of firm and deal characteristics as in the main analysis.

The results reported in column (1) show that connections with the advisor significantly reduce the price paid to the target at the 10% level. The negative relation implicitly provides a potential explanation for superior acquirer performance in connected deals. Executives and independent directors may have differing abilities to participate in each step of the M&A process. As in the earlier analysis, we separately examine the impacts of connections of insider and outsider members, with the results reported in columns (2) and (3). We find that only the coefficient on Insider A-AA is negative and significant (at the 5% significance level). In economic terms, a one-standard-deviation increase in Insider A-AA decreases the level of the premia by 1.83%. The findings suggest that socially connected insiders, that is executive directors and other senior managers, have a greater incentive to bargain for a favourable price and thus have a more significant impact on takeover premia than socially connected outsiders. Columns (4) and (5) further present the results of logit regressions where the dependent variable is an indicator equal to 1 if the deal is withdrawn, and 0 otherwise (i.e. completed deal). We find that coefficients of the interaction term between premia and advisor tie are positive and statistically significant, indicating that connected

advisors would suggest acquirers forgo overpriced targets.

In addition, it is reasonable to investigate whether the value created by relatively low takeover premia is at the expense of the target’s interests. In columns (1)–(3) of Table 7, we consider the target’s CAR [−1, +1] as the dependent variable and the percentage of socially connected pairs across all potential pairs of senior managers and directors as our key independent variable, in addition to the same control variables as in the main analysis. The results in columns (1)–(3) show that the extent of the social connection between the acquirer and their corresponding advisor is negatively related to the target announcement returns. Specifically, a one-standard-deviation increase in the connection variable leads to a decrease of 173 bp in the target CAR. This is in line with our hypothesis that low takeover premia create value for acquirer shareholders but in turn reduce the value for target shareholders.

To further understand the gains (losses) of the acquirers and targets due to connected advisors, we follow Ahern (2012) and Cai and Sevilir (2012) to define the relative gain of the target as the difference in dollar gains between the target and the acquirer, scaled by the sum of the acquirer’s and the target’s market value 50 days prior to the announcement date. Specifically, we construct the measure as follows:

$$\Delta\$Target\ CAR = \frac{Target\ MV \times TCAR - Acquirer\ MV \times ACAR}{Acquirer\ MV + Target\ MV}$$

We proceed with our investigation of the target’s performance by examining the effect of the acquirers’

social connections on this relative gain of the target. In columns (4)–(6) of Table 7, we show that the estimated coefficients of the three connection variables remain negative and significant, further supporting the notion that connected advisors help acquirers extract a relatively larger share of the acquisition gains.

*The impact of director–advisor social ties on advisory fees.* Investment banks play an important role in facilitating the completion of acquisition deals. They provide professional advice on identifying potential targets, pricing the targets, structuring the deals and providing advice on financing and then earn a substantial amount in advisory fees. Advisory fees make up a large proportion of the transaction costs for acquirers, especially for small or inexperienced firms.<sup>15</sup> Thus, if an acquirer can help in reducing advisory fees without compromising the quality of advisory services, it will create additional value for acquirers and this will ultimately lead to higher announcement returns.

Social capital theory suggests that interpersonal relations can generate value for individuals and related parties as they provide resources that can be used to achieve desired outcomes. Within the context of M&A, this theory implies that the trust and network cohesion inherent in social connections can facilitate more effective communication and interest alignment between the acquirer and its advisor. Specifically, the familiarity between advisors and acquirers simplifies the task of identifying appropriate targets and assessing the potential synergies of a merger, thereby reducing the complexities and costs associated with these processes. Moreover, the established trust and familiarity between acquirers and advisors can lower sales costs, reduce the time and effort spent in contract negotiations and help acquirers understand the strategic considerations in planning an M&A. We therefore conjecture that advisors may charge a ‘friendly’ price for their services due to the relationship, that is advisory fees may be lower when the acquirer shares a social connection with its advisor.

We have collected data on advisory fees from the SDC database. To investigate this potential cause of acquirers’ superior performance, we take the natural logarithm of advisory fees as the dependent variable in a multivariate framework and report the results in Table 8. We find that greater intensity of social connections between the acquirer and the corresponding advisor is associated with lower advisory fees. For example, the estimated coefficients on All A-AA and Insider A-AA are negative and statistically significant. It is noteworthy that, as shown in column (3), the connections of outsiders, namely independent directors, have a trivial effect. This

<sup>15</sup>For instance, in the deal in which Nuvelo Inc. bought ARCA biopharma Inc., the acquirer’s advisor, Jefferies & Co. Inc., received advisory fees amounting to \$1.5 million, equalling approximately 30% of the transaction value.

Table 8. The impact of connections on advisory fees

	Advisory fee		
	(1)	(2)	(3)
All A-AA	−2.430* (0.087)		
Insider A-AA		−2.530*** (0.004)	
Outsider A-AA			−1.290 (0.157)
Constant	−4.810*** (0.000)	−4.790*** (0.000)	−4.810*** (0.000)
Controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Obs.	1641	1641	1641
R <sup>2</sup>	0.720	0.720	0.721

*Note:* This table reports results relating to the advisory fees paid by acquirers in M&A negotiations. The dependent variable is the log value of the advisory fees (\$ million). Definitions of variables are given in Appendix A. All models include year and industry fixed effects. Standard errors are clustered at the firm level. The corresponding p-values are reported in parentheses. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively.

pattern is similar to those in the analysis of the takeover premia, implying that executives and senior managers engage more heavily in the M&A decision and implementation and have stronger incentives to negotiate the fees. Overall, these results support the notion that the familiarity stemming from socially connected pairs allows advisors to structure deals effortlessly and charge lower fees to acquirers, providing another potential source of value creation.<sup>16</sup>

#### Deal initiation

Connected advisors may play an important role in the initial stage of the merger process. This notion originates from extant studies in the M&A literature. Some studies have highlighted the importance of the deal initiation party in M&A (e.g. Fidrmuc and Xia, 2019; Masulis and Simsir, 2018). As a result, we further examine whether a connected advisor assists acquirers in identifying a suitable target that offers the highest value-added potential and recommending it to the acquirer. We conjecture that the acquirer benefits most from its ties with the advisor when the advisor initiates the deal and recommends the target to the acquirer. To execute this task, we manually collect information on the identity of the initiating party from the ‘background

<sup>16</sup>Besides the M&A advisory fee, we also examine the impact of acquirer–advisor social ties on the time to completion of the M&A. We find that acquiring firms with connected advisors can experience reduced M&A deal completion times. For the sake of space, detailed discussions on these tests are presented in Section 4 of the Supplementary Material.

of the deal’ section of DEFM14A, PREM14A, 14D9, TO-T and S-4 company filings, obtained from the SEC EDGAR database (see Masulis and Simsir, 2018). Deal initiation information is not available for all of the deals in our sample. After carefully scrutinizing the filings, we identify a total of 439 deals (out of 1647) with clear initiation information. Based on the information, we classify those deals into three categorical groups: 184 target-initiated deals, 163 acquirer-initiated deals and 92 advisor-suggested deals. Examples of acquirer-, target- and advisor-initiated deals are provided in Section 6 of the Supplementary Material.

To test the effects of the initiating party on the relation between the A-AA connection and the acquirer CAR, we create three deal initiation indicators to capture each type of deal and include these indicators and their interactions with the social ties measures in the baseline regressions. Table 9 reports these regression results, where the target-initiated deals are considered the base group. We find that the coefficients of the interaction terms All A-AA × Advisor\_recommended and Insider A-AA × Advisor\_recommended are both positive and statistically significant, suggesting that when the target is recommended by the advisor, there is a significant improvement of the positive impact of social connections between the acquirer and the advisor on the deal’s performance. In contrast, the coefficients of the interaction terms for acquirer-initiated deals are statistically indistinguishable from zero. Taken together, we find that deal initiation is an important channel through which acquirer–advisor social ties create value in mergers, with initiation by the acquirer’s advisor exhibiting the most pronounced effect.<sup>17</sup>

In sum, our analysis of takeover premia, target CAR, advisory fees, deal withdrawal and deal initiation has different implications regarding value-creation mechanisms. It shows that the presence of social connections between acquirers and their advisors helps the acquirers identify suitable targets, buy targets at an attractive price and leads the advisors to charge lower advisory fees. The connected advisors can exploit an information advantage to reduce the costs of structuring deals, as well as the costs of negotiating with the acquirers.

### Robustness and sensitivity analysis

The final set of tests examines the robustness of the acquirer–advisor social tie results to alternative empirical specifications and social tie measures. In the main analysis we use a window of 20 years before the M&A announcement to identify past employment overlaps between acquirers’ directors or executives and

<sup>17</sup>We would like to thank the reviewer for pointing out this important channel.

Table 9. Deal initiations and acquirer announcement return

	Acquirer CAR [−1, +1]		
	(1)	(2)	(3)
All A-AA	0.251 (0.481)		
All A-AA × Acquirer_initiated	0.508 (0.328)		
All A-AA × Advisor_recommended	2.483** (0.042)		
Insider A-AA		0.153 (0.666)	
Insider A-AA × Acquirer_initiated		0.294 (0.506)	
Insider A-AA × Advisor_recommended		3.931*** (0.004)	
Outsider A-AA			0.316 (0.153)
Outsider A-AA × Acquirer_initiated			0.288 (0.413)
Outsider A-AA × Advisor_recommended			−0.130 (0.785)
Acquirer_initiated	0.004 (0.664)	0.006 (0.521)	0.003 (0.699)
Advisor_recommended	−0.002 (0.823)	−0.003 (0.678)	0.005 (0.536)
Constant	0.098 (0.235)	0.111 (0.168)	0.085 (0.298)
Controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Obs.	439	439	439
R <sup>2</sup>	0.213	0.219	0.207

Note: This table reports results relating to the marginal effects of A-AA on the acquirer’s 3-day CAR conditional on deal initiation. We collect the initiation information of the deal from the background section of the DEFM14A, PREM14A, 14D9, TO-T and S-4 company filings in the SEC EDGAR database. The sample of deals consists of 439 US M&A completed between 2000 and 2022, where the initiation information is available and all acquirers, targets and acquirers’ advisors are recorded by BoardEx. We classify the deals into three groups. Group 1 consists of deals initiated by the acquirer without the help of the acquirer’s advisor. Group 2 consists of deals involving the target that are likely to have been recommended by the acquirer’s advisor. Group 3 includes deals that are initiated by the target and is treated as the reference group. To represent these groups quantitatively, we create two dummy variables: Acquirer\_initiated (Group 1) and Advisor\_recommended (Group 2), taking the value 1 if the deal was acquirer initiated or the target was recommended by the advisor, and 0 otherwise. Control variables are defined in Appendix A. All models include year and industry fixed effects. All standard errors are clustered at the firm level. The corresponding p-values are reported in parentheses. \*\*\*, \*\* and \* stand for statistical significance based on two-sided tests at the 1%, 5% and 10% levels, respectively.

those of their M&A advisors. However, the personal connections may be more pronounced and impactful when established within a shorter window relative to the M&A announcement. Therefore, to ensure that our results are not sensitive to the length of past employment overlaps between directors and advisors, we conduct a robustness check by using a 10-year window

Table 10. Robustness tests

	Ties within 10 years (1)	CEO A-AA (2)	Dummy If All A-AA (3)	Firm fixed effect (4)	Without controlling A-T tie (5)	Club tie (6)
All A-AA	0.448*** (0.000)	0.276*** (0.001)		0.532** (0.029)	0.301*** (0.002)	0.086 (0.320)
If All A-AA			0.007* (0.051)			
Constant	0.033* (0.063)	0.037** (0.041)	0.045** (0.014)	0.086* (0.070)	0.023* (0.066)	0.040** (0.027)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	No	Yes	Yes
Firm FE	No	No	No	Yes	No	No
Obs.	1647	1647	1647	1647	2804	1647
R <sup>2</sup>	0.119	0.120	0.114	0.859	0.087	0.113

Note: This table reports a series of robustness tests. The dependent variable is the acquirer's CAR  $[-1, +1]$ . Column (1) only considers ties connected within the 10 years prior to the deal announcement year. Column (2) reports the results for CEO's ties. Column (3) reports results based on If All A-AA, which is a dummy variable that equals 1 if the acquirer has a connection with its advisor, and 0 otherwise. Column (4) controls for the firm fixed effect. Column (5) reports the results without controlling for A-T ties (i.e. without requiring the target company to have a record in BoardEx). Column (6) reports the results based on club ties rather than employment ties. Definitions of the variables are given in Appendix A. All models include year and industry fixed effects (except column (4)). Standard errors are clustered at the firm level (except column (4)). The corresponding p-values are reported in parentheses. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively.

to construct the social ties measure. The results are reported in column (1) of Table 10. Our findings remain robust when using the employment overlaps between directors and advisors within a shorter timeframe.

El-Khatib, Fogel and Jandik (2015) show that the CEO network can facilitate value-enhancing acquisition decisions. Therefore, we also use the connections between the acquirer's CEO and the corresponding advisor (including the directors and management team of the advisor) as an alternative acquirer–advisor social tie measure. The results are reported in column (2). We find that the results are robust to using the acquirer CEO–advisor social tie measure.

Because our main social tie measures are right-skewed, we also construct a dummy variable to capture the presence of acquirer–advisor social ties in M&A deals as an alternative social tie measure. The dummy variable If A-AA equals 1 if there is at least one social connection between the acquirer and its advisor before the M&A announcement, and 0 otherwise. The results, reported in column (3), are robust to this measure.

We also conduct a more robust specification by controlling for the acquirer fixed effect. The results are reported in column (4). The positive effect of A-AA remains significant after controlling for all time-invariant differences between the firms. We further conduct a robustness test based on a sample in which we do not control for A-T ties. The results presented in column (5) remain robust when using this larger sample. In column (6), we explore the social ties based on common club membership, which has no significant impact on acquirer CAR. Overall, the results of our robustness tests are highly aligned with our main analysis.

## Conclusion

We analyse how the intensity of social ties between the directors or senior managers of merging firms and the acquirers' advisors impact M&A outcomes. The results indicate that the intensity of acquirer to acquirer's advisor connection has a strong positive effect on the short- and long-term performance of the acquiring firm. These outcomes remain robust when we address endogeneity concerns by relying on tests using subsamples, an IV approach, the PSM and entropy balancing, and when we use alternative social tie measures and model specifications. We also find that the positive wealth effect of A-AA (the intensity of the social ties between the acquiring firms' directors and their corresponding advisors) on acquirer CAR is more pronounced when the target firm's financial environment is more opaque, the target is recommended by the acquirer's advisor or the acquirer lacks prior M&A experience.

In addition, we explore the channels through which the acquirer's value gains due to the A-AA connection are possible. We find that the impact of A-AA on acquirer gains is primarily driven by lower advisor fees and lower offered takeover premia (also associated with lower target CAR). Moreover, we find that acquirers with connected advisors are more inclined to terminate M&A transactions when the takeover premia are relatively high, indicating that connected advisors may also counsel acquirers to withdraw from deals that could potentially be value-destroying. Overall, our findings suggest that acquirers with social ties with their advisors experience lower M&A transaction costs and



alleviated conflicts of interest between themselves and their advisors.

Lastly, our study contributes to the growing literature that addresses the implications of social ties in corporate finance, and especially in the context of M&A. More specifically, we shed light on the importance of social ties between acquirers and acquirers' advisors, whose impact on M&A success has been shown to be vital.

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## Supporting Information

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