Advisors Lending to the Advised Acquirer as a Last Resort

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Abstract

It has increased notably in recent decades that acquirer's financial advisors also participate in financing the M&A they advise. We find that these advisor-led syndicated loans have unusually high spreads. The advisor's dual role (advisory and financing) also significantly reduces the acquirer's M&A announcement effect. All this could reflect a conflict of interest, undermining the information production and certification roles of banks in loan financing. However, our evidence shows that post-M&A underperformance is absent for these acquirers, and their need for external finance justifies the relatively expensive advisor lending. The investment banks act as last-resort lenders in these M&A deals.

Keywords: Mergers, Acquisitions, Investment Banking, Advisor Lending, Last Resort Financing

JEL classification: G14; G23; G24; G34

1. Introduction

One of the most important businesses of investment banks is intermediating between corporate acquirers (or bidders) and potential sellers (targets) in mergers and acquisitions (M&As). Large M&A deals typically require the entire complement of advisory, underwriting and financing services. However, the Glass-Steagall Act of 1933 separated investment banks (advisory and underwriting) from commercial banks (loan financing), due to concerns about conflict of interest. In view of the viable universal banking offered elsewhere in the globalized capital markets, the Gramm-Leach-Bliley Act of 1999 again enabled both commercial and investment banks to enter each other's businesses in the U.S. As a result, while professional barriers for financing can be much lower than those for advisory work, the "bulge bracket" investment banks have often played a dual role in providing both advice and financing in the same deal, and enjoyed lucrative lending opportunities. This advisor-lender dual role can facilitate complex megadeals, but may also give rise to concerns about conflicts of interest. Such agency problems, especially in the financial industry, deserve close scrutiny (Kroszner and Strahan, 2001; Mehran and Stulz, 2007).

This study investigates the situation where the advisors also lend to the acquirer they are advising during a merger or acquisition. In recent two decades, such advisor lending has increased notably, especially in large deals. It peaked in 2007 and remained phenomenal in 2012 when, in that year alone, deals of an aggregate transaction value of $32.38 billion involved advisor-led syndicated loan financing of $14.83 billion. Under asymmetric information, loan financing can generate positive information production and certification effects (Diamond, 1984; James, 1987; Lummer and McConnell, 1989). Previous research showed that bidders' average announcement effect in M&A deals that involve loan financing is significantly positive (Bharadwaj and Shivdasani. 2003). The issue here is not loan financing in general but advisor

lending, which Allen and Peristiani (2007) suggests is expensive. There has been little research, however, about whether expensive advisor lending is indicative of a conflict of interest, or of something else.

In this paper, we test two hypotheses. One is a conflict of interest hypothesis. Rajan (1992) has argued that banks' informational advantage can have a dark side. Banks can extract rent from their captive client firms by charging high interest rates in relationship lending. Empirical evidence from the US (Houston and James, 1996) and Japan (Wu, Sercu and Yao, 2009) has shown a negative relation between bank financing and firm valuation, supporting Rajan's holdup hypothesis. Exploiting information asymmetry to extract rent might even lead to bank-led over-investment, as shown, for example, in Japan (Weinstein and Yafeh, 1998; Wu and Xu, 2005; Wu and Yao, 2012). This is different from Jensen's (1986) agency problem in dealing with free cash flow but similar in its consequences, casting doubt on the effectiveness of Japan's banking system, which was much envied before the 1990s (Kang and Stulz, 2000). Japan's experience is relevant because powerful Japanese main banks have long practiced universal banking. If advisor lending abets acquisition-led overinvestment such that the advisors share in rents arising from corporate empire-building, that would constitute an undeniable conflict of interest. While evidence of high costs of advisor lending or reduced M&A announcement effect may not necessarily support the conflict of interest hypothesis, consistent post-deal underperformance of the acquirers does.

The competing hypothesis we propose is that what is involved is in fact last resort financing. Large M&A deals require heavy financing, sometimes necessitating a resort to costly marginal sources. Large firms tend to obey Myers' (1984) pecking order in which the firms use internal funds first, then risky debt, and as a last resort, new equity, due to the adverse selection

effect of asymmetric information about assets-in-place (Myers and Majluf, 1984). If an advised acquirer has already used up much of its new equity financing capacity, borrowing from the advisor can be a last resort. In a recent study, Lim, Minton and Weisbach (2014) find that high syndicated loan spreads can indicate last resort financing. They showed that a higher cost of noninvestment grade syndicated loans when involving a hedge or private equity fund has to do with the borrower's financial constraints, as measured by Hadlock and Pierce's (2010) size-age (SA) index, and the hedge and private equity funds act as last-resort lenders. A high degree of financial constraints can reflect a strong need for extra external finance to complete the M&A deal. Evidence that advisor lending serves this need would thus support the last resort financing hypothesis.

The evidence presented in this paper is not consistent with the conflict of interest hypothesis, but support the last resort financing hypothesis.

To test the two competing hypotheses, we collect a sample of 473 completed M&A deals that involve bank loan financing for the U.S. non-financial acquirers during the period 1990-2012. These 473 deals involve 822 syndicated loan facilities in total. Among the 473 deals, we are able to identify 222 dual role M&A deals in which the advisors lend to their advised acquirers (we call these deals "dual-role deals" thereafter). 69% of nondual-role deals and 96% of dual-role deals occur after 2001 in our sample, suggesting that an aggressive inroad into the syndicated loan business for financing M&A deals, especially by the bidder's advisors, is a recent phenomenon. To show its significance, the average dual role deal value is $3,161 million, compared with a much smaller value of $1,218 million, on average, for all advised M&A deals during the period 1996-2009 as reported in Golubov, Petmezas and Travlos (2012).

We obtain detailed deal and takeover loan characteristics as well as firm characteristics from the SDC, Dealscan and Compustat/CRSP databases. Using a host of deal and firm characteristics in probit regressions to predict a dual role choice in our sample of M&A deals, we find that an advisory-lender dual role is more likely to occur with larger acquirers and in larger deals. Interestingly, the dual role is more likely to be associated with acquirers that have higher pre-deal cash holdings relative to total assets, but less likely with those that have higher pre-deal cash holdings relative to the deal's value. A bidder's high pre-deal cash holdings per se may not necessarily indicate abundant financial slack but can mirror low slack financing capacity. An acquisition-ambitious bidder can reach pre-event full financing capacity already, only to find a strong need for extra external finance to complete a big-ticket deal. A bidder's pre-deal cash relative to the deal's value would actually reflect the bidder's financing deficit. A need for external finance is often practically indistinguishable from the concept of financial constraint (e.g., Hennessy and Whited, 2007).

The syndicated loan all-in-drawn spreads for M&A loan financing are, on average, 224 basis points (bps). In our regressions to explain the loan spreads, the dual role dummy is significantly positive, controlling for various loan, firm and deal characteristics as well as year, industry and loan type fixed effects. The dual role loans are in fact 13% to 19% more expensive than nondual role loans, depending on what control variables are in the regressions. The main message here is that, *ceteris paribus*, the advisor lending is significantly more expensive in M&A loan financing.

To make sure that there is convincing evidence for expensive advisor lending. We do two additional tests. We use the Heckman two-stage procedure to correct a potential selection bias due to the dual role choice. We find that the Heckman selection bias is evident but after the

correction the results for the dual role dummy to explain the loan spreads remain qualitatively unchanged. In the second test, we are able to show that advisor lending is unusually expensive, compared with loans that the same acquirers use at other times during the whole sample period.

How does the market react to the advisory lending? We show that the acquirers' announcement effects of M&A, for example, measured by CAR[-1,1] (cumulative abnormal return for three event days), on average, are 1.4% in deals with a dual role and 3.7% without a dual role, both significantly different from zero, consistent with the positive information production and certification literature of loan financing in M&A (Bharadwaj and Shivdasani, 2003). However, the dual and nondual role difference in the announcement effect is significant and negative, suggesting that the advisor-lender dual role reduces the positive effect of loan financing. In event study regressions controlling for various deal and firm characteristics, we also find evidence for this seemingly adverse dual role effect. The significant discount on positive information production and certification effects of loan financing in M&A deals seem to reflect the stock market's concern on the advisor dual role lending which is unusually expensive.

The results of long-run effects of advisor lending, however, are surprising. We find that there is no post-deal underperformance of the acquirers in dual role deals whatsoever. We first measure post-M&A performance using BHARs (buy-and-hold abnormal returns) up to 500 days. The BHARs for the dual role acquirers are, on average, nonnegative, and actually are even positive and significant in the first 250 days. The acquirers in deals without a dual role show insignificant BHARs. In comparison, the dual role acquirers even have a significantly higher average BHAR by 6.1% in the first 250 days.

Following a quasi-experiment design similar to what is adopted in Seru (2014) and Bena and Li (2014), we further use a propensity score matching method in gauging long-run

performance. Compared with industry, size, and book-to-market-ratio matched bidders in failed M&A deals, the dual role acquirers have a significantly higher average BHAR, by 19.9%, in 500 days. The failed M&A deals show a significantly negative average BHAR. This sharp contrast indicates that there would be a huge loss of value-added opportunities if the dual role bidders failed to complete their M&A deals.

Long-term underperformance tends to be often associated with acquirers in large deals and is closely scrutinized in the literature (see the review of Betton, Eckbo and Thorburn, 2008). We also use return to assets, ROA, as a robustness check for performance up to three years. We confirm that using this accounting measure, there is no sign of long-term underperformance of the dual role acquirers either. Taken together, the results help dispel the concerns on an acquisition-led overinvestment which can be pronounced in large M&A deals (Moeller, Schlingemann and Stulz, 2005; Fu, Lin and Officer, 2013).

Finally, we show that expensive advisor lending is actually consistent with a last resort financing. If the advisor lending arises as a last resort, expensive advisor lending should be pronounced mainly in financially constrained acquirers. To test this, we add an interaction term for the advisor-lender dual role dummy and a measure for financial constraints in regressions explaining loan spreads. First, following Lim, Minton and Weisbach (2014), we use Hadlock and Pierce's (2010) size-and-age (SA) index as a proxy for financial constraints. We find that controlling for other loan spread determinants, the slope estimate for the interaction of dual role dummy and the SA index is significant and positive. This result indicates that advisor lending gets more expensive when acquirers are more financially constrained. Second, using Acquirer cash/deal value to replace the SA index, the conclusion remains the same. The slope estimate for the interaction between dual role dummy and Acquirer cash/deal value—which reflects, in

reverse order, the deal financing deficit—is significant and negative. This says explicitly that expensive advisor lending is observed with bidders that have a greater need for extra finance to complete the M&A deals, consistent with the last-resort-financing hypothesis.

The remainder of the paper proceeds as follows. Section 2 points out relevance of this study to the existing literature, highlighting its potential contributions. Section 3 describes the data. Section 4 shows the analysis of loan costs and examines M&A announcement effects. Section 5 provides evidence for supporting the last resort of financing hypothesis rather than the conflict of interest hypothesis. Section 6 concludes.

2. Relevance to Recent Literature

This paper is related to previous work on dual roles played by financial institutions and professional investors. Dual roles arise in various forms. For example, Jiang, Li and Shao (2010) demonstrate that non-commercial institutional holding of both the equity and the debt of the same firms predicts better incentive alignment. The advisor-lender dual role in this paper is new to the literature.

It is also related to the literature regarding M&A investment banking. Golubov, Petmezas, Travlos (2012) show that top-tier investment banks do live up to their better reputation by providing premium services. Investment banks are active financial intermediaries, especially in large M&A deals. Early research focuses on the contract structure in deals and how investment banks are chosen to facilitate deals. For example, McLaughlin (1990, 1992) shows that contracts in M&A are structured to partially solve conflicts of interest for the banks. Servaes and Zenner (1996) find that acquirers are more likely to rely on an investment bank in more complex deals to lower their transaction costs and, to some extent, the costs associated with agency conflicts and

asymmetric information. To the extent that reputation matters to investment banks, the advisor-lender dual role can be an explicit channel for them to reinforce reputation.

The findings of this study are also closely related to work on the importance of sources of M&A financing. Bharadwaj and Shivadasani (2003) focus on loan-financed tender offers in the 1990s without analyzing the loan spreads. The findings of this study explain why advisor lending (which is more prevalent after 2001) is unusually expensive. Schlingemann (2004) examines pre-deal financing, and Allen and Peristiani (2007) explain why advisor post-deal bank financing is cheaper, but this study not only explains loan costs but also examines deal valuation effects. To our knowledge, this paper is the first to examine the effect of investment banks' cross-selling services with advice and lending explicitly in M&A deals.

These findings also contribute to the expanding body of knowledge about financial institutions as a last resort. Hedge funds can, through private placement of equity (Brophy, Ouimet and Sialm, 2009) and through participation in noninvestment-grade loan syndication (Lim, Minton and Weisbach, 2014), provide last resort financing. The analysis of advisor dual role lending in this study sheds new light on how investment banks mitigate bidders' financial constraints to complete megadeals.

3. Data

3.1 Sample Selection

We collect a sample of U.S. M&A deals that involve bank loan financing. The sample selection is first based on the Securities Data Company (SDC) M&A database. We require the M&A sample with deal announcement years from 1990 through 2012 to satisfy: (1) the announcement day was between January 1, 1990 and December 31, 2012, (2) the acquirer was not a financial

firm (SIC code 6000-6999), (3) the acquiring firm was from the "United States", (4) the acquirer's status was "Public", (5) the deal's status was "Completed", (6) the deal was not "Repurchase", "Recapitalization", "Spinoff", "Self-tender" or "Privatization", (7) the deal's value was greater than one million US dollars (Rau, 2000), and (8) the acquirer owned less than 50% of the target before the deal and sought control of more than 50% after the transaction. We further exclude transactions that use 100% of "Corporate Funds" or 100% of "Stock" as the source of funds, as reported in SDC, to ensure that the deals in our sample involve bank financing. The SDC database is conveniently linked to the Compustat and CRSP databases which report firms' financial statements and stock returns.

As a second step, the sample selection is based on Thomson Reuters' Dealscan database which reports more detailed information on syndicated loans involved in financing M&A deals. Wharton Research Data Services (WRDS) provides a facility linking the Compustat and Dealscan databases based on the work of Chava and Roberts (2008). The Compustat-Dealscan link file allows the sample to include more detailed information on takeover loans. The loans we study are loan facilities whose primary purpose was "Takeover", "Acquisition Line" or "Merger", as reported in Dealscan during January 1989 and December 2013. Dealscan reports the names of both the bidder and the target firm in takeover loans and whether the bidder borrowed from its advisor(s) or others in connection with the transaction. We discover 3,550 loan facilities that are extended to 1,466 bidders to acquire 1,700 target firms (private and public).

The third step is to merge the two datasets. The merged sample meets these criteria: (1) the loan's starting date was no earlier than the week the deal was announced and no later than one

year after the deal announcement date, (2) the Compustat-Dealscan link file explicitly showed the acquirer to be the borrower, and (3) the target's name in the SDC database was the same as the name of the firm acquired in the transaction for which the M&A loan was used as reported by Dealscan. The matching was checked by hand and we solved a few nonessential differences in name formats.

This process identified a sample of 473 deals which involved 822 loan facilities in the bidder's financing. Among the 473 deals, 386 deals are advised M&A deals where a bidder employed at least one financial advisor and the remaining 87 transactions are in-house M&A deals where bidders do not hire advisors.

We also identified a subset of dual role deals in the 473 deals. We define dual role deals to be deals in which an investment bank both advised the acquirer and served as its lender. We use the dummy variable *dualrole* to flag dual role deals. *Dualrole* equals 1 for dual role deals, and 0 for the other cases. An advisor's lender status can be also extracted directly from the SDC dataset. It contains an Advisor Assignment Table which shows "provided/arranged financing" along with "financial advisor", "fairness opinion provider" and other descriptors. The SDC thus directly identified about 100 dual role deals. But the information on advisor lending in the SDC data seems far from complete. Fortunately, more dual role information is available from Dealscan which provides more names of lenders involved in deal-related loan syndicates. Manually cross checking with the name of advisor in the SDC against the name of lender in the Dealscan on each of the 473 deals identified 222 dual role deals, including those identified directly from the

SDC assignment table. The remaining 251 deals involved loan financing but no dual role.[1] Two examples of the dual role deals are shown in Appendix A.

3.2 Sample Statistic Description

Table 1 shows the resulting sample's simple statistics (sample size, mean and standard deviation) for various variables (deal, firm, and loan characteristics). The average transaction value for the sample of 473 deals is $1,970 million. For a comparison, the average value of all M&A deals between 1996 and 2009 in the sample of Golubov, Petmezas and Travlos (2012) is $1,218 million, and the value of those competed between 1990 and 2003 in the sample of Masulis, Wang and Xie (2007) is $626 million. So the deals here tend to be large. The 222 dual role deals are even larger, having an average value of $3,162 million. The other 251 deals with no dual role involvement have an average value of $915 million. Megadeals are more likely to involve a dual role.

Panel A of Figure 1 shows that most of the 473 deals which involved loan financing took place after 2001. More precisely, 96% of dual-role deals and 69% of the other deals occurred after 2001. Panel B shows a similar pattern in the annual number of loan facilities involved. All of this suggests that syndicated loan financing of M&A deals, and especially dual role financing, has largely been a recent phenomenon.

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[1] Dealscan reports a bank's role using the descriptors administrative agent, syndication agent, documentation agent, agent, co-agent, managing agent, lead arranger, book runner, or simply participant. Gatev and Strahan (2009) considered banks with an active role in a syndicated loan as lead banks if they were not explicitly labeled as a "participant". Among the 222 dual role deals identified in this study, there were only two in which one of the dual role banks was labeled as a "participant".

Table 1 also shows that hostile deals account for less than 3% of those included and competing deals for less than 5%. Neither shows any significant difference between the dual role deals (subpanel A) and the rest (B). All-cash deals in which part of the cash comes from loan financing, account for 37% of the dual role deals (A) and 41% of the others (B), a difference which is not statistically significant. The differences in variables Tender offer, Cross Industry dummies and Toehold also are not statistically significant. Public deals account for 56% of the dual role deals (i.e., more than half of the targets are public firms), significantly more than the 37% of the deals without a dual role. Thus megadeals are more likely to involve a public target.

The average market value of the acquirer's equity, Acquirer size, at its previous fiscal year end was $6,120 million in the dual role transactions, significantly larger than the average of $3,313 million in the deals without a dual role. Incorporating information on the average deal values, the average relative size of the dual role deals (deal value divided by firm equity) is 0.52, compared with 0.28 for the deals without a dual role. A dual role apparently helps ambitious bidders to complete megadeals.

Table 1 also shows that certain characteristics of the bidding firm significantly predict the relation of a dual role to reliance on external finance, but many other firm characteristics do not show a dual role difference. For example, in dual role deals, on average, the acquirer's Q (firm market to book ratio) is 1.86, its return on assets, ROA, is 0.05, tangibility is 0.26, cash holdings is 12% of assets, and Z score is 1.73. None of these descriptors is significantly different from the bidders in deals without a dual role (subpanel B). But the acquirers' average pre-deal leverage ratio and cash holdings as a percentage of the deal's value are significantly different from those from the group (B) bidders. In this comparison, the fact that the bidders in dual role deals have similar pre-deal cash holdings but significantly higher pre-deal leverage and lower cash to deal

value ratios reflects a significantly greater need for extra external financing to complete their larger M&A deals.

As also shown in Table 1, the number of deals (for which target firm information is available) is only 173, of which 101 deals are dual role (A) and 72 are nondual role (B). The average target firm size is $3,674 million for the dual role deals, significantly larger than the $2,814 million average for the nondual role deals (B). This is consistent with the pattern of deal transaction values. The target firms in the transactions for which target information is available are likely to be large firms. Their average size is even larger than the average deal value of the full sample of 473 deals. In this limited sample of 173, the target firm's Q and leverage ratio are both significantly higher for the dual role deals (A) than for the others (B). The targets' ROAs, however, are not significantly different between dual role deals and the others.

As further shown in Table 1, there are 817 loans for which loan characteristics are available. A first variable of interest is the cost of the loan. We use loan spread—the number of basis points (bps) over LIBOR or a LIBOR equivalent the borrower paid for each dollar drawn down—common in the literature, as a proxy for the cost of loan. The average loan spread in the sample of 817 loans is 224 bps with a standard deviation of 117 bps. To finance dual role deals (A), the average loan spread is 232 bps, significantly larger than the loan spread of 215 bps to finance nondual role deals (B). This constitutes prima facie evidence that advisor lending is significantly more expensive in completing M&A deals.

The average loan size is $691 million overall, with an average size of $872 million for the dual role loans, which is significantly larger than the $477 million average for the 373 nondual role loans. The average loan maturity of the dual role loans is 53 months, not significantly different from the others. Lim, Minton and Weisbach (2014) report an average maturity of 47

months for a sample of noninvestment-grade loans, and Graham, Li and Qiu (2008) report a 41 months average.

As also shown in Table 1, secured loans account for 76% of the dual role loans, a significantly greater portion than the 69% of the nondual role loans. Loans with a performance pricing feature account for 60% of the dual role loans and 57% of the nondual role loans, a difference which is not significant. But covenants are significantly different, 8 vs. 7 overall and so are general covenants, 6 vs. 5, but not financial covenants.

Table 2 shows a list of 12 types of loan facilities in the sample. The dominant type is revolver line with a maturity of more than one year. Such facilities account for 74% of the 817 loan facilities. They account for 76% of the 444 dual role loans and 72% of the 373 others. Such long maturity revolving credit lines could well have stood as a last resort for client firms.

In summary, the dual role M&A deals studied, on average, are larger in absolute terms and in relative size where both the acquirer and the target tend to be large, and a dual role tends to go along with a greater need for extra external financing. The dual role deals also involved higher interest rates and larger loan sizes, tighter covenants and more often collateral requirements than the deals without a dual role. With all this contrast, it is important to clarify whether the higher costs of the dual role loans associated with megadeals—situations favoring rent extraction from captive clients or rent sharing in abetting acquisition-driven overinvestment by bidders—reflect heightened conflict of interest in favor of investment banks as advisors, who are deemed to have information advantage in the deals they advise.

4. Evidence for Expensive Advisor Lending and Reduced M&A Announcement Effect

4.1. The Likelihood of a Dual Role Occurring in a Deal

To better understand a dual role choice, we use a host of deal and firm characteristics in probit models to explain the likelihood of loan-financed M&A deals involving a dual role lender. We include the deal and acquirer characteristics in specification (1) and add the target's characteristics in specification (2). Both year and industry fixed effects are included. The Fama-French 12 industry classification is used. All of the firm characteristics are measured as of the fiscal year end prior to the deal's announcement.

As shown in Table 3, the relative size slope is 0.412 (t-stat of 4.06) in regression (1) and 1.152 (t-stat of 3.52) in regression (2). Those estimates are notably different due to the different sample sizes for the different lists of variables. When we add the target's characteristics in regression (2), the number of deals with data available for all the explanatory variables drops drastically from 439 to 137. Nevertheless, the slope estimates for relative size in both specifications are positive with t-values greater than 3.5. These results suggest that investment banks are more likely to play a dual role in larger deals relative to the bidder's market capitalization.

Among the other deal characteristics, none are significant except the hostile deal dummy in regression (2), where the slope estimate is -2.09 (t-value=-2.23). Since regression (2) involves only public targets (as private targets seldom have firm data available), the result suggests that hostile bids for public firms are less likely to involve a dual role.

The likelihood of an investment bank playing a dual role is significantly associated with several acquirer characteristics: the acquirer size, Q, tangibility, cash to assets ratio, and the ratio of cash holdings to the deal's size, Cash/deal value. As shown in Table 1, regression (1) produces a slope estimate of 0.406 (t-value=6.18) for acquirer size, -0.215 (t-value=-2.05) for Q, 3.660 (t-value=4.49) for Cash/assets, and -1.448 (t-value=-5.23) for Cash/deal value. In the

second regression, among the target firm characteristics, only the slope estimate for the target size is significant.

The significant results together suggest that investment banks are more likely to play a dual role for larger acquirers with a larger market capitalization and a lower Q. At the same time, the acquirers tend to have larger cash holdings relative to total assets but hold relatively less cash holdings relative to the deal's value. In other words, larger pre-deal cash holdings probably indicate a firm closer to its full external financing capacity. The bidder's lack of funds to complete the deal increases the odds that an investment bank will play a dual role.

4.2. Dual Role Effects on Loan Costs and Terms

Will investment banks in such a dual role charge higher interest rates? The answer from the regressions is a resounding yes. All-in-spread, defined as the amount a borrower pays in basis points over LIBOR or a LIBOR equivalent for each dollar drawn, is a proxy for the borrower's total cost of a loan. We follow the literature and use the natural logarithm of all-in-spread, Ln(loan spread), as the regression dependent variable (e.g., Graham, Li and Qiu, 2008; Lin, Ma, Malatesta and Xuan, 2011; Hertzel and Officer, 2012; Lin, Officer, Wang and Zou, 2013). The dual role effect on the cost of a loan is with the control for other loan, acquirer and deal characteristics. We also control for year, industry and loan type fixed effects in regressions.

Table 4 shows that the dual role dummy variable, *Dualrole*, has significant and positive coefficients in all three regression specifications. The estimate in regression (1), for example, means that controlling for loan characteristics such as loan size, maturity and type, there is an 18.6% difference in logarithms of the loan spreads between deals with and without a dual role involvement. Investment banks in a dual role apparently charge significantly higher interest rates to the acquirers they advise.

Table 4 also highlights many other loan characteristic control variables (also used by Graham, Li and Qiu, 2008, and Lim, Minton and Weisbach, 2014). The coefficients of the loan size, performance pricing indicator and secured loan dummy terms are all significant in the three regression specifications. The negative slope for the loan size term captures economies scale in bank lending, consistent with the results of Allen and Peristiani (2007), Graham, Li and Qiu (2008) and Lim, Minton and Weisbach (2014). Competitive deals are rare, less than 5% of the sample (Table 1). The negative slope for the competing deal dummy is consistent with the results reported by Lim, Minton and Weisbach (2014) with a sample of noninvestment-grade loans. The negative slope of the secured loan dummy term is consistent with the observation that secured loans tend to be more risky (Lim, Minton and Weisbach, 2014). The slope estimates for ln(loan maturity) are significant in regressions (1) and (3). Lim, Minton and Weisbach (2014), however, find a negative relation between ln(loan maturity) and the cost of noninvestment-grade loans. The lack of significance for covenant counts is consistent with their findings.

As also shown in Table 4, most the firm and deal characteristics are not significant consistently in all the regression specifications. For example, the slope for the bidder's size, Acquirer ln(size), is significant only in regression (3). The significant result is consistent with the understanding that a larger firm would be expected to have lower loan costs (e.g., Fama, 1985; Diamond, 1991). The slope estimates for the acquirer's Z score term are, however, consistently significant, as Graham, Li and Qiu's (2008) work predicts. Firms with a lower Z score have higher default risk after all. The fact that most firm characteristics are not consistently significant is perhaps because the dual role effect tends to dominate in this sample.

Table 4 also shows that among the deal characteristics, only tender offer dummy is significant but weakly. The slope estimate for Tender offer is -0.137 (t-value=-1.78),

significantly negative at 10% confidence interval. This suggests that tender offers tend to incur lower loan costs. Note that tender offers only account for some 12% of the sample (Table 1).

The slope estimate for *Dualrole* does not change much from regression (1) to regression (2) when firm characteristics are added, but it does decrease notably (from 0.186 in regression (2) to 0.130 in regression (3)) when deal characteristics are added as well. But *Dualrole* is a deal characteristic and it remains resoundingly significant. A dual role is the most important deal characteristic of such deals for explaining loan costs.

A dual role can also significantly predict important non-price terms of the loan contracts. As Table 5 shows, the slope estimate for *Dualrole* is significant and positive in regressions explaining loan maturity (0.070 with t-stat of 2.16), whether security is provided (0.384 with t-stat of 2.47), covenants (0.082 with t-stat of 2.44), and general covenants (0.090 with t-stat of 2.26). All this is consistent with the univariate results shown in Table 1, except for loan maturity which tends to be independent of any dual role without controlling for other characteristics. Other things equal, loans with a dual role tend to have longer maturity, to be supported by collateral, and to involve more covenants, especially general covenants. The evidence points to more strings attached to the loans in dual role deals, which seem to need quite a long time to complete.

As also shown in Table 5, some control variables are significant. This agrees with the findings of Graham, Li and Qiu (2008). For example, loans to larger firms and those with higher Z scores are significantly less likely to be secured and, as one would expect, loans to firms with higher leverage ratios tend to carry more covenants. But again, as in Table 4, most deal characteristics have no significant power in explaining non-price terms. The dual role again tends to dominate.

Table 5 does, though, present significant results that can tell more about M&A financing. Loans for bidders with large pre-deal cash holdings are more likely to be secured and to carry more total, especially general, covenants. Hence large cash holdings per se may not be treated as indicating financial slack to lenders. Deal size must be considered. It turns out that as with larger relative size, loans to bidders with more pre-deal cash relative to the deal's value, Acquirer cash/deal value, tends to carry significantly fewer total, especially general, covenants. Relative size is likely to attenuate the power of Acquirer cash/deal value for explaining the likelihood of using secured loans. But relative size is not a significant predictor of the loan's maturity, whereas pre-deal cash holdings relative to the deal's value is. Borrowers in greater need of extra funding can enjoy longer loan maturities in completing M&A deals.

The consistently significant results for *Dualrole* highlight the importance of the dual role for both the price and non-price terms of M&A loan contracts. The main conclusion here is that expensive advisor lending is associated with longer maturity but with more strings attached.

4.3. Selection Bias

Concerns about endogeneity bias would arise because including the advisor-lender dual role as an explanatory variable in regressions explaining loan spreads may induce a selection bias (Heckman, 1979). One could argue that it is the high interest rates that induce the dual role to occur. In explaining loan costs, we first apply a Heckman selection bias correction in the loan cost regressions. We then use an extended loan sample to evaluate within-firm regressions to compare the costs of loans involving a dual role advisor with other loans offered to the same firm on other occasions.

The two-stage Heckman correction procedure can correct for such a selection bias (see Li and Prabhala, 2007). In the spirit of Fang (2005) and of Golubov, Petmezas, Travlos (2012), we

create a newly defined variable *Scope* as an instrument in the first-stage choice regression. To construct this variable, we also retrieve information on equity issues from SDC. *Scope* we define takes values of 0, 1 and 2. For each investment bank in a M&A deal of the sample, Scope is zero if the bank involved in the deal had never arranged or participated in a loan syndication for that acquirer and had never advised it during the 5-year period prior to the deal's announcement date. Scope takes the value of one if the bank had provided either lending or advice, and it takes the value of two if the bank had provided both at least once within the period. Scope thus quantifies the intensity of any past relationship between the investment bank and the current acquirer but it is likely to be exogenous to the cost of the loan in the later M&A deal.

As shown in Table 6, the slope estimate for Scope to predict the dual role in probit regression (1) is 0.853 (t-stat of 4.74). Thus Scope can strongly predict a dual role choice. Banks in a stronger prior relationship with an acquirer are significantly more likely to play a dual role in the acquirer's current deal.

The first stage probit regression includes both year and industry fixed effects as controls. As Table 6 shows, four explanatory variables—acquirer size, Acquirer ln(size), pre-deal cash holdings, cash/assets, pre-deal cash relative to the deal's value, cash/deal value, and relative size—remain significant as in Table 3. So they contain information beyond pre-deal banking relationship which is captured by Scope.

In the second-stage regression of the Heckman procedure, an inverse Mills ratio is included as an additional explanatory variable to correct for any possible selection bias in the estimation. The inverse Mills ratio is obtained from the first-stage probit regression. As shown in Table 6, the slope estimates for the inverse-Mills ratio are 0.155 (t-stat of 2.73) in regression (2) and 0.138 (t-stat of 2.05) in regression (3), both significant and positive. With this selection bias

correction and controls for year, industry and loan type fixed effects, the slope estimates for the dual role dummy are 0.147 (t-stat of 3.17) and 0.145 (t-stat of 3.06) in the two regression specifications. All this confirms that dual role choice bias has no significant impact in the loan cost regressions shown in Table 4. A dual role does significantly affect the costs of the loan in a deal.

As shown in Table 6, the other results are largely similar to those without the selection bias correction shown in Table 4. It is worth mentioning that both the Acquirer cash/assets and cash/deal value terms are significant consistently. The slope estimates for Acquirer cash/assets predicting loan spread are 0.783 (t-stat of 3.76) in regression (2) and 0.717 (t-stat of 2.95) in regression (3), both significant and positive. The slope estimates for Acquirer cash/deal value are -0.265 (t-stat of -3.22) in regression (2) and -0.238 (t-stat of -2.43), both significant and negative. One explanation is that when an acquirer is closer to its capital raising capacity (indicated by cash/assets) and the current deal needs more external financing (a lower pre-deal cash/deal value), the substantial extra funding needed is likely to be costly. The loan spread is significantly higher in an advisor-lender dual role deal, as the robust results shown in Table 6 confirm.

One may argue that a closer firm-bank relationship, measured by Scope, can predetermine a higher cost of loan financing in the first place and the endogeneity issue would still exist to distort the loan spread regressions. Indeed, the holdup argument of Rajan (1992) points to *ex post* rent extraction by banks from captive client firms. If this were true, high loan costs would be a characteristic of long-term banking relationships and have little to do with advisor lending per se.

To address that possibility, we evaluate loan spread regressions using an extended sample of loan facilities that firms as acquirers in dual role deals also used at other times during the period 1990-2012. We regress Ln(loan spread) on the *Dualrole* dummy along with other firm

and loan characteristics and with year, firm and loan type fixed effects in three different specifications.

As Table 7 shows, the slope estimate for Dualrole in regression (1) with loan characteristics on the control variable list is 0.251 (t-stat of 7.25), significant and positive. Adding the acquirer characteristics in regression (2) produces a slope estimate of 0.290 (t-stat of 7.60). After further controlling for loan type, the slope estimate for the Dualrole term is 0.206 (t-stat of 5.19), still significant and positive. With the firm fixed effects included, a regression slope estimates the average within-firm variation in the explanatory variable. So the slope of the *Dualrole* term picks up an average loan spread differential for a dual role deal and other loans at other times for the acquirers in the sample. The results suggest that loans in the dual role deals carry an unusually high interest rate premium.

4.4 Fees

One may argue that there might be a substitution effect whereby higher loan spreads could be offset by lower transaction fees not explicitly reflected in the reported "all-in-spread drawn", the variable we use for a loan's cost. Advisory and loan fees are transaction fees which often are not publically disclosed. Significant concessions on such fees would undermine any conclusions based on using the all-in-spread drawn as a proxy for genuine loan costs.

Advisory fees account for a major part of the revenues from M&A deals for investment banks (see Golubov, Petmezas and Travlos, 2012). With limited data available on advisor fees—limited relative to the large number of M&A deals—Golubov, Petmezas and Travlos (2012) have nevertheless been able to show that the top-tier advisors charge advisory fees of, on average, 0.55% of the deal's value. Advisors outside the top charge 0.72%. Of course, other factors such as the transaction size can contribute to this difference. Relying on results from controlled tests,

Golubov, Petmezas and Travlos (2012) conclude, however, that reputable advisors charge premium advisory fees for premium services.

We are able to collect data, from SDC, on advisory fees for 62 deals of the total deal sample we use. The average fee is 0.62% of the deal value for the 40 dual role deals and 0.74% for the 22 deals without a dual role. In regressions like those in Table 4 where the loan spread is replaced by the fee, a dual role has no significant power of explaining advisory fees. (Not reported, but available on request.) If the dual role advisors exert extra effort to help the acquirers complete big-ticket deals, advisory fees commensurate with effort are likely to be paid separately from the dual role lending. This could help better isolate the dual role impact on lending. Nevertheless, the message here is there is no dual role fee concession.

Apart from advisory fees, deals may involve loan fees as well. There are three important types of loan fees: commitment fee, upfront fee, and annual fee (also called a "facility fee", e.g., Graham, Li and Qiu, 2008). Berg, Saunders, and Steffen (2016) argue those fees act as option premiums in the manner described by Thakor, Hong and Greenbaum (1981) and should not be ignored in considering the total cost of a loan. However, relative to the all-in-spread drawn, there is limited public information about these fees. Among the 822 bank loans studied, we are able to collect data on commitment fees for 325, upfront fee data for 218 and data on annual fees for 92 of the loans. These detailed fees may be different for dual role and nondual role loans. The commitment fees are, on average, 44.79 bps for 167 dual role deals, slightly but significantly higher than a 41.13 bps average for the 158 deals without a dual role. The upfront fees are, on average, 108.60 bps for 131 dual role deals and 90.71 bps for 87 others, a difference without statistical significance, though. The annual fees are, on average, 16.28 bps for the 40 dual role

deals and 16.62 bps for the 50 deals without a dual role, not a significant difference. So there is no obvious dual role advantage in terms of loan fees.

The average loan fees for the samples of 325, 218 and 92 loans are 43.01, 101.47, and 16.47 bps, respectively. Berg, Saunders, and Steffen (2016) have recently reported that in their sample of U.S. syndicated loans for various purposes the commitment, upfront and facility fees are, on average, 38, 61, and 17 bps, respectively. The commitment and upfront fees for the M&A loans studied here are apparently higher than normal. Additionally, in regressions where fees replace the loan spread, upfront fees show a significant and positive relationship with a dual role, but a dual role is not a significant predictor of commitment or facility fees. (Not reported, but available on request.) In short, there is no evidence of a dual role concession on transaction fees.

4.5 M&A Announcement Effect

It is well documented that the M&A announcement effect for acquirers is, on average, close to zero (see the survey paper by Betton, Eckbo and Thorburn, 2008). However, with a sample of 115 cash tender offers in M&A deals which involve bank loan financing, Bharadwaj and Shivdasani (2003) show that the average announcement effect for the acquirers is significant and positive. This is consistent with the literature on information production and certification in bank financing (e.g., Diamond, 1984; James, 1987; Lummer and McConnell, 1989).

With the event time t=0 as the announcement day of an M&A deal, we calculate daily cumulative abnormal returns, CAR, on each acquirer's shares. CAR (-1,1) and CAR(-2,2) are for 3-day and 5-day event windows, respectively. The market model estimation used to gauge CARs is based on daily returns over the trading day range of -200 to -41 trading days. Despite lack of sufficient daily return data for some acquirers, we are able to calculate CARs for 468 events in the full sample of M&A deals.

As shown in Table 8, the average CAR(-1,1) is 2.6% and CAR(-2,2) is 2.9%, both significantly positive. Confirming Bharadwaj and Sivdasani (2003), these findings with a much larger sample size suggest a significant, positive average announcement effect for acquirers in M&A deals that involve loan financing.

A loan facility allows the acquirer to pay cash. Cash-financed M&A deals on average enjoy a significant, positive announcement effect (Betton, Eckbo and Thorburn, 2008). On the other hand, acquirers with large internal cash holdings typically experience a significant, negative announcement effect (Harford, 1999). That is why the finding of Bharadwaj and Sivdasani (2003) that emphasizes sources of financing is important.

As Table 8 shows, separating the full sample into deals with and without the dual role results in CAR(-1,1) and CAR(-2,2) dropping to 0.014 and 0.016, yet both still significant and positive, for acquirers in dual role deals (subpanel A). The CARs significantly increase to 0.037 and 0.040 for acquirers in deals without a dual role (B). The difference in the announcement effect with and without a dual role is significant in both statistical and practical terms. The CAR(-1,1) differential is -2.3% and that of CAR(-2,2) is similar, -2.4%. In other words, taking a 3-day event window, while acquirers in deals without a dual role (B) enjoy a positive average announcement effect to the tune of 3.7%, acquirers with the dual role (A) only experience an effect of 1.4%, 2.3% smaller. It seems that the stock market interprets the advisor-lender dual role as a negative factor undermining the full effect of information production and certification in loan financing.

Table 9 shows detailed event study results, where other factors are controlled for to better isolate the dual role effect. Acquirers' CARs are regressed on the dual role dummy and various deal and acquirer characteristics, controlling for year and industry fixed effects. We also include

the inverse Mills ratio obtained from the first-stage choice regression reported in Table 4 to correct for any selection bias.

The *Dualrole* slope is significant and negative. For example, in regression (1) the slope estimate for the dual role dummy to explain CAR(-1,1) is -0.025 (t-stat of -2.15). In regression (2) for CAR(-2,2), it is slightly larger in magnitude: -0.028 (t-stat of 2.13). Thus the advisor-lender dual role significantly weakens the announcement effects in M&A deals that involve loan financing. These controlled results are consistent with the univariate results in Table 8.

In this event study, many control variables, especially the inverse-Mills ratio, are not significant. Unlike in the loan spread regressions reported in Table 6, the inverse-Mills ratio slope is not significant anywhere in Table 9. So any dual role choice selection bias has little impact on the CAR regression estimates (see Li and Prabhala, 2007, for a detailed discussion.)

There are a couple of significant explanatory variables in Table 9 which display effects consistent with results in the literature. The negative slopes for public deal are an example. They indicate that announcement effects are significantly worse with a public target than with a private target. This is consistent with the findings of, for example, Fuller, Netter, and Stegemoller (2002) with a much larger sample. The negative ln(size) slope is another example, consistent with, for example, Moeller, Schlingemann, and Stulz (2005). Larger bidders tend to have a worse announcement effect.

The top-tier advisor dummy, a proxy for the investment bank's reputation, has been a focus in recent literature. As shown in Table 9, in regression (1), the top-tier dummy predicts a CAR(-1,1) of 0.027 (t=1.95). In regression (2), the top-tier slope remains at 0.027 (t=1.75). Golubov, Petmezas and Travlos (2012) also show a significant and positive M&A announcement effect for bidders with top-tier advisors using a large sample of M&A deals. Incorporating

evidence that top-tier advisors charge high advisory fees, they interpret the positive top-tier advisor effect as evidence that a high reputation goes along with premium advisory services to the bidder's benefits. That supports a theory previously proposed by Chemmanur and Fulghieri (1994). Golubov, Petmezas and Travlos find, however, that this advisory reputation effect in M&A is limited in public deals. The current study considers both private and public targets, further enriching the literature on investment bank reputation (see also Bao and Edmans, 2011).

In summary, the results of Table 9 show that the dual role is one important M&A deal characteristic affecting announcement returns. If the advisor's reputation works to the bidder's benefit, the observation that a dual role reduces a positive effect of loan financing on the bidders' returns seems a bit puzzling.[2] A dual role is more likely in megadeals (Table 1). Acquirers motivated by empire-building due to free cash flow described by Jensen (1986) tend to experience negative announcement effects (Morck, Shleifer and Vishny, 1990). Stockholders may remember the huge loss in equity value of some megadeals during the period between 1998 and 2001 as documented by Moeller, Schlingemann and Stulz (2005). As Table 9 shows, CARs

[2] An adverse announcement effect can occur when new equity financing is a last resort according to Myers' (1984) pecking order theory. Fama and French (2002, 2005) find that new equity issues can defy the pecking order and often do not seem to be a last resort. Wu and Wang (2005) show that if asymmetric information about growth dominates assets in place information, new equity is not necessarily a last resort—a situation for high growth firms with ample growth uncertainty (See also Wu and Au Yeung, 2012). Myers (2003) also points out that the pecking order theory works best when asymmetric information on assets-in-place dominates (Myers and Majluf, 1984)—a situation typical of mature firms with abundant assets-in-place if information is asymmetric to firms' advantage. The acquirers in this study tend to be large with abundant assets-in-place. Thus less puzzling, the acquirers would experience an adverse announcement effect if new equity instead were issued.

do have a significantly negative relationship with firm size, Acquirer ln(size), consistent with the literature. Acquirer Q is not significant. But recall that Table 1 does show a high average bidder Q (1.86). A bidder's high market valuation can signal good M&A deals (Servaes, 1991), but it can also give rise to concerns about overvaluation, which can promote overinvestment (Shleifer and Vishny, 2003). In short, expensive advisor lending may abet overinvestment in an acquisition and the high loan cost may reflect rent sharing between investment banks and empire-building managers.

5. Conflict of Interest or Last Resort Financing?

5.1 Post-deal Performance

Panel A of Table 10 shows post-deal performance measured using the buy-and-hold abnormal return, BHAR, on stocks for up to 500 days. The CRSP value weighted market index is used in the market model to calculate BHARs. There are 218 dual role bidders (subpanel A) with sufficient stock return data in calculating BHARs. Their average 100-day BHAR[6,100] is 5.2% (t-stat of 3.29). The average 250-day BHAR is 4.2% (t-stat of 1.83). The average 500-day BHAR, however, is not significantly different from zero. Thus bidders in dual role M&A deals, on average, did not show any post-deal underperformance. On the other hand, the BHARs up to 500 days of bidders in deals without a dual role (B) are all indistinguishable from zero. Over 100 days, the bidders with a dual role (A) even outperform those without a dual role (B) by a significant difference in BHARs of 6.1% (t-stat=2.63), shown in subpanel (A)-(B).

One may question the reliability of BHAR in gauging post-event performance, and how post-deal performance is measured can affect results. Such methodological issues have been studied intensively (Barber and Lyon, 1997; Fama, 1998; Andrade, Mitchell and Stafford, 2001; among others). Benchmark controls are important. Rau and Vermaelen (1998) show that glamour

acquirers, namely, those with small size and low equity book to market ratio (B/M) ratio, tend to experience negative BHARs. Conversely, value acquirers, namely, those with big size and high B/M ratios, tend to experience a BHAR which is significantly positive. Such findings help evaluate whether there are genuine synergy gains in mergers at all. Harford (2005) find evidence of relatively poor post-merger performance for larger bidders in merger waves, but he argues that the performance should be gauged against how the same bidders would have performed without the merger. Following a quasi-experiment design of Seru (2014), Bena and Li (2014) employ a sample of successful and failed bidders matched by industry, size and B/M ratio.

In the spirit of Bena and Li (2014), we match each bidder in this study's sample in event year t with an acquirer in a failed deal in the same calendar year. There are two steps. First, propensity scores incorporating industry (2-digit SIC code), firm size and B/M ratio are calculated using data on the 473 completed deals studied here and an extended sample of 1,673 failed deals reported in the SDC database during the period 1990-2012. Second, the failed bidder with the closest propensity score was chosen.

As shown in Panel A of Table 10, those matched failed bidders underperform significantly. For example, the average 500-day BHAR for the failed bidders (C) is -16.0% (t-stat of -3.70). The average difference in BHAR between the bidders in dual role deals (A) and the failed bidders (C) over 500 days reaches 19.9% (t-stat=3.42), shown in subpanel (A)-(C).

As a robustness check, return on assets, ROA is used instead of BHAR. As shown in Panel B of Table 10, both (A) and (B) bidders tend to produce a significantly positive ROA over two years. The results are less positive over three years, but still no significantly negative ROA occurs. In any case, the ROA difference between the (A) and (B) bidders is, on average, not significant, shown in subpanel (A)-(B). The matched failed bidders (C) show a slightly negative

ROA but not significant. The dual role bidders (A), however, outperform the matched failed bidders over two years, with a significant ROA difference of 0.033 (t-stat of 2.09), shown in subpanel (A)-(C). Again there is no evidence that the dual role bidders underperform.

It is worth mentioning that in fact all bidders in M&A deals that involve loan financing tend not to underperform, as shown in Table 10. This is a new finding to the literature, consistent with their positive announcement effects. The results in Table 10 speak against the conflict of interest hypothesis.

5.2 Advisor Lending as Last Resort Financing

To understand nonbank premiums in noninvestment-grade syndicated loan spreads, Lim, Minton and Weisbach (2014) use an interaction term in loan spread regressions. Their nonbank lender dummy is interacted with the size-age (SA) index created by Hadlock and Pierce (2010). The larger the SA index, the more financially constrained a firm is. They find that the interaction term is significant and suggest that nonbank lenders such as hedge funds and private equity funds earn higher premiums than commercial and investment banks when borrowers are more financially constrained. In the same spirit, we also let the *dualrole* dummy interact with the acquirer's financial constraints in regressions explaining loan spreads.

In the first specification, we simply add the bidder's SA index to the previous list of explanatory variables. As Table 11 shows, in regression (1), the slope estimate for the Acquirer SA-indx term is not significant, and results for the *dualrole* dummy and the other explanatory variables remain qualitatively similar to those reported in Table 4.

In regression (2), as shown in Table 11, we let the *Dualrole* dummy interact with the Acquirer SA-index term. This interaction term obtains a coefficient of 0.064 (t-stat of 2.72), significant and positive. The *Dualrole* dummy itself becomes not significant while the results for

the other control variables do not change qualitatively. This significant and positive slope for the interaction term, Dualrole*Acquirer SA-index, means that advisor lending is more expensive when the bidder is more constrained financially.

In the literature, financial constraints in different degrees are expected to apply to firms widely. However, Farre-Mensa and Ljungqvist (2015) have recently shown that measures of financial constraints like the SA index, commonly used in the literature, may in fact indicate something other than financial constraint. For example, Wu and Au Yeung (2016) have shown that investment-cash flow sensitivity do not reflect financial constraints but firm growth type, which predetermines how firms persistently invest and vigorously fund growth as described in Wu and Au Yeung (2012). Investigating how valid or reliable the previous measures of financial constraints, however, is beyond the score of this study (See earlier debates between Kaplan and Zingales, 1997, 2000, and Fazzari, Hubbard and Petersen, 2000).

To alleviate such concerns, we use a new measure of financial constraint which is unique in an M&A setting. We use the ratio of the acquirer's cash holdings to the deal's transaction value, Acquierer cash/deal value. This variable implies, in reverse order, the deal financing deficit that creates the need for external financing. As we argued before, pre-deal cash holdings relative to total assets, Acquirer cash/asset, do not necessarily reflect an internal financial slack in an M&A context because pre-deal financing efforts are likely to have already exhausted all funding possibilities in normal circumstances, leaving advisor lending as a last resort. Unlike the SA index which contains relative information about other firms, Acquirer cash/deal value is purely firm specific.

As shown in Table 11, in regression (3), we let the *dualrole* dummy interact with the Acquirer cash/deal value variable. This interaction term, Dualrole*Acquirer cash/deal valuelV,

obtains a coefficient of -0.306 (t-stat of -3.50), significant and negative. This means that the dual role effect on loan spread, or expensive advisor lending, occurs when bidders have a larger financing deficit and a greater need for extra external finance. It suggests that investment banks play a last resort role in financing the acquirers they advise.

The results for the other explanatory variables are qualitatively unchanged in regression (3), but it is worth mentioning that the slope estimate for the Acquirer cash/asset term remains significant and positive, consistent with the results shown in Tables 4 and 6.[3] If Acquirer cash/asset measured financial slack, the cost of loan financing for richer firms should be lower in general. Note we have already ruled out the free cash flow and empire-building agency problems. Thus the seemingly contradictory evidence suggests that pre-deal cash in fact mirrors slack financing capacity in an M&A context rather than reflecting internal financial slack.

So the findings about post-deal performance and a dual role's interaction with financial constraints and a great need for extra external finance do not support the conflict of interest hypothesis. They are instead consistent with the view of investment banks as a last resort lender, which helps justify expensive advisor lending.

6. Conclusions

This paper examines investment banks lending to their advised acquirer in an M&A deal. Such advisor lending has been a notable phenomenon in the US since the beginning of the new millennium. We show that advisors are more likely to act as advisor-lenders when both the

[3] In an unreported test, we also include an inverse Mills ratio in regression (3) of Table 11. This selection bias correction term is not significant and the main results reported in Table 11 do not change qualitatively. These results are available on request.

acquirers and the targets are large. While this implies that the advisor-lender dual role facilitates big-ticket deals, the resulting loan spreads are unusually high in dual role deals. The results are robust to the procedure of correcting the Heckman selection bias in dual role choice. The acquirers in deals with a dual role also tend to experience a smaller positive M&A announcement effect than those in deals with loan financing but without a dual role. All this could reflect a conflict of interest with a dual role, undermining the information production and certification roles of banks in loan financing.

Further analysis of this paper instead supports a last resort financing explanation rather than the conflict of interest explanation. We find that there is no post-M&A long-run underperformance of acquirers in dual role deals. Instead, these acquirers would have experienced notable post-deal underperformance if the deals had failed. This quasi-experimental evidence further dispels the concerns that expensive advisor lending promotes overinvestment in acquisitions so that the advisor can benefit from rent sharing in corporate empire building.

In this paper, we explain advisor lending as last resort financing. This is supported by our finding that advisor lending is significantly more expensive when the acquirer is more financially constrained. Interestingly, a bidder's pre-deal cash holdings relative to assets do not necessarily reflect its financial slack. High pre-deal cash holdings may reflect the company accumulating cash by exhausting all financing opportunities available. This leaves the bidder with less slack financing capacity. Especially in megadeals, the bidder's pre-deal cash holdings relative to the deal's transaction value mirror the bidder's financing deficit. We find that expensive advisor lending is explicitly associated with the bidder's strong need for external financing to complete the deal. This leads us to conclude that advisor lending acts as last resort financing in big-ticket deals, and can best be understood as a premium service.

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Appendix A: Two Dual Role Examples

Example 1: On December 17, 2007, it was announced that Ingersoll-Rand Co. Ltd. (ticker: IR) would acquire Trane Inc. In this transaction, Ingersoll-Rank employed Credit Suisse, Goldman Sachs, and J.P. Morgan Chase Bank as advisors. The three advisors were also the three lenders that arranged and provided the funding, though Dealscan reported the lenders' names as Credit Suisse Securities LLC, Goldman Sachs Credit Partners LP, and J.P. Morgan Chase Bank NA. J.P. Morgan was the syndicated loan's administrative agent. The first loan tranche was provided on June 5, 2008.

Example 2: On March 9, 2009, it was announced that Merck & Co. (ticker: MRK) would acquire Schering-Plough Corp in a US$38,615 million transaction. Merck employed J.P. Morgan as its advisor and at the same time attracted more than 30 banks to participate in a very large syndicated loan financing the deal. J.P. Morgan served always as the administrative agent in all three of the large loan facilities involved. The first tranche became available on May 6, 2009.

Appendix B: Variable Definitions

Variable	Definitions
Dummy Indicators for Investment Banks (from SDC and Dealscan)	
Dualrole (1/0)	1 for M&A deals in which the acquirer's advisor is also the arranger of or participant in the current takeover-related loan; 0 otherwise.
Top-tier advisor (1/0)	1 if the advisor is among the top-10 financial advisors according to the investment bank league table provided by SDC based on the dollar value of a bank's advised deals during the period 1990-2012; 0 for other cases.
Scope (2/1/0)	Takes the value two if the financial advisor helped the same bidder arrange syndicated loans AND advised on at least one takeover deal within the five years prior to the current deal's announcement date; it takes the value one if the advisor helped with either loan financing OR advice; it takes the value zero if neither with the current bidder.
Variable for Firm Characteristics (from Compustat and CRSP)	
Ln(size)	Natural logarithm of the market value of equity (data25 × data199)
Tobin's Q	Market value of total assets over book value of total assets (data6 – data60 + data25 × data199)/data6
Leverage	Sum of firm current liabilities (data 34) and long term debt (data 9) over the book value of total assets (data6).
ROA	Adjusted net income (data258) scaled by total assets (data6)
Cash/assets	Cash and cash equivalents (data1) scaled by total assets (data6)
Tangibility	Net property, plant and equipment (data8)/total assets.
Z-score	Modified Altman's Z-score = {1.2*working capital (data179) + 1.4*retained earnings (data36) + 3.3*EBIT (data170) + 0.999*sales (data 12)/total assets (data6).
CAR[-n, n]	Cumulative abnormal returns for the firm's stock from event day – n to event day n where event day 0 is the deal announcement day. The CRSP value-weighted index return is used as the market return in the market model estimated over the period starting 200 days and ending 41 days prior to the deal announcement day
Run-up	The acquirer's stock return from 205 days to 6 days before the deal announcement day.
Volatility	Standard deviation of the bidder's market-adjusted daily stock returns over the period beginning 205 days and ending 6 days before the deal announcement.
M&A deal characteristics (from Compustat and SDC)	
Deal value	Transaction value in millions of US dollars.
Relative size	Transaction value scaled by the acquirer's market value of equity {equity (data25 × data199)
Cash/deal value	Cash and cash equivalents (data1) scaled by deal value
All-cash deal (1/0)	1 for deals that are purely cash-financed; 0 otherwise.
Tender offer (1/0)	1 for tender offers; 0 otherwise.
Hostile bid (1/0)	1 for hostile bids; 0 otherwise.

Competing deal (1/0)	1 for deals with competing bidders; 0 otherwise.
Cross industry (1/0)	1 if the acquirer and the target are from different 2-digit SIC codes; 0 otherwise.
Public deal (1/0)	1 if the target is a public company; 0 otherwise.
Toehold (%)	Percent of shares owned by the acquirer before the transaction.
Loan characteristics (from Dealscan)	
Ln(loan size)	Natural logarithm of the loan amount in millions of US dollars.
Ln(loan maturity)	Natural logarithm of the loan maturity in months.
Ln(loan spread)	Natural logarithm of the amount the borrower pays in basis points over LIBOR or a LIBOR equivalent for each dollar drawn down.
Performance pricing (1/0)	1 for a loan facility that uses performance pricing; 0 otherwise.
Secured (1/0)	1 for a loan facility secured by collateral; 0 otherwise.
Loan type indicator	Term Loan A, Term Loan B, Bridge Loan, 364-day facility, etc.
Loan purpose indicator	Corporate purposes, debt repayment, working capital, takeover, etc.

Table 1: Sample Summary Statistics

This table reports the means and standard deviations of the deal and firm characteristics of a sample of M&A deals which involve loan financing. The full sample is split into dual role and other deals. A dual role deal is defined as the deal in which at least one of the acquirer's financial advisors also lends for the M&A deal they advise. N is the number of deals or loan facilities depending on the samples. The sample period is 1990-2012 for the M&A deals and 1989-2013 for the loan facilities. The variables are defined in Appendix B. All continuous variables are Winsorized at the 1st and 99th percentiles in the full sample. ***, **, and * highlight statistical significance at the 1%, 5%, and 10% confidence levels, respectively.

	Full Sample			*Dual Role (A)*			*Non Dual Role (B)*			*Difference (A)-(B)*	
	N	**Mean**	**Std.**	**N**	**Mean**	**Std.**	**N**	**Mean**	**Std.**	**Mean**	***t*-stat**
Deal Characteristic											
Deal value ($mil)	473	1,969	5,185	222	3,161	6,738	251	915	2,871	2246***	4.81
Hostile (1/0)	473	0.02	0.15	222	0.02	0.13	251	0.03	0.16	-0.01	-0.71
Competing deal (1/0)	473	0.04	0.20	222	0.05	0.22	251	0.04	0.19	0.01	0.75
All-cash deal (1/0)	473	0.40	0.49	222	0.37	0.48	251	0.41	0.49	-0.04	-0.90
Tender offer (1/0)	473	0.12	0.33	222	0.11	0.31	251	0.14	0.34	-0.03	-0.90
Toehold (%)	473	0.21	1.66	222	0.13	1.38	251	0.29	1.88	-0.15	-1.01
Cross industry (1/0)	473	0.34	0.48	222	0.32	0.47	251	0.37	0.48	-0.05	-1.17
Public deal (1/0)	473	0.46	0.50	222	0.56	0.50	251	0.37	0.48	0.19***	4.17
Firm Characteristic											
Acquirer_Size ($mil)	473	4,630	12,908	222	6,120	14,577	251	3,313	11,091	2807**	2.37
Acquirer Q	473	1.83	0.94	222	1.86	0.94	251	1.80	0.95	0.06	0.65
Acquirer leverage	473	0.26	0.21	222	0.28	0.21	251	0.24	0.20	0.04**	2.22
Acquirer ROA	473	0.05	0.08	222	0.05	0.08	251	0.05	0.08	0.00	1.32
Acquirer tangibility	473	0.26	0.23	222	0.26	0.24	251	0.25	0.23	0.01	0.11
Acquirer cash/assets	473	0.13	0.15	222	0.12	0.15	251	0.13	0.15	-0.01	-0.08
Acquirer cash/deal value	473	0.35	0.81	222	0.23	0.28	251	0.45	1.06	-0.23***	-3.09
Acquirer Z-score	445	1.78	1.14	209	1.73	1.20	236	1.83	1.08	-0.10	-0.97
Target size ($mil)	173	2,665	5,684	101	3,674	6,890	72	1,250	2,814	2424***	2.82
Target Q	173	1.80	1.07	101	1.94	1.15	72	1.60	0.92	0.34**	2.07
Target leverage	173	0.25	0.21	101	0.28	0.21	72	0.21	0.21	0.06**	1.98
Target ROA	173	0.06	0.08	101	0.06	0.08	72	0.05	0.08	0.01	1.15
Loan Characteristic											
Loan spread (basis points)	817	223.87	117	444	231.72	112	373	214.53	122	17.19***	4.51
Loan size ($mil)	817	691.27	1,948	444	871.58	2,357	373	476.64	1,273	394.94***	2.90
Loan maturity (months)	817	52.00	19.45	444	52.57	19.07	373	51.33	19.89	1.24	0.91
Secured (1/0)	817	0.73	0.44	444	0.76	0.43	373	0.69	0.46	0.06**	2.07
Performance pricing (1/0)	817	0.59	0.49	444	0.60	0.49	373	0.57	0.50	0.03	0.73
N of covenants	817	7.67	4.58	444	8.10	4.36	373	7.17	4.79	0.93***	2.91
N of general covenants	817	5.54	3.42	444	5.93	3.33	373	5.09	3.48	0.85***	3.52
N of financial covenants	817	2.13	1.45	444	2.17	1.32	373	2.08	1.59	0.09	0.92

Table 2: Types of Loan Facilities used to Finance M&A Deals

The loan type information is from Dealscan. The sample period is 1989-2013.

Loan Type	Dual Role	Non Dual Role	Total
364-day Facility	25	23	48
Bridge Loan	33	15	48
Delay Draw Term Loan	2	0	2
Multi-option Facility	0	1	1
NIF-note Issuance	2	0	2
Revolver/Line < 1 Yr	0	2	2
Revolver/Line >= 1 Yr	337	270	607
Rovolver/Term Loan	0	2	2
Term Loan	19	28	47
Term Loan A	12	10	22
Term Loan B	13	19	32
Term Loan C	1	3	4
Total	444	373	817

Table 3: Probit Regressions Predicting an Advisor-Lender Dual Role

This table reports results of the dual role choice regressions using the sample of M&A deals. The dependent variable is the dummy variable *Dualrole*, which equals 1 for an advisor-lender dual role and 0 otherwise. The explanatory variables are defined in Appendix B. The firm level explanatory variables are measured at the fiscal year end before the year in which the deal is announced. All of the continuous variables are winsorized at the 1st and 99ths percentiles. Year and industry fixed effects are included and the industry classification is based on the Fama-French 12 industries. Standard errors are clustered at the bidding firm level. ***, **, and * highlight statistical significance at the 1%, 5%, and 10% confidence levels, respectively.

Y=Dualrole (1/0)		(1)		(2)
	Coeff.	z-stat	Coeff.	z-stat
Relative size	0.412***	(4.06)	1.152***	(3.52)
Hostile (1/0)	0.140	(0.25)	-2.090**	(-2.23)
Competing deal (1/0)	-0.402	(-1.14)	0.468	(0.69)
All-cash (1/0)	0.079	(0.53)	0.447	(1.26)
Tender offer (1/0)	0.010	(0.04)	0.454	(0.98)
Toehold (%)	-0.032	(-0.84)	0.000	(.)
Cross industry (1/0)	0.037	(0.22)	-0.044	(-0.12)
Public deal (1/0)	0.256	(1.46)	0.000	(.)
Acquirer Ln(size)	0.406***	(6.18)	0.548***	(3.76)
Acquirer Q	-0.215**	(-2.05)	-0.783***	(-2.58)
Acquirer leverage	0.762	(1.64)	2.084	(1.63)
Acquirer ROA	1.244	(0.99)	6.615*	(1.85)
Acquirer tangibility	0.777*	(1.70)	1.681*	(1.74)
Acquirer cash/assets	3.660***	(4.49)	6.283***	(3.29)
Acquirer cash/deal value	-1.448***	(-5.23)	-2.431***	(-2.69)
Target Ln(size)			1.200***	(3.08)
Target Q			0.192	(1.09)
Target ROA			-3.068	(-1.30)
Target leverage			-0.419	(-0.43)
Intercept	-2.075***	(-2.97)	-4.566***	(-3.50)
Year fixed effect		Yes		Yes
Industry fixed effect		Yes		Yes
Number of M&A deals		439		137
pseudo R^2		0.303		0.442

Table 4: The Cost of Loans to Finance M&A Deals in Relation to Dual Role

The table reports results of the loan cost regressions using the sample of loan facilities to finance M&A deals. The dependent variable, ln(loan spread), is the natural logarithm of the all-in-drawn spread. The main explanatory variable is the advisor-lender dual role dummy and the explanatory variables are defined in Appendix B. All of the continuous variables are winsorized at the 1st and 99th percentiles. Year, industry and loan type fixed effects are included. The industry classification is based on the Fama-French 12 industries and loan types are listed in Table 2. ***, **, and * highlight statistical significance at the 1%, 5%, and 10% confidence levels, respectively. The standard errors are clustered at the bidding firm level.

Y=Ln(loan spread)		(1)		(2)		(3)
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Dualrole	0.189***	(3.58)	0.186***	(3.20)	0.130***	(2.79)
Ln(loan size)	-0.141***	(-6.2)	-0.088**	(-2.39)	-0.071***	(-2.73)
Ln(loan maturity)	0.108*	(1.66)	0.084	(1.33)	0.132**	(2.14)
Performance pricing	-0.212***	(-4.99)	-0.197***	(-4.73)	-0.083**	(-2.56)
Secured	0.516***	(5.29)	0.439***	(4.17)	0.333***	(4.53)
Covenants	0.029	(0.29)	0.051	(0.53)	0.037	(0.54)
Acquirer ln(size)			-0.052	(-1.38)	-0.136***	(-3.99)
Acquirer Q			-0.053	(-1.49)	0.000	(0.01)
Acquirer leverage			-0.006	(-0.04)	0.236**	(2.06)
Acquirer ROA			0.087	(0.22)	0.520**	(2.08)
Acquirer tangibility			-0.152	(-1.19)	-0.079	(-0.66)
Acquirer cash/assets			0.255	(1.19)	0.338**	(2.06)
Acquirer cash/deal value			-0.055*	(-1.86)	-0.060	(-1.24)
Acquirer Z-score			-0.070**	(-2.16)	-0.073***	(-3.33)
Relative size					-0.028	(-1.16)
Hostile					-0.066	(-0.50)
Competing deal					0.072	(0.63)
All cash					-0.050	(-1.34)
Tender offer					-0.137*	(-1.78)
Toehold					-0.000	(-0.00)
Cross industry					-0.025	(-0.60)
Public deal					-0.034	
Intercept	5.204***	(18.93)	5.652***	(18.67)	5.096***	(13.99)
Year fixed effect		Yes		Yes		Yes
Industry fixed effect		Yes		Yes		Yes
Loan type fixed effect		Yes		Yes		Yes
Number of loans		817		771		771
Adj. R^2		0.436		0.439		0.739

Table 5: Non-price Terms of Loan Contracts in Relation to Dual Role

This table shows the regression results for the relations between the advisor-lender dual role and non-price terms of loan contracts. The dependent variables are, respectively, the natural logarithm of the debt's maturity in months, ln(maturity), the loan security dummy (equal to 1 if the loan is secured by collateral and 0 otherwise), and the total number of covenants which can be split into general covenants and financial covenants. Model (1) is an OLS regression. Model (2) uses a probit regression, and Models (3)-(5) are Poisson regressions (see Graham, Li and Qiu, 2008). The variables are defined in Appendix B. All of the continuous variables are winsorized at the 1st and 99th percentiles. Year, industry and loan type are included. ***, **, and * highlight statistical significance at the 1%, 5%, and 10% confidence level, respectively. Standard errors are clustered at the firm level.

	(1)		(2)		(3)		(4)		(5)
Y=	Ln(Maturity)	t-stat	Secured (1/0)	z-stat	Total Covenants	z-stat	General Covenants	z-stat	Financial Covenants	z-stat
Dualrole	0.070**	(2.16)	0.384**	(2.47)	0.082**	(2.44)	0.090**	(2.26)	0.059	(0.94)
Acquirer ln(size)	-0.057***	(-2.79)	-0.195**	(-1.97)	-0.007	(-0.31)	0.005	(0.18)	-0.039	(-0.88)
Acquirer Q	0.022	(1.29)	-0.140	(-1.54)	-0.038**	(-2.07)	-0.043*	(-1.96)	-0.030	(-0.84)
Acquirer ROA	-0.001	(-0.01)	0.725	(1.50)	0.046	(0.48)	0.039	(0.34)	0.076	(0.41)
Acquirer leverage	-0.148	(-0.65)	-0.224	(-0.16)	0.653***	(2.82)	0.900***	(3.27)	0.043	(0.10)
Acquirer tangibility	0.022	(0.25)	-0.256	(-0.60)	0.008	(0.08)	-0.022	(-0.20)	0.077	(0.43)
Acquirer Z-score	-0.030*	(-1.68)	-0.181*	(-1.96)	-0.019	(-1.03)	-0.036*	(-1.66)	0.026	(0.75)
Acquirer cash/assets	0.096	(0.77)	2.403***	(3.57)	0.408***	(3.17)	0.430***	(2.83)	0.383	(1.57)
Acquirer cash/deal value	-0.052**	(-2.21)	0.027	(0.30)	-0.051*	(-1.75)	-0.073*	(-1.92)	-0.015	(-0.32)
Relative size	-0.023	(-1.35)	0.600***	(3.46)	-0.076***	(-3.56)	-0.079***	(-3.16)	-0.068	(-1.64)
Hostile	0.012	(0.12)	-0.685	(-1.63)	0.106**	(2.18)	0.086	(1.51)	0.153	(1.62)
Competing deal	0.020	(0.30)	-0.546*	(-1.67)	0.305***	(9.55)	0.315***	(8.39)	0.275***	(4.53)
All-cash	-0.026	(-0.89)	0.011	(0.08)	0.007	(0.37)	0.001	(0.03)	0.018	(0.54)
Tender offer	-0.105**	(-2.00)	0.035	(0.15)	-0.250**	(-1.97)	-0.112	(-0.78)	-0.675**	(-2.43)
Toehold	-0.007	(-0.80)	0.065	(1.48)	0.043	(0.61)	0.047	(0.58)	0.031	(0.22)
Cross industry	-0.036	(-1.16)	0.133	(0.90)	-0.029	(-0.97)	-0.050	(-1.42)	0.028	(0.49)
Public deal	0.028	(0.81)	0.060	(0.36)	0.012	(0.21)	0.039	(0.60)	-0.069	(-0.63)
Ln(loan size)	0.039**	(2.00)	-0.195**	(-1.96)	-0.014	(-1.38)	-0.026**	(-2.05)	0.012	(0.73)
Ln(loan maturity)			0.432***	(2.85)	-0.026	(-0.78)	-0.045	(-1.17)	0.025	(0.41)
Performance pricing	0.011	(0.37)	0.221	(1.59)	-0.074**	(-2.08)	-0.078*	(-1.88)	-0.059	(-0.88)
Intercept	4.686***	(9.01)	1.047	(1.16)	1.834***	(6.10)	1.588***	(4.45)	0.351	(0.62)
Year fixed effect		Yes		Yes		Yes		Yes		Yes
Industry fixed effect		Yes		Yes		Yes		Yes		Yes
Loan type fixed effect		Yes		Yes		Yes		Yes		Yes
N of observations		805		791		805		805		805
Adj. R^2 [Pseudo R^2]		0.718		[0.426]		[0.299]		[0.262]		[0.198]

Table 6: Heckman Two-Stage Procedure for Dual Role Effect on the Loan Cost

The table presents the results of the bidder's loan spread analysis using the Heckman two-stage procedure. In the first-stage probit regression (1), the *Scope* variable is an indicator of 0, 1 and 2 to measure the pre-deal banking relationship as an instrument variable. In the second-stage regressions (2) and (3) predicting a bidder's loan spread, the inverse Mills ratio obtained from the first stage regression (1) is added as an explanatory variable. Year, industry and loan type fixed effects are included. All variables are defined in Appendix B. All of the continuous variables are winsorized at the 1st and 99th percentiles. Standard errors are clustered at the bidding firm level.

Y=	(1)		(2)		(3)	
	Dualrole (1/0)		Ln(loan spread)		Ln(loan spread)	
	Coeff.	z-stat	Coeff.	t-stat	Coeff.	t-stat
Scope	0.853***	(4.74)				
Dualrole			0.147***	(3.17)	0.145***	(3.06)
Ln(loan size)			-0.082***	(-3.52)	-0.070***	(-2.72)
Ln(loan maturity)			0.127**	(2.00)	0.120*	(1.96)
Performance pricing			-0.085***	(-2.65)	-0.085**	(-2.58)
Secured			0.341***	(4.39)	0.330***	(4.24)
Covenants			0.041	(0.60)	0.041	(0.60)
Acquirer ln(size)	0.332***	(4.40)	-0.096***	(-3.46)	-0.109***	(-2.81)
Acquirer Q	-0.143	(-1.27)	-0.038	(-1.39)	-0.029	(-1.01)
Acquirer leverage	0.535	(1.05)	0.359***	(3.01)	0.318**	(2.57)
Acquirer ROA	0.927	(0.72)	0.510*	(1.93)	0.576**	(2.22)
Acquirer tangibility	0.620	(1.27)	-0.023	(-0.20)	-0.075	(-0.60)
Acquirer cash/assets	3.886***	(4.35)	0.783***	(3.76)	0.717***	(2.95)
Acquirer cash/deal value	-1.409***	(-4.19)	-0.265***	(-3.22)	-0.238**	(-2.43)
Acquirer Z-score			-0.063***	(-2.90)	-0.069***	(-3.09)
Relative size	0.444***	(3.99)			-0.005	(-0.17)
Hostile	-0.484	(-0.73)			-0.113	(-0.74)
Competing deal	0.049	(0.13)			0.054	(0.48)
All-cash	0.009	(0.06)			-0.032	(-0.85)
Tender offer	-0.147	(-0.55)			-0.127	(-1.62)
Toehold	-0.018	(-0.42)			-0.001	(-0.06)
Cross industry	0.038	(0.22)			-0.023	(-0.52)
Public deal	0.266	(1.38)			-0.010	(-0.22)
Inverse Mills ratio			0.155***	(2.73)	0.138**	(2.05)
Intercept	-2.457***	(-3.48)	4.269***	(12.84)	4.291***	(10.91)
Year fixed effect		Yes		Yes		Yes
Industry fixed effect		Yes		Yes		Yes
Loan type fixed effect		No		Yes		Yes
Number of loans		439		734		734
Adj. R^2 [Pseudo-R^2]		[0.34]		0.744		0.746

Table 7: Within-firm Regressions Predicting the Costs of All Loans Used by a Dual Role Acquirer

This table reports regression results predicting within-firm variations in the costs of all loans during the period 1989-2013 used by an acquirer with a dual role deal. The sample of loans is extended to include loans to finance an M&A deal and other loans at other times and for purposes, such as for working capital, corporate finance and debt repayment. The dependent variable is the natural logarithm of the all-in-drawn spread, ln(loan spread). *Dualrole* is equal to 1 for a dual role loan and 0 for all the other loans. Year and firm fixed effects are in place in all three regression specifications, with an additional loan type fixed effect in specification (3). The variables are defined in Appendix B. All of the continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * highlight statistical significance at the 1%, 5%, and 10% confidence levels, respectively. Standard errors are clustered at the bidding firm level.

	(1)		(2)		(3)	
Y=Ln(loan spread)	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
Dualrole	0.251***	(7.25)	0.290***	(7.60)	0.206***	(5.19)
Ln(loan size)	-0.040**	(-2.34)	-0.016	(-1.04)	-0.047***	(-3.08)
Ln(loan maturity)	0.036	(1.53)	0.022	(0.87)	-0.008	(-0.17)
Performance pricing	-0.084*	(-1.94)	-0.052	(-1.17)	0.020	(0.45)
Secured	0.233***	(4.38)	0.212***	(4.23)	0.230***	(5.08)
Covenants	0.035	(0.63)	0.020	(0.35)	-0.014	(-0.29)
Acquirer ln(size)			-0.152***	(-4.69)	-0.124***	(-4.29)
Acquirer Q			-0.047	(-1.49)	-0.048*	(-1.68)
Acquirer ROA			0.397	(1.19)	0.303	(0.98)
Acquirer leverage			0.008	(0.06)	-0.033	(-0.27)
Acquirer tangibility			-0.632**	(-2.02)	-0.536*	(-1.91)
Acquirer Z-score			-0.076*	(-1.84)	-0.078**	(-2.04)
Acquirer cash/assets			-0.052	(-0.19)	-0.050	(-0.19)
Intercept	5.590***	(41.78)	5.685***	(18.60)	6.524***	(19.40)
Year fixed effect		Yes		Yes		Yes
Firm fixed effect		Yes		Yes		Yes
Loan type fixed effect		No		No		Yes
Number of loans		1,895		1,772		1,732
Adj. R^2		0.744		0.759		0.778

Table 8: Bidder Announcement Effects of Dual Role and Other Deals with Loan Financing

This table presents the means and t-stats for the acquirer's 3-day cumulative abnormal returns, CAR[-1,1], centered on the deal announcement day. CAR[-2,2] is for a 5-day event window. Daily abnormal returns are computed based on the market model with the CRSP value-weight market index. The market model is estimated using daily returns over the period of -200 to -41 trading days prior to the announcement day. The CARs are winsorized at the 1st and 99th percentiles. ***, **, and * highlight statistical significance at the 1%, 5%, and 10% confidence levels, respectively. N is the number of observations or M&A deals (events).

	Total			*Dual Role (A)*			*Non Dual Role (B)*			*Difference (A)-(B)*	
	N	mean	t-stat	N	mean	t-stat	N	mean	t-stat	mean	t-stat
CAR(-1,1)	468	0.026***	5.58	221	0.014**	2.19	247	0.037***	5.53	-0.023**	-2.43
CAR(-2,2)	468	0.029***	5.74	221	0.016**	2.33	247	0.040***	5.61	-0.024**	-2.40

Table 9: Explaining Bidder Announcement Effects of M&As that Involve Loan Financing

This table reports the results of two-stage Heckman regressions explaining the acquirer's CARs at the announcement of M&As that involve loan financing. The main explanatory variable is *Dualrole*. The controls include an inverse Mill ratio estimated from the first-stage probit regression as reported in Table 4. Year and Fama-French 12 industry fixed effects are in place. The variables are defined in Appendix B. All of the continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * highlight statistical significance at the 1%, 5%, and 10% confidence levels, respectively. Standard errors are clustered at the bidding firm level.

Y=CAR[-n,n]	Regression (1): CAR [-1, 1]		Regression (2): CAR [-2, 2]	
	Coeff.	t-stat	Coeff.	t-stat
Dualrole	-0.025**	(-2.15)	-0.028**	(-2.13)
Relative size	0.008	(0.84)	0.008	(0.80)
Hostile	-0.001	(-0.05)	0.014	(0.47)
Competing deal	-0.019	(-0.97)	-0.020	(-1.02)
All-cash	0.010	(0.97)	0.011	(0.97)
Tender offer	0.003	(0.19)	0.008	(0.51)
Toehold	0.004	(0.90)	0.005	(1.30)
Cross industry	-0.019*	(-1.83)	-0.014	(-1.28)
Public deal	-0.032***	(-2.82)	-0.039***	(-3.18)
Acquirer ln(size)	-0.012*	(-1.81)	-0.014*	(-1.95)
Acquirer Q	0.009	(1.14)	0.009	(1.15)
Acquirer leverage	-0.001	(-0.03)	-0.009	(-0.26)
Acquirer ROA	0.034	(0.38)	0.028	(0.33)
Acquirer tangibility	-0.002	(-0.05)	0.022	(0.69)
Acquirer cash/assets	0.008	(0.13)	-0.002	(-0.03)
Acquirer cash/deal value	0.013	(0.56)	0.023	(0.92)
Run-up	0.002	(0.13)	-0.006	(-0.32)
Volatility	1.180	(1.28)	0.738	(0.74)
Top-tier advisor	0.027*	(1.95)	0.027*	(1.75)
Inverse Mills ratio	-0.018	(-0.74)	-0.028	(-1.08)
Intercept	0.185*	(1.77)	0.235*	(2.11)
Year fixed Effect		Yes		Yes
Industry fixed effect		Yes		Yes
Number of observations		432		432
Adj. R^2		0.119		0.097

Table 10: Acquirers' Post-M&A Performance

This table presents the means and t-stats of post-M&&A performance of various acquirers. The dual role deal (A) is compared with the nondual role deals with loan financing (B) and matched failed deals (C). To match each dual role acquirer in its dual role M&A event year t, we select an acquirer that has a failed M&A deal in the same year from a SDC sample of failed deals. In the spirit of Bena and Li (2014), we pick a failed bidder that has the closest propensity score to the dual role bidder's. The propensity scores are estimated based on industry (2-digit SIC code), ln(size) and B/M ratio during the period 1990-2012. In panel A, performance is measured by post-deal buy-and-hold abnormal returns (BHAR) computed based on a market model estimated for post-deal days [t1, t2] starting at t1=6 and ending at t2 up to 500 days. Panel B is for post-deal performance measured by return on assets (ROA) for up to three years. Mean differences between the samples are reported along with related t-stats. Significance at the 10%, 5% and 1% confidence levels are denoted by *, **, and ***, respectively. N is the number of acquirers in a sample. The sample period extends over 2012 to accommodate post-deal years.

	Panel A: Buy-and-Hold Abnormal Return (BHAR): Dual Role Bidders vs. Non Dual Role or Matched Failed Bidders											
	Dual Role (A)			*Non Dual Role (B)*			*Matched Failed (C)*			*Difference (A)-(B)*		*Difference (A)-(C)*	
Performance	N	mean	t-stat	N	mean	t-stat	N	Mean	t-stat	Mean	t-stat	Mean	t-stat
BHAR[6,100]	218	0.052***	3.29	246	-0.009	-0.54	218	-0.063***	-3.57	0.061***	2.63	0.115***	4.86
BHAR[6,250]	218	0.042	1.83	246	-0.012	-0.45	218	-0.109***	-3.42	0.054	1.50	0.151***	3.85
BHAR[6,500]	218	0.039	1.01	246	-0.005	-0.43	218	-0.160***	-3.70	0.044	0.76	0.199***	3.42
	Panel B: Return on Assets (ROA): Dual Role Bidders vs. Non Dual Role or Matched Failed Bidders											
	Dual Role (A)			*Non Dual Role (B)*			*Matched Failed (C)*			*Difference (A)-(B)*		*Difference (A)-(C)*	
Performance	N	mean	t-stat	N	mean	t-stat	N	mean	t-stat	Mean	t-stat	Mean	t-stat
ROA-Post 1Y	213	0.032***	7.97	249	0.030***	6.63	213	-0.072	-1.26	0.002	0.46	0.105*	1.86
ROA-Post 2Y	201	0.012*	1.95	242	0.013**	1.99	201	-0.021	-1.43	-0.001	0.20	0.033**	2.09
ROA-Post 3Y	184	0.009	1.22	225	0.014	1.49	184	-0.007	-0.39	-0.005	0.37	0.016	0.85

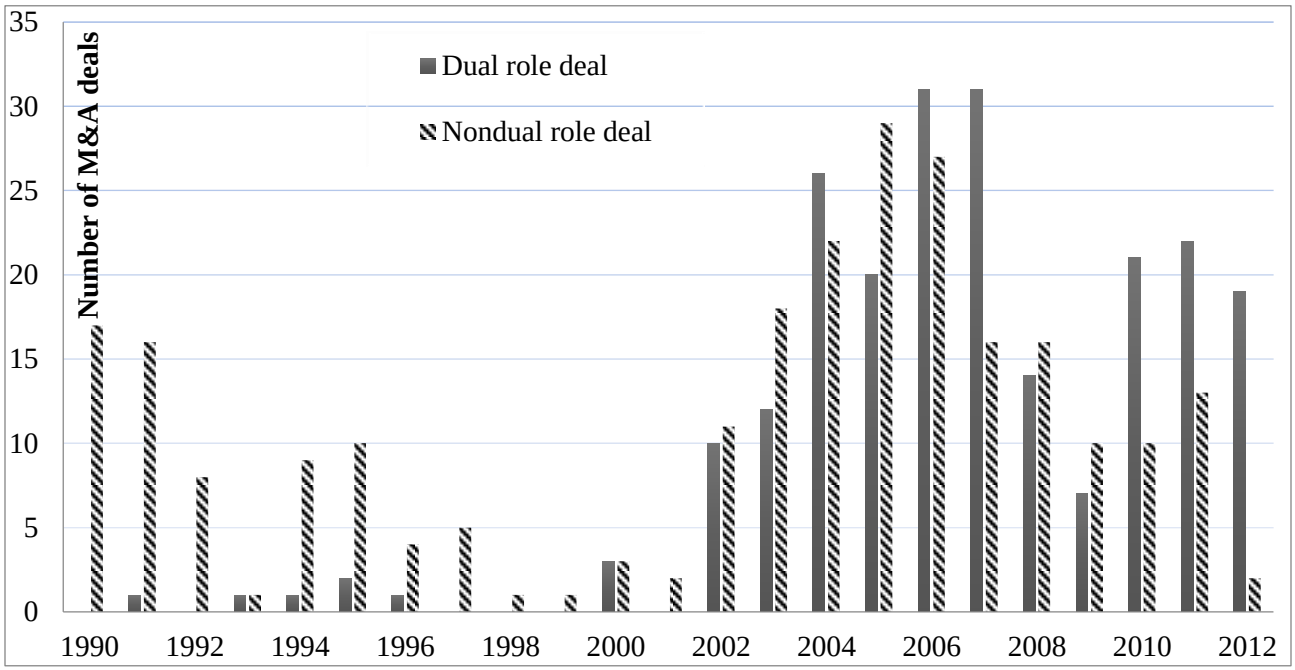
Table 11: Advisor Dual Role Lending Costs and Financial Constraints

The table reports results of regressions explaining the costs of loans to finance M&A deals when financial constraints are considered. The primary variable of interest is the Dualrole dummy. We let Dualrole interact with the acquirer's size-age (SA) index of Hadlock and Pierce (2010) in specification (2) and with the acquirer's pre-deal cash holdings to deal value ratio, Acquirer cash/deal value, in specification (3), respectively. Acquirer SA-index is a proxy for the bidder's financial constraints. Acquirer cash/deal value reflects the bidder's need for external funding in completing the deal. The variables are defined in Appendix B. All of the continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * highlight statistical significance at the 1%, 5%, and 10% confidence levels, respectively. Standard errors are clustered at the bidding firm level.

Y=Ln(loan spread)	(1)		(2)		(3)	
	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat
Dualrole	0.129***	(4.28)	-0.017	(-0.27)	0.199***	(5.57)
Acquirer SA-index	0.006	(0.22)	-0.030	(-1.00)		
Dualrole*						
Acquirer SA-index			0.064***	(2.72)		
Dualrole*						
Acquirer cash/deal value					-0.306***	(-3.50)
Ln(loan size)	-0.071***	(-3.86)	-0.072***	(-3.92)	-0.079***	(-4.30)
Ln(loan maturity)	0.132***	(3.53)	0.141***	(3.80)	0.138***	(3.73)
Performance pricing	-0.083***	(-2.72)	-0.088***	(-2.89)	-0.084***	(-2.78)
Secured	0.332***	(8.58)	0.338***	(8.75)	0.320***	(8.30)
Covenants	0.036	(0.82)	0.036	(0.82)	0.032	(0.73)
Acquirer ln(size)	-0.140***	(-5.14)	-0.133***	(-4.90)	-0.131***	(-6.73)
Acquirer Q	0.002	(0.13)	0.002	(0.10)	-0.014	(-0.84)
Acquirer leverage	0.229**	(2.44)	0.203**	(2.17)	0.236***	(2.72)
Acquirer ROA	0.516**	(2.32)	0.515**	(2.32)	0.545**	(2.47)
Acquirer tangibility	-0.080	(-0.96)	-0.081	(-0.99)	-0.087	(-1.06)
Acquirer cash/assets	0.338***	(2.91)	0.327***	(2.83)	0.508***	(4.07)
Acquirer cash/deal value	-0.060***	(-2.74)	-0.052**	(-2.37)	-0.054**	(-2.50)
Acquirer Z-score	-0.073***	(-4.36)	-0.075***	(-4.51)	-0.074***	(-4.46)
Relative size	-0.028*	(-1.75)	-0.027*	(-1.71)	-0.035**	(-2.21)
Hostile	-0.066	(-0.72)	-0.067	(-0.72)	-0.047	(-0.51)
Competing deal	0.071	(1.13)	0.065	(1.02)	0.045	(0.71)
All-cash	-0.050*	(-1.86)	-0.047*	(-1.76)	-0.043	(-1.63)
Tender offer	-0.138***	(-2.86)	-0.135***	(-2.80)	-0.115**	(-2.41)
Toehold	0.000	(0.02)	-0.000	(-0.02)	-0.001	(-0.16)
Cross industry	-0.025	(-0.87)	-0.016	(-0.57)	-0.038	(-1.35)
Public deal	-0.034	(-1.06)	-0.040	(-1.25)	-0.037	(-1.15)
Intercept	5.108***	(10.71)	5.838***	(11.48)	5.201***	(11.05)
Year fixed effect		Yes		Yes		Yes
Industry fixed effect		Yes		Yes		Yes
Loan type fixed effect		Yes		Yes		Yes
Number of loans		771		771		771
Adj. R^2		0.740		0.742		0.744

Figure 1: Annual number of M&A deals and related loan facilities

Panel A: M&A deals with loan financing



Panel B: Loan facilities to finance M&A deals and annual credit spread