



"Boutique" financial advisors vs. full-service investment banks: An analysis of advisor choice and deal outcomes in mergers and acquisitions

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Abstract

OBJECTIVES OF THE STUDY

In this thesis, I study the motives and impact of hiring boutique advisors in mergers and acquisitions (M&A). Specifically, this paper investigates a merging firm's choice between boutique and full-service advisors and the impact of advisor choice on deal outcomes regarding deal premium, deal duration and deal completion.

DATA AND METHODOLOGY

My sample consists of 906 M&A transactions. The sample is collected from the Securities Data Corporations (SDC) database in Thomson One Banker. The sample contains completed and withdrawn transactions from the international merger database from 1987 to 2013. Both the acquirer and target firm are required to be publicly traded firms from the EU-19 countries, Norway, and Switzerland. Advisor choice is analyzed with multivariate logistic regressions. Deal premiums are analyzed with OLS regressions and a two-step procedure. Deal duration is analyzed with OLS regressions and deal completion is analyzed with multivariate probit regressions.

FINDINGS OF THE STUDY

The findings suggest that deal size is an important factor in determining how merging firms select financial advisors. Boutique advisors are less likely to be chosen by either acquirers or targets as deal size increases. Additionally, some findings suggest that boutique advisors are hired when merging firms face complex transactions but these findings are weak. With regard to whether boutiques can improve deal outcomes, the findings are mixed.

Keywords mergers and acquisitions, advisor choice, boutique advisor, full-service advisor, deal premium, deal duration, deal completion

Tekijä Mikko Kurkela

Otsikko "Putiikki" neuvonantajat v. täyden palvelun investointipankit - Analyysi neuvonantajien valinnasta ja näiden vaikutuksesta yrityskauppojen lopputuloksiin

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Tutkin pro gradu-tutkielmassani yrityskauppojen osapuolten motiiveja palkata putiikkineuvonantajia ja putiikkineuvonantajien palkkaamisen vaikutuksia yrityskauppojen lopputuloksiin. Tutkimuksessa vertaan putiikkineuvonantajien ja täyden palvelun investointipankkien valintaa yrityskauppojen neuvonantajiksi, minkä lisäksi tutkimuksessa analysoidaan neuvonantajien vaikutuksia kaupan preemioon, pituuteen, ja loppuun saattamiseen.

DATA JA METODOLOGIA

Otokseni koostuu 906 yrityskaupasta. Otos on lähtöisin Securities Data Corporations (SDC) - tietokannasta, joka löytyy Thomson One Banker -tietokannasta. Otos sisältää toteutuneita sekä peruuntuneita yrityskauppoja vuodesta 1987 vuoteen 2013. Otoksessa sekä ostava että myyvä osapuoli ovat julkisia yrityksiä EU-19 maista, Norjasta, ja Sveitsistä. Neuvonantajien valintaan vaikuttavia tekijöitä analysoidaan monimuuttujaisilla logistisilla regressioilla. Kaupan preemioita analysoidaan OLS-regressioilla ja kahden vaiheen analyysillä. Kaupan pituutta analysoidaan OLS-regressioilla, ja kaupan loppuunsaattamista analysoidaan monimuuttujaisilla probit-regressioilla.

TULOKSET

Tutkimukseni tulokset viittaavat siihen, että kaupan suuruus on tärkeä tekijä neuvonantajien valinnassa. Kaupan koon kasvaessa putiikkineuvonantajan valitseminen on epätodennäköisempää kuin täyden palvelun investointipankin valitseminen. Lisäksi eräät tulokset viittaavat siihen, että putiikkineuvonantajia palkataan kun yritysostojen osapuolet kohtaavat monimutkaisia transaktioita, mutta nämä tulokset ovat heikkoja. Yrityskauppojen lopputulosten analyysin tulokset viittaavat siihen, että putiikkineuvonantajilla on kahtalaisia vaikutuksia.

Keywords yrityskauppa, neuvonantaja, putiikki, investointipankki, yrityskaupan lopputulos, kaupan preemio, kaupan pituus, kaupan loppuunsaattaminen

TABLE OF CONTENTS

1. Introduction	1
2. Literature Review	6
2.1. M&A characteristics and trends	6
2.2. Financial advisors in M&A	7
2.3. Advisor effects on deal outcomes	8
2.3.1. Deal premiums and excess returns	8
2.3.2. Deal duration and deal completion.....	11
2.4. Determinants of advisor choice.....	12
3. Hypotheses and testable empirical implications	13
3.1. Hypotheses	13
3.1. Empirical implications on advisor choice	14
3.2. Empirical implications on deal outcome	16
4. Data and descriptive statistics	19
4.1. Data collection and sample construction.....	19
4.2. Descriptive statistics.....	22
5. Empirical Results	25
5.1. Empirical tests on the choice of advisors	25
5.2. The impact of advisor choice on deal outcomes	35
5.2.1. Deal premium	35
5.2.2. Self-selection bias	38
5.2.3. Deal duration	41
5.2.3. Deal completion	43
6. Discussion of Results	46

6.1. Empirical findings of advisor choice	46
6.2. Empirical findings of deal outcomes.....	48
7. Conclusions	49
8. References	52
9. Appendix	55

LIST OF TABLES AND FIGURES

Table 1- Testable empirical implications	18
Table 2 - Boutique and full-service banks in M&A transactions.....	21
Figure 1 - The Time trend of the use of boutique advisors in M&A	21
Table 3 - Deal characteristics by the type of financial advisors.....	24
Table 4 - Determinants of advisor choice	26
Table 5 - Distribution of deal value (\$ million) based on acquirer advisor types.....	29
Table 6 - Determinants of advisor choice (sample restricted by deal value (\$300 mil.))	30
Table 7 - Determinants of advisor choice (sample restricted by deal value (\$500 mil.))	32
Table 8 - Impact of advisors on deal premiums (OLS regressions).....	37
Table 9 - Impact of advisors on deal premiums (two-stage procedure).....	40
Table 10 - Impact of advisors on deal duration.....	42
Table 11 - Impact of advisors on deal completion	44
Table 12 – Summary of hypotheses and results	45
Appendix 1- Advisor Ranking	55
Appendix 2 - Advisor classification.....	55
Appendix 3a - Hypothesis framework and evidence (<i>skill</i> hypothesis)	60
Appendix 3b - Hypothesis framework and evidence (<i>scale</i> hypothesis)	61

1. Introduction

In January 2011 a deal between BP and Rosneft of Russia was announced. The deal included a share swap agreement between the companies worth \$7.8 billion. BP was advised by five full-service investment banks – Morgan Stanley, Goldman Sachs, UBS, Credit-Suisse and Renaissance Capital, as well as a small “boutique” advisor Lambert Energy Advisory. “Boutique” is the word used by the financial advisory industry when referring to independent financial advisors. Lambert Energy Advisory, headed by Philip S. O. Lambert, a former investment banker, advised BP on the deal with Rosneft to explore the Russian Arctic. Lambert reportedly landed the deal because of experience advising companies in the oil and gas industry and his connections in Russia.¹

Lambert Energy Advisory’s involvement is a prime example of a situation when boutique advisors are hired by firms to give advice on mergers and acquisitions (M&A). Boutique advisors often specialize in a certain industry and have deep expertise in M&A. Lambert’s industry- and country-specific expertise was something BP felt was needed and consequently the firm was included on its advisory team.

In addition to expertise, independence from other financial services makes boutique advisors attractive to clients. Advocates of smaller banks say their focus on M&A allows them to provide impartial advice for corporate executives.² Consequently, firms involved in M&A may value independent boutique firms as they are less prone to possible structural conflicts of interest. Lazard, a well-known boutique advisor, states on its website that it has a “client-aligned business model” and that its “focus on advice and solutions avoids structural conflicts of interest.” Structural conflicts of interest are conflicts that arise when an advisor is in a position in which its duties as an advisor conflict with other direct or indirect financial interests of the company’s other divisions and/or activities.

¹ Chazan, G., 2012. BP to sell TNK-BP stake to Rosneft. *Financial Times, Online Edition*. October 22.

Wedigier, J., 2011. BP Used Boutique Firm as Adviser on Partnership With Rosneft. *Deal Book, The New York Times, Online Edition*, January 19.

²Campbell M., Simmons J. & Monks M., 2013. Publicis-Omnicom: Small Banks Rothschild, Moelis Win. *businessweek.com*, August 1.

Structural conflicts of interests can materialize as leakage of sensitive or confidential information from one client to another through the divisions of a diversified investment bank. Hahn (2003) mentions an example of a conflict that can arise in a multidivisional investment bank. In her article, she writes that in 2003, Dana Inc. filed a lawsuit against its lender and advisor UBS, which at the time was advising Dana on a confidential project. Dana claimed that UBS had used confidential information to help its rival in launching a hostile bid for Dana. Dana became aware of UBS being an advisor to its rival only after the deal became public when UBS disclosed this connection and offered to resign. These kinds of conflicts of interest can be mitigated when using independent, boutique advisory firms that do not have diversified business lines, which facilitate possibilities for structural conflicts of interest.

Apart from a few large and well-known boutique advisors such as Lazard and Rothschild, which continuously rank high in investment banking industry league tables³, boutique advisors tend to be small and are often unable to attract the biggest deals, because of geographical limitations, smaller resources, limited lending capacity, and limited services to offer besides advisory. Nevertheless, classifying an advisor as boutique by size alone is not an efficient classification method. For example, using the number of employees for classification is not feasible as employees for a boutique advisor can range from a few employees to several thousand (Lazard had 2,513 employees at the end of 2012⁴).

Subsequently, the differentiation of the biggest M&A boutiques from full-service investment banks isn't always a clear-cut decision. Evercore, a large boutique advisor, describes itself as “independent, unencumbered by the potential conflicts of interest inherent in bulge-bracket banks and universal banks. We are never in a position where our client's best interests are in conflict with our own”. Independence, as Evercore describes it, is vague and open to questioning. Independence in investment banking generally indicates being independent of commercial banking. For example, Pareto Securities claim that they are an independent full-service investment bank with a leading position in the Nordic capital markets⁵. Additionally, as I defined earlier, independence can also be described of being free of conflicts with other divisions. Blackstone, another large boutique advisor describes its business by the following: “We are independent

³ See e.g. League Tables – Investment Banking Review – FT.com. *Financial Times, Online Edition*.

⁴ www.lazard.com

⁵ www.paretosec.com

advisors, providing objective advice, with no underwriting, trading or research conflicts.” What is similar with both Evercore and Blackstone is the fact that both specialize in corporate finance advisory services. Both companies also have some diversification but little compared e.g. with the bulge-bracket investment bank Goldman Sachs, whose business segments include Investment banking, Institutional Client Services, Investing & Lending, and Investment Management. Of these, M&A advisory sits in the Investment banking segment along with other advisory services.

My classification criteria for an advisor to be a boutique are that the company a) specializes in corporate finance advisory and b) doesn't have a large range of diversified business segments, which accumulate to the advisor being a full-service investment bank (accordingly, having some other line of business such as wealth management doesn't cause the immediate exclusion from the boutique sample). Consequently, the main criteria of inclusion reflect the choice of the strategy of the advisor rather than capabilities of advising bigger deals or the size of the advisor.

This paper sets to examine the motives and impact of hiring boutique advisors in M&A transactions. Specifically, I use the methodology of Song et al. (2013) to examine whether their research of boutique advisors in the U.S. market holds in a European setting. The paper of Song et al. (2013) sets the foundation for my hypotheses and subsequent analyses. The main hypotheses are the *skill* and *scale* hypotheses. The *skill* hypothesis states that firms are more likely to hire boutique advisors because of their skills or expertise in a particular industry or generally in M&A advising. The *scale* hypothesis states that the biggest M&A deals will be advised by full-service banks as they tend to have more resources, larger geographical presence, and diversified services as opposed to boutiques, which are small but specialized. These main hypotheses are tested through several sub-hypotheses, which are categorized into two groups: hypotheses on advisor choice and deal outcomes.

My analysis is based on manually compiled European data of M&A transactions between 1987 and 2013. The data has been gathered from the Securities Data Corporations (SDC) database in Thomson One Banker and completed with manual data gathered from the websites of the advisors in my sample and other relevant, reliable websites⁶ to classify companies as boutiques or full-service investment banks.

⁶ Such as Bloomberg Businessweek, which has an extensive company profile database.

The results of the empirical analysis are two-part. My empirical analysis shows strong support for the *scale* hypothesis. The findings suggest that deal size is an important factor in determining how merging firms select financial advisors. Boutique advisors are less likely to be chosen by either acquirers or targets as deal size increases (compared with full-service investment banks). However, the empirical analysis shows some, but generally weak or mixed evidence for the *skill* hypothesis.

Correspondingly, the tests on the sub-hypotheses for the advisor choice category show some support that boutiques are hired when the acquirer is facing a complex transaction, but this evidence is not as strong as in the article by Song et al. (2013). The significant results I find are mostly limited to sub-samples and are not consistent throughout the different analyses. Nonetheless, the significant results that I do find indicate that boutiques are hired when companies face complex deals. The results suggest that boutiques are hired by acquirers when the target is from another industry, which can be attributed to the industry specific expertise commonly credited to boutique advisors⁷. In addition, my results show that in mergers, boutique advisors are hired by acquirers when the deal is hostile and when the deal is financed with stock. Acquirers hire boutique advisors as part of a mixed group of boutiques and investment banks (mixed teams) when there is competition for the target and when the form of payment is stock. On the target side, boutiques are hired as part of mixed teams when the acquirer is considered hostile and when the acquirer uses stock as a form of payment.

The empirical findings of the analysis of deal outcomes provide mixed evidence for the *skill* hypothesis. For deal premiums, I find that the choice of boutique advisors by acquirers decreases premiums, but boutiques are not able to decrease premiums relative to other Tier 2 advisors. Mixed teams are able to increase deal premiums on the target side, while Tier 2 boutiques are able to increase premiums relative to other Tier 2 advisors. Additionally, the results for deal outcome analyses with regard to deal duration and deal completion give inconclusive evidence for the *skill* hypothesis.

The contribution of my study to existing empirical M&A literature is the further testing of the two main hypotheses originally developed and tested by Song et al. (2013). While their research

⁷ See e.g. Dealbook, 2009. Boutiques Grab M&A Market Share From Big Firms. *Deal Book, The New York Times, Online Edition*, September 25.

is based on a U.S. sample of domestic M&A deals, my research is based on a sample of European M&A deals across 21 countries. Thus my research studies the European advisory market and can be used for comparison to the U.S. study. My analysis shows some similar results such as strong support for the *scale* hypothesis. However, my analysis doesn't find as strong support for the *skill* hypotheses as the paper of Song et al. (2013). This is partly due to the limitation of my sample size, which is around half of the size of the original article. Another limitation is that the classification of advisors is subjective. No standard, universally accepted classification criteria are available for determining whether a firm providing investment banking services including advisory are boutique or full-service investment banks. Nonetheless, I use the same methodology and classification criteria as Song et al. (2013) and my results are similar so these two papers provide one way to find similar results.

An interesting feature of advisory services left out of this paper is the pricing of advisory services and the differences of pricing between different types of advisors. Understanding the relation between skills, fees, and the economies of scale of advisors is a possible topic for future literature. Song et al. (2013) state that boutique advisors are more likely to charge lower fees than full-service advisors, which means they could be a cheaper alternative for M&A transactions. They support this with evidence from Hunter and Jagtiani (2003) who find that acquirers pay larger fees when they use top-tier advisors⁸. In addition, they find that the average fee charged by full-service advisors to acquirer (target) firms in our sample is \$6.14 million (\$7.22 million), compared with the \$2.55 million (\$2.7 million) charged by boutique advisors. However, as fees are based on the size of the deal, the average fees are not a reliable benchmark. Nonetheless, it is implausible to expect that boutique advisors would be able to provide better expertise and thus produce better outcomes, and also be the cheapest alternative in the market. Unfortunately, fees are given by SDC for only a handful of the deals in my sample of European M&A transactions and analyses related to fees are thus left outside the scope of this paper.

The paper is organized as follows. In Section 2, I review existing literature on M&A advisory. Section 3 covers my hypotheses and their testable empirical implications. Section 4

⁸ Advisors ranked by the dollar value of transactions and number of transactions handled by the advisor.

describes the sources and processing of data, Section 5 presents the empirical findings, and Section 6 contains discussions about the results. My conclusions are presented in Section 7.

2. Literature Review

2.1. M&A characteristics and trends

Empirical research on M&A until the 21st century focused on event studies. These studies often showed that mergers create shareholder value with most of the gains accruing to the target company. For example, Jensen and Ruback (1983) examine literature on the market for corporate control from 1977 to 1983 and report that targets of successful tender offers and mergers earn significantly positive abnormal returns on announcement and through the completion of the offers. They also report positive returns to successful bidders in tender offers but observe that returns to successful bidders in mergers are zero. Jarrell and Poulsen (1989) confirm the findings with a considerably larger empirical study.

Andrade et al. (2000) summarize and expand these aforementioned studies by analyzing the immediate stock market response to more than 4000 mergers completed from 1973 to 1998. They defend the traditional view that mergers improve efficiency and that gains to shareholders after the merger announcement accurately reflect improved expectations of future cash flows. They conclude that it is actually difficult to say what the abnormal returns for acquiring firms should be. They argue that mergers are comparable to any other investment decision (research and development, capital expenditures, joint ventures, and so on), which according to other empirical studies have shown abnormal announcement returns of less than one percent (McConnell & Mustarella, 1985 and Martin & Kensinger, 1990).

More recent M&A literature has also focused on some issues of why mergers occur by building up from the two most consistent empirical features of merger activity during the last century: 1) mergers occur in waves and 2) within a wave, mergers strongly cluster by industry (Andrade et al. 2001). Mitchell & Mulherin (1996), whose paper studies the takeover wave of the 1980s, find that half of the takeovers and restructurings in an industry take place in one-fourth of the sample period, suggesting that common factors influence the takeovers occurring in an industry. They also find evidence indicating links between industry shocks and subsequent takeover and

restructuring activity. This clustering of mergers by public firms in time and industry is also confirmed by other studies (Andrade et al., 2001, and Harford, 2005). However, Netter et al. (2011) utilize a substantially larger sample of M&As than those found in previous studies and find that the patterns of merger waves found in earlier research are significantly smoothed out when private acquirers and small deals are included. This is confirmed by Maksimovic et al. (2013) who find that public firms purchase and sell assets at a higher intensity than private firms. To a large extent, the observed M&A waves are driven by the higher participation of public firms.

There are two main explanations to why mergers would occur in waves. The neoclassical model argues that industries responding to shocks reorganize through mergers and acquisitions. The behavioral model derives from Shleifer & Vishny (2003). They present a model of stock-market-driven acquisitions, which implies that mergers are driven by misvaluation in financial markets. Rhodes-Kropf and Viswanathan (2004) present a similar theory and Rhodes-Kropf et al. (2005) empirically test and find support for misvaluation theories based either on behavioral explanations or asymmetric information between otherwise rational managers and markets. Harford (2005) tests both the behavioral and the neoclassical model and concludes that shocks, be they economic, regulatory, or technological, cause industry merger waves, but only if sufficient capital liquidity is present to accommodate the necessary transactions. He notes that while it would be untruthful to claim that there are no mergers driven by managers timing the market, such mergers are not the cause of waves. Rather, aggregate merger waves are caused by the clustering of shock-driven industry merger waves, not by attempts to time the market.

2.2. Financial advisors in M&A

M&A is one of the most important activities in corporate finance, bringing about considerable reallocations of resources within the economy. Therefore it is not surprising that financial advisors, being significant players in the market for corporate controls, have received a lot of attention in financial literature.

Empirical literature on M&A advisors in the early 1990s focused on advisory fees (McLaughlin, 1990), the relationship between dollar gains in acquisitions and banker prestige (Bowers and Miller, 1990), and the relationship between advisory fees and merger gains (Hunter and Walker 1990). McLaughlin (1990), one of the first to empirically measure investment banking

advisory fees in tender offers, describes the role of investment bankers in M&A as controversial because of the compensation they allegedly receive and the potential conflicts of interest between the bankers and their clients. He finds that despite sensational offers and fees reported in the business press, investment banking advisory fees were on average only 1.29% of the value of completed transactions. However, the investment banking fees in 95% of the contracts with bidding firms increase if the takeover is successful. This type of contract design can lead to investment banks suggesting higher premiums to the bidder to get the deal done.

2.3. Advisor effects on deal outcomes

2.3.1. Deal premiums and excess returns

McLaughlin (1992) expands the previously mentioned study on banker fees and finds significant effects associated with banker reputation⁹. Specifically, his results show that bidders with low-reputation investment advisors offer substantially lower premiums and that bidders with lower-reputation bankers also experience significantly higher excess returns around the announcement. Consequently, bidders with lower-reputation bankers bid less and experience better returns than bidders with high-reputation bankers. McLaughlin (1992) concludes that the results are consistent with at least two interpretations. Either high-reputation bankers are encouraging their bidding firm clients to higher bids with a corresponding reduction in firm value, or high-reputation advisors are associated with more difficult transactions, requiring higher premiums and with lower benefits to bidding firms.

The results of McLaughlin (1992) are consistent with the controversy between theory and the empirical findings in literature on M&A advisors. Leaders in the M&A advisory industry are the same players that dominate the whole investment banking industry. These so-called “bulge-bracket” firms are top-tier investment banks that have built up a reputation as experts in financial transactions. This reputational advantage is accompanied by premium fees that should theoretically ensure that bulge-bracket advisors perform superior services for their clients (Chemmanur & Fulghieri, 1994).

⁹ Ranked by the methodology of Carter & Manaster (1990) who use tombstone announcements, which are listings of pending public security offerings, in which investment bankers are listed in sections, and these are in order of prestige.

Nonetheless, most empirical research fails to support this theoretical framework. Bowers and Miller (1990) show that top-tier advisors¹⁰ can identify deals with higher total synergies, but are not able to provide a bargaining advantage to capture a larger share of these synergies. On the other hand, Michel et al. (1991) present results that differ from those of Bowers and Miller. By determining the cumulative abnormal returns of target firms, they find that clients of a less prestigious advisor, Drexel Burnham Lambert, outperformed other investment bankers in the sample in providing acquisition bid advice to the client firm.

Many studies that examine the relation between abnormal returns and advisor reputation (proxied by market share) have reported either a negative or at best an insignificant relationship between the reputation of the bidder's advisor and bidder returns. For example, Rau (2000) develops and tests a hypothesis, which argues that acquirers in mergers and tender offers advised by top-tier investment banks (with a high market share) should earn higher announcement-period excess returns on average than acquirers advised by lower-tier investment banks. He finds that bidders in mergers advised by first-tier investment banks earn significantly lower announcement abnormal returns than do bidders advised by either second- or third-tier banks. However, his findings also suggest that in tender offers, bidders advised by first-tier banks earn significantly higher abnormal returns in the announcement period than bidders in deals advised by either second- or third-tier bank. Rau (2000) also finds evidence consistent with McLaughlin (1992), which suggests that acquiring firms using low-quality investment bankers offer significantly lower premiums than high-reputation investment banks.

Consistent with this, Hunter and Jagtiani (2003) find that the post-merger gains realized by the acquiring firms in mergers decline when first-tier advisors are employed. Interestingly, they find that larger total advisory fees paid are associated with larger post-merger gains and that when acquirers switch their financial advisors within the same tier, switching is associated with larger post-merger gains to acquiring firms.

Servaes and Zenner, (1996) have similar results when comparing acquisitions advised by investment banks with those that are executed by in-house staff. They find that the announcement excess returns earned by the acquirers do not depend on whether an investment bank is used. For

¹⁰ Defined as the bulge-bracket at that time including The First Boston Corporation, Goldman, Sachs & Company, Merrill Lynch, Morgan Stanley & Company and Salomon Brothers.

takeovers, they also examine whether the use of investment bank advice affects the premium paid by acquirers for targets, but they find no significant effect.

Yet Kale et al. (2003) document that when the client firm (bidder or target) employs a more reputable financial advisor, it enjoys a greater absolute wealth gain as well as a larger share of the total wealth created in a successful takeover. The writers argue that one reason why previous studies do not document a significant role for advisor reputation may be their failure to control for the reputation of the opponent's advisor or that the reputations of the advisors chosen by the target and the bidder are entered separately (instead of a measure of relative financial advisor reputation¹¹) into the analysis, and because of the adversarial nature of the takeover process, the separately entered advisor reputation variables do not exhibit significant relations.

Market share is not the only measure of reputation used in financial literature. Bao & Edmans (2011) use the past performance of investment banks to measure reputation. They find that certain banks have ability in identifying good acquisitions and negotiating terms, or trustworthiness in turning down bad deals.

Golubov et al. (2012) argue that reputation is not equally important in all transactions and that advisor reputation is relatively more important in the acquisitions of public firms. Their empirical evidence shows that top-tier advisors (measured by the value of the deals they advise on) are associated with higher bidder gains in public acquisitions, but not in private or subsidiary deals. They note that public acquisitions require more skill and effort on the part of the advisors, because public targets have more power and are able to capture most of the gains, public deals increase disclosure liabilities and other governance issues, and public firms have dispersed ownership, which makes indemnification from the seller practically impossible.

As shown, most literature examines the impact of different tiered advisors (measured by reputation) on deal outcomes and little research has been done on other classifications of advisors. Song et al. (2013) find that transactions with boutique advisors on the acquirer side result in significantly lower premiums paid for the target. After controlling for the advisor's reputation, they

¹¹ Kale et al. (2003) hypothesize that a client that employs a higher reputation advisor will receive a larger share of the total synergistic gains from the takeover. However, whether the client has a strategic advantage depends on the reputation of its advisor relative to the reputation of the advisor to the opposing side and not on the absolute reputation of the advisor.

estimate that the premiums paid to targets are, on average, 8–10% lower for mergers when acquirers hire boutique advisors, compared with deals where full-service advisors are used. Target shareholders in tender offers receive significantly higher premiums (about 17% higher) when boutique advisors are hired by target management. These findings provide some evidence for the superior performance of boutique advisors in terms of deal pricing.

2.3.2. Deal duration and deal completion

Rau (2000) develops and tests a hypothesis that states that the valuation of the deal is of secondary importance. Because investment banks advising acquirers in mergers and tender offers face strong deal completion incentives in their fee structure, their role is simply to complete the deal, in which case the market share of the investment bank will depend on the number of deals it completes. He shows that the market shares of investment banks in both mergers and tender offers are positively related to their ability to complete the deal. Though investment banks have some incentives in mergers to complete the deal, these incentives do not necessarily result in value-destroying deals for acquirers. In tender offers, however, there is strong evidence that the market share of an investment bank is related to its ability to complete a deal, irrespective of whether the deal actually adds value to the acquirer.

Consistent with this, Hunter and Jagtiani (2003) find that advisor quality and the number of advisors employed in a given transaction are important in determining the probability of completing a deal. Their analyses suggest that top-tier (Tier 1) advisors are more capable of completing deals relative to Tier 2 and Tier 3 advisors. Relating to deal duration, they find that Tier 1 advisors were found to be more efficient in terms of the amount of time required to complete deals, other things equal. On the contrary, Golubov et al. (2012) find limited evidence that top-tier advisors are associated with higher deal completion rates. However, they also find evidence that deals advised by top-tier investment banks take less time from announcement to completion.

Song et al. (2013) find that it takes longer to complete a deal when boutique advisors are used on the acquirer side, which they attribute to deals being more complex and requiring more due diligence, negotiation, and time to complete. Regarding deal completion, they find no significant difference in deal success rates between full-service banks and boutique advisors on the

acquirer side, but slightly higher deal completion rates when target firms are advised by boutique advisors.

2.4. Determinants of advisor choice

An increasing amount of literature on M&A transactions examines how merging firms choose financial advisors. Servaes & Zenner (1996) study advisor choice as well as the previously mentioned wealth effects. They find that transaction costs, contracting costs and information asymmetries are related to the investment banking choice. Consequently, firms choose investment banks when the acquisition is more complex (they define complexity as hostile takeovers, acquisitions that involve a bidding contest, acquisitions paid with securities, and large transactions). Firms also choose investment banks when they have less prior acquisition experience and when the acquisition involves the takeover of another company. They also find that acquiring firms are more likely to use an investment bank when the target operates in many different industries, and that acquiring firms are more likely to use an investment bank when they purchase publicly traded companies instead of the assets of other firms and when they have lower insider ownership. When comparing the choice between first-tier and second-tier investment banks, the findings support that first-tier banks are used in complex transactions rather than second-tier investment banks.

Kale et al. (2003) like Servaes & Zenner find that the bidder is more likely to use a financial advisor when the bid is hostile and the bidder has less acquisition experience. They find that the likelihood that the target will retain a financial advisor is positively related to the strategic complexity of the deal and to the size of both the target and the bidder. These findings on hostility (bidder) and strategic complexity (target) suggest that firms hire financial advisors not only to minimize the transaction costs associated with larger deals but also to obtain strategic advice.

Chang et al. (2010) study the choice of advisors in M&As at the individual bank level. The authors show that industry expertise is a strong determinant of advisor choice, and the effect is stronger when the merger is a horizontal one and when the transaction is more complicated. They also find that the industry expertise of an investment bank heightens its clients' concern about information leakage to rivals and they avoid sharing advisors with their rivals.

Golubov et al. (2012) show that top-tier advisors are hired by larger firms with higher book-to-market ratios and idiosyncratic volatility but lower preannouncement stock-price run-ups. Top-tier advisors are also preferred by bidders when acquiring relatively larger targets.

Song et al. (2013) focus on fundamental characteristics of financial advisors such as advisory focus, industry expertise and independence to distinguish boutique advisors from full-service banks. They find evidence that the use of boutique advisors is more likely when the deal is small, or when it is complex (measured by the hostility of the transaction or when it is a stock transaction as opposed to a pure cash offer). Additionally, the results show that boutique banks' specialized knowledge of certain industries is notable in deals advised by a team comprised of full-service advisors and boutique advisors.

3. Hypotheses and testable empirical implications

In this section, I will present the two main hypotheses, which are the *skill* and the *scale* hypotheses. After this, the hypotheses are divided into sub-hypotheses based on two different categories: sub-hypotheses related to advisor choice and deal outcomes.

3.1. Hypotheses

Song et al. (2013) base their empirical research on two hypotheses. The first hypothesis states that merging firms are more likely to hire boutique advisors because of their skills or expertise in a particular industry or generally in M&A advising. This is referred to as the *skill* hypothesis. The *skill* hypothesis suggests that boutique firms, given their skills, expertise, and independence, are more likely to be hired when a firm is facing a complex transaction.

H1: Boutique advisors are chosen because they have more expertise and skills than full-service advisors in M&A.

Second, the larger the deal size, the more likely it will be advised by a full-service investment bank. This is because larger deals require scale capabilities. Full-service banks will more likely be hired as they tend to have more resources, higher lending capacity, larger geographical presence, and diversified services as opposed to boutiques, which are small but

specialized. Additionally, full-service investment banks may choose not to take on smaller deals of smaller firms as they will not provide sufficient fee income.

H2: *Full-service advisors are chosen for their capabilities and resources to execute and advise large deals.*

As the two hypotheses are not mutually exclusive, there is a possibility of potential co-existence of the two hypotheses. Song et al. (2013) infer that if some firms choose boutique firms for their expertise, while others hire boutique advisors because of the lack of alternatives, the effect of expertise on deal performance in a multivariate analysis would be diluted and the statistical significance would not be easily detected. Thus, the potential co-existence of both hypotheses creates bias against finding empirical support for the *skill* hypothesis. Finding significant effects of expertise on deal outcomes provides convincing evidence in support of the *skill* hypothesis.

3.1. Empirical implications on advisor choice

The *scale* hypothesis argues that the larger the deal size, the more likely it will be advised by a full-service investment bank. Therefore it is fairly straightforward to test empirically. The sub-hypothesis for the *scale* hypothesis related to advisor choice is as follows:

H2.1: *Full-service investment banks are more likely to be chosen by the acquirer and target for larger deals.*

The *skill* hypothesis requires more extensive examination. To empirically test whether *skill* is a key reason to hire boutique advisors in M&A transactions, I examine whether boutique firms are chosen when merging parties face complex deals. Servaes and Zenner (1996) compare in-house acquisitions and the use of investment banks in acquisitions. They find that using investment banks is related to the complexity of the transaction. In their study, deal complexity is measured by the target managers' hostility toward the deal, industry relatedness, and the existence of competing bids. Song et al. (2013) use these same complexity measures for their study to examine whether these are the reasons why boutique advisors are used. They add that the use of stock as payment can make the transaction more complex as it makes the offer harder to value for a target firm. In addition to these criteria, I hypothesize that cross-border mergers increase complexity in terms of identifying suitable targets, valuation and negotiating favorable terms. Accordingly, I use the

following sub-hypotheses to define the testable empirical implications for testing the skill hypothesis:

***H1.1:** Acquirers and targets are more likely to hire boutique advisors or mixed teams in hostile deals.*

Hostile deals are more complex for acquirers as they face reluctant management, who will also want to hire boutique advisors because of their expertise in M&A deals and defense strategies.

***H1.2:** Acquirers are more likely to hire boutique advisors or mixed teams when there is a competing bid.*

Competition increases the negotiating power of the target. As the acquirer will want the transaction cost to be lower than the value of the company with synergies included, the acquirer will require excellent negotiation and valuation skills from the advisor. Servaes & Jenner (1996) write that when the firm is not the first bidder, it is more important to react faster, thereby increasing the need for investment bank advice compared with in-house acquisitions. The same can be applied here: when there is a bid already on the table, it will require more negotiation skills and market knowledge to be able to beat the competition.

***H1.3:** Acquirers are more likely to hire boutique advisors or mixed teams in cross-industry deals.*

Servaes & Jenner (1996) hypothesize that the need for investment bank advice is greater when the information asymmetry between the acquirer and the target is larger. They expect a greater need for investment bank advice when the acquirer and the target do not operate in the same industry. They add that when a firm considers a target in a related industry, the firm can rely on its capital budgeting expertise to value the target (in-house acquisition). I hypothesize that boutique advisors are more likely to be used for cross-industry M&A than full-service investment banks. Boutique firms often specialize in certain industries and have industry-specific knowledge, which the acquirer wishes to utilize.

***H1.4:** Acquiring and target firms are more likely to hire boutique advisors or mixed teams when the payment is in shares of the acquiring firm.*

Targets will require skilled advisors for acquisitions in which the form of payment is the shares of the acquirer. Cash acquisitions are simple in terms of valuation. However, transactions paid with securities (or a mix of cash and securities), require more expertise in valuation. When target shareholders are offered shares of the acquirer's stock instead of pure cash payment, asymmetric information problems are more severe. Therefore, it is more difficult for the target to accurately evaluate the offer.

In addition, acquiring firms may also hire boutique firms when the form of payment is stock. This is because from the acquiring firm's perspective, stock-financed mergers can be viewed as two simultaneous transactions: a merger and equity issue (Andrade et al., 2002). Acquirers may also choose boutiques for stock-for-stock acquisitions as funding might not be required, playing to boutiques' advantage.

***H1.5:** Acquirers are more likely to hire boutique advisors or mixed teams in cross-border deals.*

As my sample is gathered from a total of 21 countries, many deals are cross-border transactions. In addition to the hypotheses in earlier empirical research on advisor choice and complexity, I hypothesize that cross-border deals increase complexity. For example, if the level of accounting quality in a country is low, the complexity and potential for error in the valuation of companies may increase (Danbolt & Maciver, 2012).

3.2. Empirical implications on deal outcome

As previously stated, boutique advisors are generally independent, often specialize in a certain industry and have expertise in M&A. The *skill* hypothesis implies that if boutique advisors are better at identifying targets, evaluating deals, and negotiating deals, they should be able to improve deal outcomes.

Boutique advisors on both sides of the transaction can have an impact on deal pricing through identifying sources of value e.g. the better valuation of the opposite side or the negotiation of better deal terms. Acquiring firms want the price to be as low as possible and therefore boutique advisors should be negatively associated with deal premiums. The opposite applies for boutique

advisors on the target side. Consequently, the sub-hypothesis for the *skill* hypothesis with regard to deal premiums is as follows:

H1.6: Boutique advisors or mixed teams decrease (increase) premiums for acquiring (target) firms.

Following the hypotheses on advisor choice, boutique advisors that advise parties in complex deals should also be associated with longer deal durations. Complex deals require thorough evaluation and due diligence. Therefore boutique advisors or mixed teams on either side of the transaction should be associated with a longer time to complete the deal.

H1.7: Boutique advisors or mixed teams increase deal durations for acquiring and target firms.

Some previous empirical research shows that top-tier advisors are actually able to complete deals faster relative to other tier advisors. This implies that top-tier advisors are more efficient in completing the deal. However, whether this is related to skill or other factors is inconclusive. As a result, I do not change my view on the hypothesis as it is in line with the other hypotheses related to complex deals.

Deal completion is tougher to hypothesize. On one hand, it could be thought of as a skill, if a certain type of advisor would be more likely to be able to complete a deal. On the other hand, if boutique advisors face more complex deals (such as hostile deals), it wouldn't be reasonable to expect them to be more likely to complete deals. Consequently, I hypothesize that boutique and mixed advisors have no significant impact on deal completion.

H1.8: Boutique and mixed advisors have no significant impact on deal completion on neither the target nor the acquirer side.

The empirical literature in the previous section gives mixed findings relating to deal completion with some studies showing that top-tier advisors are more capable of completing deals and some showing no significance. Completion is also related to fee structures as pointed out by Rau (2000). Investment banks advising acquirers in mergers and tender offers may face strong deal completion incentives in their fee structure, in which case the market share of the investment bank will depend on the number of deals it completes. This may be true and can apply for boutiques as

well. However, compared with a multidivisional full-service investment bank, I assume boutiques will not have the same organizational performance measures and pressure deriving from as the M&A team/unit in a full-service investment bank. Additionally, I hypothesize that boutiques would not aim for completing a deal, irrespective of whether the deal actually adds value to the acquirer, because the boutique advisors focus on M&A advisory and value destroying deals would hurt the future business of the boutique. Whilst it would be unrealistic to claim that this wouldn't be true for full-service investment banks, the organizational performance measures may force investment banks to pressure deals to go through and the diversified business lines of full-service banks mitigate the risks of having an unsatisfied customer in one business. As a result, I do not change my view on the hypothesis as it is in line with the other hypotheses related to complex deals.

I follow Song et al. (2013) and argue that the *scale* hypothesis does not have clear implications for deal outcomes. Table 1 summarizes the empirical implications on the choice of advisors and their impact on deal outcomes by the *skill* and *scale* hypotheses.

Table 1- Testable empirical implications

This table summarizes the testable empirical implications of the <i>skill</i> and the <i>scale</i> hypotheses. Panel A presents the empirical implications of two hypotheses for the choice of advisors in different types of deals. Panel B presents the empirical implications of the <i>skill</i> hypothesis for the impact of boutique advisors on deal outcomes. The <i>scale</i> hypothesis does not have clear implications regarding the impact of advisor choices on deal outcomes.				
Panel A. Implications on the choices of advisors				
	<i>Skill</i> hypothesis		<i>Scale</i> hypothesis	
	Acquirer	Target	Acquirer	Target
Hostile deals	Boutique or mixed	Boutique or mixed	-	-
Deals with competing bids	Boutique or mixed	-	-	-
Deals with stock offer	Boutique or mixed	Boutique or mixed	-	-
Cross industry deals	Boutique or mixed	-	-	-
Cross Border deals	Boutique or mixed	-	-	-
Large deals	-	-	Full service	Full service
Panel B. Implications on deal outcomes				
	Acquirers use boutique or mixed teams		Targets use boutique or mixed teams	
Deal premium	Decrease		Increase	
Deal duration	Longer		Longer	
Deal completion	No impact		No impact	

4. Data and descriptive statistics

4.1. Data collection and sample construction

The sample of M&A transactions is collected from the Securities Data Corporations (SDC) database in Thomson One Banker. The sample contains completed and withdrawn transactions from the international merger database between December 11, 1987 (the announcement date of the first deal in my sample), and August 20, 2013 (the announcement date of the last deal in my sample). Both the acquirer and target firm are required to be publicly traded firms from the EU-19 countries¹², Norway, and Switzerland. I include only acquisitions in which the acquiring firm controls less than 50% of the target firm before the acquisition announcement and the deal value is at least \$5 million. Deals that have a premium of more than 200% or less than -50% are excluded.^{13,14}

To classify advisors as boutique or full-service I follow Song et al. (2013) and identify the advisors' business strategy from their websites. Advisors are classified as boutique or full-service based on the business strategy of the advisor instead of the size of the firm, for instance. Specifically, boutique advisors should be independent and specialized in M&A as opposed to having full-spectrum or diversified business lines such as sales and trading, lending and banking, asset management, and so on. Consequently, my classification criteria for an advisor to be a boutique are that the company a) specializes in corporate finance advisory and b) doesn't have a large range of diversified business segments that accumulate to it being a full-service investment bank. The classification is not always clear as some larger boutique banks have other functions and in these cases it is important to distinguish the main focus of the business strategy for ensuring these advisors are independent of a diverse set of business lines that could cause structural conflicts of interest. Accordingly, having some other line of business such as wealth management doesn't cause the immediate exclusion from the boutique sample. It is also important to note that due to cross-border differences, some boutique banks can be major advisors in some countries while being minor in other. However, as the classification criteria are strategy and focus related, cross-border

¹² EU-19 area countries are: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden and United Kingdom

¹³ The specific methodology for measuring deal premium is described in the empirical results section later.

¹⁴ Corporate finance literature also uses winsorizing for dealing with outliers, but here I choose to replicate the methodology of Song et al. 2013. The methodology is derived from Officer (2003).

differences in terms of classification are not taken into account. In unclear cases, I use news websites to determine the industry consensus of the advisor. As there is no well-established definition or standard industry classification for a boutique advisor, classifying advisors as boutiques or full-service investment banks can be difficult. To mitigate potential bias that can occur because of misclassification, I exclude deals where information on financial advisors is insufficient or too ambiguous to make a classification.

There are a total of 425 advisors with unique names given by SDC in the sample. Among them, 91 are classified as boutique advisors and the rest as full-service advisors. All deals should therefore have at least one advisor on each side, which is clearly classified as a boutique or a full-service advisor. If a deal is advised by both full-service and boutique advisor(s), I classify the advisors as a mixed team. Some deals have advisors, which are not full-service or boutique such as accountancy firms including the Big Four accountancy firms. I exclude deals in which these accountancies act as a lone advisor as they do not fit into the boutique or full-service investment bank category. In transactions, in which these accountancies are a part of a team of advisors, I keep them in the sample.¹⁵

Table 2 summarizes the types of financial advisors for the 906 transactions in the sample. The transactions are presented as the full sample as well as a merger and a tender offer sub-sample consistent with the methodology of Song et al. (2013). There are 573 tender offers and 333 mergers. I utilize the tender flag in SDC to identify the sub-samples.¹⁶ Boutique advisors are used in 124 (13.69%) of the transactions by acquiring firms, which illustrates that full-service investment banks are dominant in the European M&A advisory market. There are 142 deals (15.67%) that are advised by a team of full-service investment banks and boutique advisors. This gives a total of 266 deals (29.36%) that have a boutique advisor on the acquiring side. An approximately equal number of firms choose boutique advisors on the target side with the participation being a total of 31.13%. Figure 1 illustrates the usage of boutique advisors throughout the sample. Consistent with the results in Table 2, the target and acquirer side have a similar trend for the use of boutique advisors. Apart from larger differences that occur in the earlier and later years of my sample, which are a

¹⁵ One focus for future studies could be to test the differences between accountancies, such as the Big 4, and other advisors in M&A.

¹⁶ This identification proceeds as follows: If the tender flag is “no” and the deal form is a merger, then the deal is a merger. If the tender flag is “yes”, then it is a tender offer.

result of smaller sample sizes for those years, the use of boutiques on both sides ranges on average from 20-40% yearly.

Table 2 - Boutique and full-service banks in M&A transactions

This table presents the use of two types of financial advisors, boutique and full-service banks, as well as a mixture of both, in M&A transactions announced during 1987-2013. I also split the whole sample into merger and tender offer sub-samples. Information on financial advisors is obtained from SDC's M&A database. The type of advisor is manually identified by searching the Websites of advisors.

Type of advisors	Full Sample (N = 906)		Merger sub-sample (N = 333)		Tender offer sub-sample (N = 573)	
	Acquiring firm	Target Firm	Acquiring firm	Target Firm	Acquiring firm	Target Firm
	(1)	(2)	(3)	(4)	(5)	(6)
Full-service	640	624	230	230	410	394
	70.64 %	68.87 %	69.07 %	69.07 %	71.55 %	68.76 %
Boutique	124	121	44	30	80	91
	13.69 %	13.36 %	13.21 %	9.01 %	13.96 %	14.49 %
Mixed team	142	161	59	73	83	88
	15.67 %	17.77 %	17.72 %	21.92 %	14.49 %	15.36 %

Figure 1 - The Time trend of the use of boutique advisors in M&A

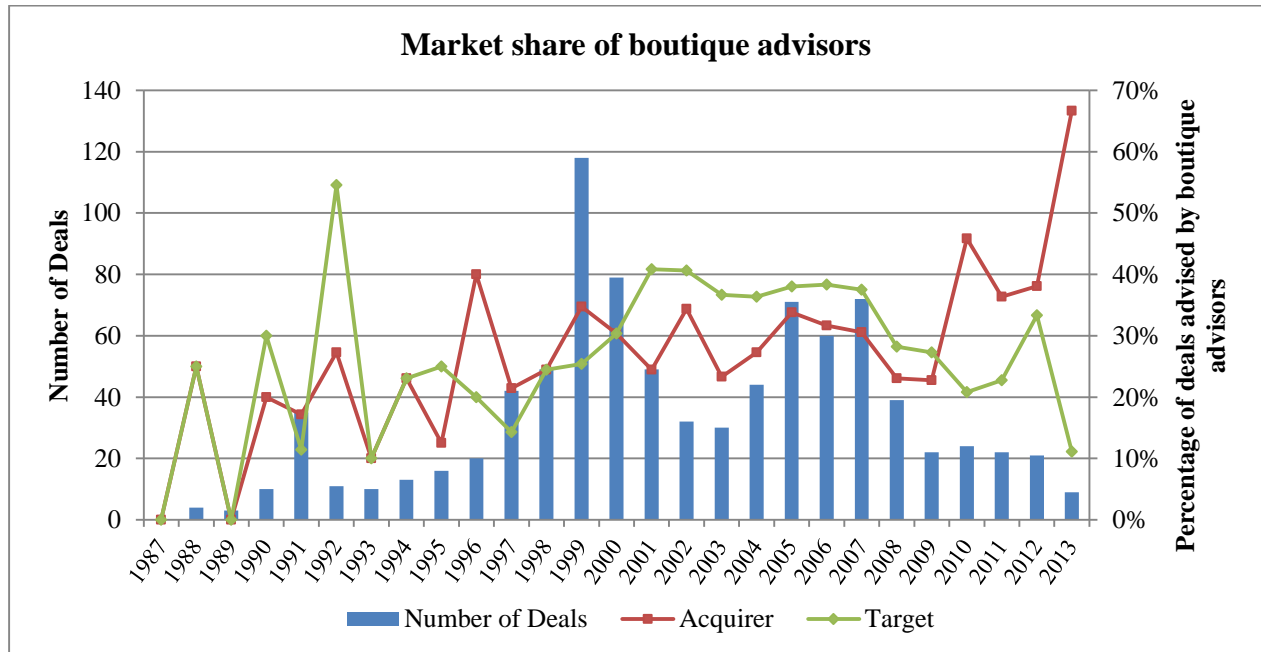


Figure 1 shows the pattern that has been found in M&A literature that was discussed in section 2. The M&A transactions in my sample occur in waves, or booms, with two booms being

present in my sample. The first can be found in 1999-2000 during which the dot-com bubble reached its peak. After the collapse of the bubble occurred, the M&A activity slowed down. In 2005-2007, it reached a new boom until the most recent financial crisis has decreased the number of transactions. Although different time cycles would be of interest to cover in theory, the number of transactions in my sample limits analyses of smaller samples. Consequently, I leave cyclical analyses out of the scope of my research.

4.2. Descriptive statistics

Table 3 reports firm and transaction statistics by advisor type for acquiring and target firms respectively. As in the study by Song et al. (2013), the choice of boutique advisors is significantly related to the deal size and the size of the acquirer. Large deals tend to be advised by full-service advisors while smaller deals are more likely to be advised by boutique advisors. Deals advised by a mixed team of boutique and full-service advisors are much larger on average than both full-service and boutiques. For example, mixed teams on the acquirer side have an average deal size of \$7,014.07 million while the average value of deals advised by full-service investment banks is \$2,663.80 million. For boutiques, the average value is \$792.29 million.

The average size of the acquirer measured by the total assets follows the same pattern as the transaction value with the biggest acquiring firms using mixed teams (\$75,072.26 million for acquirers using mixed teams and \$101,819.30 million for targets using mixed teams) and the smallest acquirers using boutiques (\$15,534.0 million for acquirers using boutiques and \$22,896.8 million for targets).

The average, relative size (acquirer total assets over target total assets) is highest for deals advised by boutiques on both the acquirer and target side. This implies that boutique advisors are employed by an acquirer when it is buying a smaller firm or by the target when it is being acquired by a larger firm. Mixed teams have the smallest average, relative size on the acquirer side with the statistic for acquirer mixed advisors being only 5.97 consistent with the findings of Song et al. (2013) that a deal advised by a mixed team is more likely to be a merger of equals than deals advised by boutiques or full-service investment banks alone. However, this applies to acquirers only as the average, relative size on the target side for mixed teams is 40.16.

The percentage of deals advised by boutiques and full-service advisors, which are tender offers, are similar (64.06 % vs. 64.52 %) while mixed teams have a slightly lower percentage (58.45 %) on the acquirer side. On the target side boutique advisors have a larger percentage of tender offers (75.21%) while and mixed advisors are only at around 55%.

The last column illustrates the average cross-sectional premiums and their differences. Boutiques seem to be able to be able to obtain lower premiums than full-service banks on the acquirer side, and the highest premiums for the target side. The difference compared with the full-service banks is not significant however. On the other hand, mixed teams seem to be able to obtain significantly lower premiums than full-service advisors on the acquiring side.

Table 3 - Deal characteristics by the type of financial advisors

This table presents summary statistics for the 906 M&A transactions, sorted by the type of financial advisor. Data are for deals announced during the period 1987 and 2013 in which the acquirer and the target have at least one financial advisor. *Deal Size* is the deal value in \$ millions *Acquirer Assets* is the total asset value measured from the last 12 months prior to announcement as given by SDC; *Relative Size* is defined as the ratio of acquirer size to target size. *Target M/B* is defined as the ratio of the market value of equity relative to the book value, which is the common equity as of the date of the most current financial information prior to the announcement of the transaction as given by SDC. *% Hostile* is the percentage of deals in which the deal is hostile (SDC hostile flag). *% Tender* is the percentage of deals in which a tender offer was used (SDC tender flag). *% Stock offer* is the percentage of deals with at least 50% of the consideration offered in acquirer's equity (SDC stock swap flag). *Premium* is the premium of the offer price to target closing stock price one day prior to the original announcement date as given by SDC. ***, **, and * indicate significance at the 1, 5, and 10% level, respectively.

Panel A: sorted by acquirers' advisory team

Acquirer advisor type	Average deal size (mil. \$)	Average acq. assets (mil. \$)	Average relative size	Average target M/B	% Hostile	% Tender	% Stock offer	Average premium
(1) Full-service N=640	2,663.8	60,034.7	32.34	3.66	11.09 %	64.06 %	45.47 %	28.32 %
(2) Boutique N=142	792.3	15,535.0	71.76	2.29	9.68 %	64.52 %	39.52 %	26.61 %
(3) Mixed team N=124	7,014.1	75,072.4	5.97	2.80	13.38 %	58.45 %	55.63 %	23.94 %
Total	3,089.5	56,301.1	33.60	3.34	11.26 %	63.25 %	46.25 %	27.40 %
Mean difference								
(1)-(2): t-test	10.09 +***	4.15 +***	-1.23 -	1.53 +	0.48 +	-0.10 -	1.23 +	0.58 +
Mean difference:								
(1)-(3): t-test	-3.37 -***	-0.79 -	3.95 +***	0.96 +	-0.73 -	1.23 +	-2.20 -**	1.79 +*

Panel B: sorted by target's advisory team

Target advisor type	Average deal size (mil. \$)	Average acq. assets (mil. \$)	Average relative size	Average target M/B	% Hostile	% Tender	% Stock offer	Average premium
(1) Full-service	2,621.5	49,158.5	27.26	2.85	11.22 %	63.14 %	46.63 %	26.21 %
(2) Boutique	344.9	22,896.8	56.50	3.18	9.09 %	75.21 %	42.98 %	32.37 %
(3) Mixed team	6,966.1	109,089.2	40.98	5.35	13.04 %	54.66 %	47.20 %	28.27 %
Total	3,089.5	56,301.1	33.60	3.34	11.26 %	63.25 %	46.25 %	27.40 %
Mean difference:								
(1)-(2): t-test	40.16 +***	1.61 +	-1.26 -	-0.60 -	0.62 +	-2.50 -**	0.69 +	-1.57 -
Mean difference:								
(1)-(3): t-test	-3.74 -***	-2.92 -***	-0.80 -	-0.88 -	-0.52 -	1.76 +*	-0.12 -	-0.63 -

5. Empirical Results

5.1. Empirical tests on the choice of advisors

Determinants of the choice of boutiques versus full-service advisors or mixed teams versus full-service advisors on either the acquirer or the target are examined using multivariate regressions. Following Song et al. (2013), I run multinomial logistic (multi-logit) regressions in which the dependent variable is the type of advisor with full-service advisors as the comparison type. Specifically, the first regression of each multi-logit model compares the deals advised by only boutique advisors with deals advised by only full-service advisors (the boutique vs. full-service regression) and the second regression compares deals advised by mixed teams with deals advised by only full-service advisors (the mixed team vs full-service regression). Consequently, the dependent variable is an indicator variable for deals advised by only boutique advisors (or mixed teams) and the deals with only full-service advisors are the base case. Table 4 presents the results.

Table 4 - Determinants of advisor choice

In this table I examine the determinants of the use of a boutique advisor on the acquirer side (Panel A) and on the target side (Panel B). Data are for mergers and acquisitions announced between 1987 and 2013 in which either the acquirer or the target has at least one financial advisor. Deal Size is the deal value in \$ millions. $\ln(\text{Deal Size})$ is the natural log of the Deal Size. *Stock* is a dummy that equals to one for deals with at least 50% of the consideration in acquirer's equity. *Hostile* is a dummy that equals to one if the deal is hostile. *Toehold* is the fraction of target shares held by the acquirer before deal announcement. *Cross Industry* is a dummy that equals to one if the acquirer and target are in different industries (firms are categorized as being in different industries if the two-digit sic codes do not match). *Cross Border* is a dummy that equals to one if the acquirer and target are incorporated in different countries. *Competition* is a dummy that equals to one if the deal has more than one bidder. *Target ROE* is the ratio of net income to common equity for the 12 months ending on the date of the most current financial information prior to the announcement of the transaction as in SDC. *Target D/E* is the target total debt divided by common equity as of the date of the most current financial information prior to the announcement of the transaction. Z-values are presented in parentheses below the coefficients. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Panel A: Multi-logit regression on advisor choice by the acquirer

	Full Sample		Merger sub-sample		Tender offer sub-sample	
	Boutique	Mixed	Boutique	Mixed	Boutique	Mixed
Ln(Deal Size)	-0.278*** (21.76)	0.293*** (30.70)	-0.381*** (11.89)	0.206** (4.90)	-0.248*** (10.38)	0.346*** (24.07)
Stock	-0.208 (0.94)	0.126 (0.37)	-0.029 (0.01)	0.411 (1.49)	-0.232 (0.77)	-0.030 (0.01)
Hostile	-0.073 (0.04)	-0.072 (0.06)	1.028 (1.38)	-0.328 (0.16)	-0.196 (0.25)	-0.059 (0.03)
Toehold	-0.294 (0.11)	-0.731 (0.63)	-0.244 (0.03)	-0.603 (0.18)	-0.196 (0.03)	-0.843 (0.48)
Cross Industry	0.050 (0.06)	0.023 (0.01)	0.011 (0.00)	0.128 (0.17)	0.089 (0.12)	-0.066 (0.06)
Cross Border	-0.166 (0.47)	-0.349 (2.52)	-0.174 (0.22)	-0.206 (0.39)	-0.223 (0.47)	-0.506* (2.78)
Competition	0.136 (0.20)	0.264 (1.01)	-1.189 (2.13)	0.253 (0.33)	0.503 (2.17)	0.172 (0.26)
Target M/B	-0.005 (0.16)	-0.006 (0.32)	-0.001 (0.00)	-0.020 (0.50)	-0.007 (0.12)	-0.003 (0.11)
Target ROE	-0.048 (0.65)	-0.028 (0.18)	-0.527 (2.00)	-0.070 (0.06)	-0.037 (0.26)	-0.012 (0.03)
Target D/E	-0.056 (2.30)	-0.011 (0.34)	-0.180* (3.47)	-0.034 (0.93)	-0.034 (0.46)	0.000 (0.00)
Constant	3.98*** (11.80)	-7.41*** (46.89)	6.20*** (8.47)	-5.61*** (8.96)	3.31** (4.87)	-8.43*** (34.38)
Observations	764	782	274	289	490	493
R-square	0.079	0.086	0.166	0.073	0.066	0.104

Panel B: Multi-logit regression on advisor choice by the target						
	Full Sample		Merger sub-sample		Tender offer sub-sample	
	Boutique	Mixed	Boutique	Mixed	Boutique	Mixed
Ln(Deal Size)	-0.467*** (46.93)	0.257*** (25.55)	-0.453*** (10.20)	0.396*** (18.20)	-0.458*** (30.68)	0.163** (5.96)
Stock	-0.020 (0.01)	-0.261 (1.77)	-0.485 (0.98)	-0.530 (2.65)	0.125 (0.24)	-0.192 (0.55)
Hostile	-0.011 (0.00)	-0.016 (0.00)	-12.648 (0.00)	-0.266 (0.14)	0.002 (0.00)	0.142 (0.19)
Toehold	-1.848* (3.06)	0.123 (0.03)	-4.144 (2.55)	1.379 (1.43)	-1.297 (1.18)	-0.737 (0.43)
Cross Industry	0.052 (0.06)	-0.232 (1.51)	0.431 (0.99)	-0.450 (2.16)	-0.101 (0.16)	-0.153 (0.37)
Cross Border	0.204 (0.67)	-0.338 (2.70)	-0.057 (0.02)	-0.316 (1.03)	0.324 (1.09)	-0.202 (0.49)
Competition	0.056 (0.03)	0.119 (0.21)	0.342 (0.24)	-0.095 (0.04)	0.035 (0.01)	0.333 (1.13)
Target M/B	0.008 (0.61)	0.005 (1.34)	0.011 (0.57)	-0.037 (1.15)	0.037 (1.88)	0.011 (0.94)
Target ROE	-0.018 (0.05)	-0.088 (0.82)	-0.656 (2.39)	-0.318 (1.85)	0.064 (0.39)	0.007 (0.01)
Target D/E	-0.014 (0.20)	0.008 (0.42)	0.004 (0.00)	0.039 (2.19)	-0.025 (0.22)	-0.024 (0.46)
Constant	7.356*** (32.76)	-6.338*** (37.46)	6.985*** (6.67)	-8.935*** (21.84)	7.181*** (21.69)	-4.619*** (11.97)
Observations	745	785	260	303	485	482
Pseudo R-square	0.141	0.070	0.198	0.164	0.131	0.050

Panel A of Table 4 reports the results for the acquirer side analysis. As shown by Song et al. (2013) deal size is an important determinant in the acquirer's selection of advisor(s). The results of their study show that for larger deals, acquirers are more likely to hire full-service advisors than boutique advisors, which is consistent with the *scale* hypothesis. My study confirms this in all samples. Additionally, the likelihood of an acquirer hiring a mixed team of advisors increases with deal size as it did in the study Song et al. (2013). This implies that for large deals, acquirers utilize the scale advantages that full-service banks offer as well as the expertise that boutique advisors offer. As seen in the earlier section in the descriptive studies, large deals advised by mixed teams are more likely to be mergers of equals, which double the size of the acquirer, meaning the acquirers have more at stake and the deal is more complex. Large deals have also been shown to be more complex in earlier M&A literature (e.g. Servaes & Zenner, 1996). This can be interpreted, to some extent, that boutique advisors provide expertise in complicated and important deals through their

use in mixed teams. However, this is contradictory with the *skill* hypothesis giving that that the smaller the deal, the more likely that boutiques are hired. Nonetheless, due to the several sub-hypotheses in this study related to the *skill* hypothesis, I examine this relation more closely than by just looking at deal size.

Regardless of the significant findings related to deal size, there are almost no other statistically significant findings in Table 4 for the regressions on advisor choice for the acquirer side. This suggests that apart from the deal size, there are no other deal characteristics, which would lead to choosing a boutique advisor or a mixed team on the acquiring side. This is inconsistent with the findings of Song et al. (2013) who find that when acquirers face hostile targets, they are more likely to choose boutique advisors. The only other statistically significant coefficients are the Cross Border-variable of the tender sub-sample and the Target D/E-variable of the merger sub-sample. The coefficient for Cross Border is negative, which actually implies that the probability for hiring mixed teams in cross-border deals is smaller. This evidence is in fact against the *skill* hypothesis

Panel B of Table 4 presents results for the target side analysis. Consistent with the results on the acquirer side, deal size seems to be the most important characteristic in determining the type of advisors that target firms employ. Here we see that target firms are also more likely to hire full-service advisors than boutique advisors for larger deals. The coefficient for mixed teams is again positive and significant, implying that targets also utilize the scale capabilities of the full-service investment banks and the expertise of the boutique advisors. Consistent with the acquirer side analysis, there is no evidence in support of the *skill* hypothesis. The only significant coefficient besides the deal size coefficients is the coefficient for the variable Toehold for boutique advisors in the full sample. The coefficient is negative at the 10% significance level implying that boutiques are used less when the acquirer has previous ownership in the target company.

When comparing with the research of Song et al. (2013), they find evidence from the similar regression analyses that when the transaction is financed with the acquirer's stock (the Stock dummy equals one for stock offers), the probability of the target hiring a boutique advisor increases, which is consistent with the *skill* hypothesis. However, I do not find evidence of this as the coefficients are insignificant.

Consequently, while I find significant evidence in support of the *scale* hypothesis for both sides, I find no evidence for the *skill* hypothesis. Song et al. (2013), who find some evidence to support the *skill* hypothesis, mention that the weak evidence in their study could be due to the potential coexistence of the *skill* and the *scale* hypotheses. This means that firms may choose boutique advisors for different reasons. Boutique advisors can be chosen because of their expertise while others may choose them because of the small size of the deals. Deal size can help to separate the effects of these two reasons to choose boutique advisors. Boutique banks may be employed for smaller deals because merging firms can lack alternatives as full-service investment banks may choose not to take on smaller deals because of smaller fees. Thus, if all deals in the sample consist of large deals, merging firms are less likely to face such constraints for the choice of advisors. In the latter case, firms that hire boutique advisors are more likely to do so for their skill or expertise. Therefore, I run robustness tests on a restricted sub-sample based on deal size. Table 5 presents the deal size distribution at different percentiles.

Table 5 - Distribution of deal value (\$ million) based on acquirer advisor types

Percentile	Full Sample	Boutique sub-sample	Full-service sub-sample	Mixed team sub-sample
10th	35	17	38	104
20th	73	31	75	278
30th	138	50	140	435
40th	253	87	239	717
43rd	301	94	278	875
50th	430	130	429	1,309
60th	737	258	711	2,241
63rd	933	292	850	2,488
70th	1,286	411	1,196	4,780
80th	2,706	787	2,616	8,151
90th	7,191	1,873	6,667	16,199
Total # of obs.	N = 930	N = 128	N = 659	N = 143

I rerun tests in Table 4 after using \$300 million as the deal size cut-off, which corresponds to the 43rd percentile for the full sample, the 63rd percentile for the boutique sample, about the 43rd percentile for the full-service sample, and about the 20th percentile for the mixed sample. The results are reported in Table 6.

Table 6 - Determinants of advisor choice (sample restricted by deal value (\$300 mil.))

In this table, I rerun the same tests as in Table 4 using a sample restricted by deal size (cut-off at \$300 mil.). I examine the determinants of the use of boutique advisors on the acquirer side (Panel A) and on the target side (Panel B). The results shown below are obtained using deals with a size of at least 300 million. All explanatory variables are defined in previous tables. Z-values are presented in parentheses below the coefficients. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Panel A: Multi-logit regression on advisor choice by the acquirer						
	Full Sample		Merger sub-sample		Tender offer sub-sample	
	Boutique	Mixed	Boutique	Mixed	Boutique	Mixed
Ln(Deal Size)	-0.368** (5.77)	0.226*** (7.28)	0.131 (0.33)	0.303** (4.70)	0.570** (6.01)	0.204* (3.28)
Stock	-0.262 (0.60)	0.110 (0.21)	0.262 (0.22)	0.413 (1.10)	0.448 (0.98)	-0.173 (0.30)
Hostile	-0.061 (0.01)	-0.013 (0.00)	-1.194 (1.78)	-0.904 (0.64)	0.605 (0.77)	-0.005 (0.00)
Toehold	-0.623 (0.20)	-0.874 (0.69)	-1.580 (0.69)	-0.931 (0.32)	2.682 (1.55)	-1.027 (0.52)
Cross Industry	0.114 (0.13)	-0.202 (0.79)	-0.102 (0.03)	-0.520 (2.13)	0.187 (0.19)	0.108 (0.12)
Cross Border	-0.017 (0.00)	-0.259 (1.13)	0.271 (0.22)	-0.110 (0.08)	-0.250 (0.31)	-0.364 (1.20)
Competition	-0.364 (0.48)	0.466 (2.53)	0.963 (0.71)	0.317 (0.37)	0.045 (0.01)	0.452 (1.54)
Target M/B	-0.009 (0.19)	-0.012 (0.44)	-0.004 (0.03)	-0.040 (0.65)	0.044 (0.85)	-0.005 (0.15)
Target ROE	0.133 (0.26)	0.130 (0.23)	0.879 (2.56)	-0.115 (0.07)	-0.778 (1.80)	0.407 (0.68)
Target D/E	-0.060 (1.62)	-0.005 (0.06)	0.199 (2.62)	-0.031 (0.72)	0.062 (0.20)	-0.002 (0.01)
Constant	5.907* (3.45)	-5.903*** (11.23)	-0.895 (0.04)	-7.524** (6.52)	-10.361** (4.65)	-5.429** (5.35)
Observations	417	482	184	213	233	269
Pseudo R-square	0.057	0.051	0.106	0.096	0.124	0.052

Panel B: Multi-logit regression on advisor choice by the target

	Full Sample		Merger sub-sample		Tender offer sub-sample	
	Boutique	Mixed	Boutique	Mixed	Boutique	Mixed
Ln(Deal Size)	-0.796*** (11.91)	0.377*** (20.43)	-0.221 (0.30)	0.468*** (12.98)	-0.916*** (9.60)	0.271** (5.26)
Stock	-0.722* (2.98)	-0.284 (1.42)	-12.561 (0.01)	-0.483 (1.78)	-0.200 (0.17)	-0.200 (0.36)
Hostile	0.228 (0.16)	0.150 (0.22)	-11.613 (0.00)	-0.165 (0.05)	0.330 (0.28)	0.382 (1.00)
Toehold	-2.375 (1.46)	0.143 (0.02)	-1.509 (0.12)	1.695 (1.68)	-2.343 (1.00)	-1.370 (0.77)
Cross Industry	0.432 (1.39)	-0.171 (0.56)	1.235* (2.79)	-0.454 (1.72)	0.006 (0.00)	0.051 (0.03)
Cross Border	0.226 (0.32)	-0.286 (1.45)	0.198 (0.07)	-0.175 (0.26)	0.342 (0.46)	-0.235 (0.46)
Competition	0.275 (0.27)	0.133 (0.19)	0.257 (0.04)	0.020 (0.00)	0.367 (0.36)	0.274 (0.51)
Target M/B	-0.001 (0.00)	0.006 (1.67)	0.009 (0.02)	-0.060 (2.00)	0.039 (0.47)	0.011 (1.05)
Target ROE	-0.117 (0.13)	-0.169 (0.50)	-0.755 (1.59)	0.067 (0.03)	0.078 (0.02)	-0.219 (0.47)
Target D/E	-0.026 (0.27)	0.009 (0.50)	-0.110 (0.34)	0.034 (1.62)	-0.048 (0.15)	-0.003 (0.02)
Constant	14.253 (9.26)	-9.025 (25.68)	2.261 (0.07)	-10.618 (14.69)	16.651 (7.75)	-7.046 (7.93)
Observations	409	493	169	220	240	273
Pseudo R-square	0.147	0.078	0.358	0.142	0.136	0.078

A comparison of the results in Table 6 and those in Table 4 doesn't give additional evidence in support of the *skill* hypothesis. This is inconsistent with the study of Song et al. (2013). The most interesting findings are in the target side merger sample where the Cross Industry coefficient is significantly positive implying that boutique advisors are more likely to be used by targets in cross-industry mergers. For cross-industry deals my hypothesis states that expertise would be needed on the acquirer side and therefore this is not evidence that would support the *skill* hypothesis. However, it is not obvious that specialized expertise wouldn't be needed on the target side. Additionally, the coefficient for the Stock coefficient for boutique advisors in the full sample is negative and significant. This on the other hand is evidence against the *skill* hypothesis. Therefore the results in Table 4 and Table 6 give no evidence in support of the *skill* hypothesis and actually one finding that implies that boutique advisors would actually be less likely to be chosen for complex deals.

Song et al. (2013) state that using other deal size cut-offs yield qualitatively similar results. Nevertheless, I try different cut-offs to see if the *skill* hypothesis is more apparent in samples with larger deals. I rerun the tests again after using \$500 million as the deal size cut-off, which yields more interesting results. The results are reported in Table 7.

Table 7 - Determinants of advisor choice (sample restricted by deal value (\$500 mil.))

In this table, I rerun the same tests as in Table 4 and Table 6 using a sample restricted by deal size (cut-off at \$500 mil.). I examine the determinants of the use of boutique advisors on the acquirer side (Panel A) and on the target side (Panel B). The results shown below are obtained using deals with a size of at least 500 million. All explanatory variables are defined in the previous tables. Z-values are presented in parentheses below the coefficients. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Panel A: Multi-logit regression on advisor choice by the acquirer						
	Full Sample		Merger sub-sample		Tender offer sub-sample	
	Boutique	Mixed	Boutique	Mixed	Boutique	Mixed
Ln(Deal Size)	-0.295 (2.29)	0.290*** (8.27)	-0.102 (0.12)	0.281* (3.08)	-0.582* (3.40)	0.318** (5.21)
Stock	0.095 (0.06)	0.405 (2.24)	-0.028 (0.00)	0.727* (2.82)	-0.267 (0.21)	0.058 (0.02)
Hostile	0.095 (0.14)	0.405 (0.44)	1.574* (2.89)	0.727 (0.52)	-0.267 (1.46)	0.058 (0.36)
Toehold	-0.148 (0.01)	-0.212 (0.03)	3.022 (2.14)	-0.143 (0.01)	-4.359 (1.89)	-0.543 (0.12)
Cross Industry	0.715* (3.47)	0.150 (0.35)	0.297 (0.22)	0.356 (0.88)	1.153** (3.98)	0.107 (0.09)
Cross Border	0.264 (0.43)	-0.081 (0.09)	-0.420 (0.39)	-0.029 (0.01)	1.061* (3.18)	-0.172 (0.22)
Competition	-0.177 (0.09)	0.580* (3.36)	-0.240 (0.04)	0.425 (0.63)	0.215 (0.09)	0.492 (1.44)
Target M/B	-0.008 (0.12)	-0.010 (0.30)	0.009 (0.15)	-0.037 (0.54)	-0.055 (1.21)	-0.005 (0.12)
Target ROE	0.094 (0.11)	0.122 (0.16)	-2.410** (4.96)	-0.257 (0.23)	0.760 (1.65)	0.377 (0.38)
Target D/E	-0.069 (1.91)	0.002 (0.01)	-0.361* (3.16)	-0.031 (0.70)	-0.103 (0.50)	0.050 (0.96)
Constant	3.717 (0.81)	-7.836*** (12.82)	0.158 (0.00)	-7.770** (5.00)	9.503 (2.05)	-8.163*** (7.43)
Observations	343	404	157	186	186	218
Pseudo R-square	0.061	0.073	0.187	0.104	0.212	0.088

Panel B: Multi-logit regression on advisor choice by the target

	Full Sample		Merger sub-sample		Tender offer sub-sample	
	Boutique	Mixed	Boutique	Mixed	Boutique	Mixed
Ln(Deal Size)	-1.183*** (10.88)	0.383*** (15.08)	-0.455 (0.57)	0.612*** (15.37)	-1.665*** (9.79)	0.199 (1.97)
Stock	-0.901* (3.05)	-0.415 (2.60)	-21.726 (0.05)	-0.511 (1.68)	-0.328 (0.27)	-0.355 (0.97)
Hostile	-0.038 (0.00)	-0.012 (0.00)	-11.614 (0.00)	-0.612 (0.49)	0.162 (0.04)	0.208 (0.25)
Toehold	-3.664 (1.84)	-0.094 (0.01)	-0.532 (0.01)	1.392 (0.92)	-5.337 (2.01)	-1.409 (0.78)
Cross Industry	0.321 (0.51)	-0.108 (0.20)	0.578 (0.36)	-0.422 (1.26)	-0.155 (0.07)	0.115 (0.11)
Cross Border	-0.094 (0.04)	-0.397 (2.48)	0.015 (0.00)	-0.085 (0.05)	0.068 (0.01)	-0.459 (1.61)
Competition	0.352 (0.37)	-0.038 (0.01)	-0.069 (0.00)	-0.355 (0.36)	0.673 (0.91)	0.173 (0.18)
Target M/B	0.000 (0.00)	0.006 (1.70)	0.109 (0.63)	-0.070 (2.17)	0.044 (0.32)	0.010 (0.99)
Target ROE	-0.075 (0.05)	-0.288 (1.09)	-2.789 (2.52)	-0.090 (0.02)	0.124 (0.07)	-0.341 (0.87)
Target D/E	-0.046 (0.57)	0.035 (2.49)	-0.518 (1.63)	0.031 (1.28)	-0.128 (0.77)	0.029 (0.37)
Constant	22.794*** (9.46)	-9.033*** (17.84)	7.908 (0.41)	-13.790*** (16.51)	32.769*** (8.96)	-5.207* (2.93)
Observations	329	412	145	192	184	220
Pseudo R-square	0.195	0.081	0.395	0.177	0.250	0.063

Panel A of Table 7 reports the results for the acquirer side. For the full sample, I find that the probability of employing a boutique advisor increases when the target is not in the same industry, which I hypothesize to increase complexity for the acquirer. The Cross Industry variable coefficient is positive and significant at the 10% level.¹⁷ The coefficient for the Cross Industry variable is also significant for the tender offer sample at the 5% level implying that acquiring firms recognize the industry specific expertise that boutiques have. For the merger sample, additional measures related to deal complexity can be attributed to the choice of boutique advisors. The Hostile dummy is positive and significant indicating that when acquirers face hostile targets in

¹⁷ Using a cut-off of \$1 billion yields the same finding.

mergers, they are more likely to choose boutique advisors. Finally, the tender offer sample also supports for the *skill* hypothesis as the coefficient for the Cross Country dummy is positive and significant at the 10% level indicating that boutique advisors are hired when the acquirer is acquiring a target from another country or from a different industry.

In addition to evidence supporting the *skill* hypothesis for boutiques, the full sample also shows some evidence when looking at the regressions for mixed teams vs. full-service advisors. Mixed teams are more likely to be hired when there is competition between bidders. The coefficient for Competition is positive and significant at the 10% level. Further evidence relating to the *skill* hypothesis is seen from the positive and significant (10% level) Stock dummy. In terms of firm characteristics, there is little or mixed evidence that these characteristics would affect the type of advisors that merging firms choose.

Panel B of Table 7, which reports the results for the acquirer side, does not provide evidence in support of the *skill* hypothesis. Table 6 showed that the coefficient for the Stock coefficient for boutique advisors in the full sample is negative and significant. This evidence is persistent for this cut-off providing additional support that boutiques are less likely to be used when the acquirer uses stock as payment.¹⁸

The restricted sample with the cut-off at \$500 million shows some evidence for the *skill* hypothesis on the acquirer side. The reason this evidence doesn't show up in Table 4 and Table 6 is possibly due to the coexistence of the *skill* and *scale* hypotheses. This sample provides evidence that acquirers use boutiques for specialized industry expertise, which is something commonly attributed to boutiques, while also giving evidence that boutiques are chosen for other types of complex deals (although this evidence is restricted to either the merger or the tender offer subsamples). Interestingly, I can also conclude that boutiques are less likely to be chosen by target firms when the form of payment is stock. This is evidence against the *skill* hypothesis.

Furthermore, it is also possible that the boutique advisors that are capable of acting as advisors on larger deals, because of additional resources, are in fact considered to be more skilled than other boutiques and advisors in general, and are therefore hired for more complex deals. This implies that not all boutiques are equal, and that the ones that are capable of advising on larger

¹⁸ Using a cut-off of \$1 billion yields the same finding.

deals, are the ones that will face the most complex deals. This is in implication that is also brought up by Song et al. (2013).

5.2. The impact of advisor choice on deal outcomes

5.2.1. Deal premium

M&A advisors can have an impact on various different aspects of M&A transactions and their outcomes and the deal premium is perhaps the most significant of these. Deal premium is the percentage difference between the price offered by the acquirer and the market price of the target. SDC offers deal premiums one day prior to the announcement date, which are calculated as the percentage change of the offer price to the target's closing stock price one day prior to the original announcement date. For deals missing the SDC premium, I use the total value of consideration paid by the acquirer, excluding fees and expenses, and compare it with the target's market value of equity four weeks prior to the bid announcement¹⁹.

Song et al. (2013) report a negative and significant relationship between the use of boutique advisors on the acquirer side and the deal premium. This implies that boutique advisors are able to negotiate lower premiums for their acquirer. I find evidence for this in the full sample and in the tender offer sub-sample. For the full sample, I find that the use of boutiques by the acquirer leads to a decrease in deal premium of 6.7% (Column 2). The interaction term for the advisor being boutique and Tier 2 is insignificant. As boutiques are only found in Tier 2 and 3 rankings, the implications of my findings are that Tier 3 boutiques are able to significantly lower deal premiums compared with full-service advisors, but Tier 2 are not.

The target side gives a significant coefficient for the use of boutique advisors in mixed teams. For the full sample, I find that the use of mixed teams by the target leads to an increase in deal premium of 4.5% (column 1). The effect is not significant in the sub-samples. However, the boutique variable is insignificant. Interestingly, I find that the use of Tier 1 advisors by the target leads to a decrease in deal premium of 9.27% (column 1). The result is significant at the 1% level

¹⁹ Officer (2003) uses the aggregate amount of each form of payment offered to target shareholders recorded in the SDC and compares it with the target's market value of equity 43 trading days before the bid announcement to compute the premium. As the target's market value of equity is given for only 4 weeks prior by SDC, I apply this for calculating the premiums.

and the effect is consistent and significant in all samples. Tier 2 advisors yield similar but less significant results for the target side. Additionally, the interaction term between the variable Target Boutique and Target Tier 2 is significantly positive implying that Tier 2 boutique advisors are able to gain better premiums for their clients than other Tier 2 advisors.

Prior studies show that deal premium is significantly smaller when the acquirer has a toehold (e.g. Schwert, 1996; Betton and Eckbo, 2000; Goldman and Qian, 2005; Song et al. 2013). I find the same effect for the tender offer sub-sample. Additionally, I find that deal premiums are significantly smaller when the payment form is a stock swap and when the parties of the deal are in different industries (column 1). Premiums are significantly higher when the parties come from different countries, when the deal is a tender offer, and when there is competition between bidders (column 1).

Table 8 - Impact of advisors on deal premiums (OLS regressions)

In this table, I run OLS regressions to examine how the types of advisors (boutique, full-service or a mixed team of both) affect deal premiums. I examine the full sample in models 1 and 2, the merger sub-sample in models 3 and 4, and the tender sub-sample in models 5 and 6. *Acquirer Boutique* is a dummy variable that is equal to one when the acquirer is advised by boutique advisors. *Acquirer Mixed* is a dummy variable that is equal to one when the acquirer is advised by a mixed team of both boutique and full-service advisors. *Target Boutique* is a dummy variable equal to one when the target is advised by boutique advisors. *Target Mixed* is a dummy variable that is equal to one when the target is advised by a mixed team of both boutique and full-service advisors. *Target (Acquirer) Advisor Tier* is the tier (1–3) of target (acquirer) advisors ranked by market share. Tier 1 is the top five advisors, Tier 2 is the sixth through the 20th advisors, and Tier 3 is the remainder. *Target (Acquirer) Advisor Tier 1(2)* is a dummy that is equal to one when the target (acquirer) advisor is ranked in Tier 1 (2). *Acquirer Advisor Tier 2 * Aboutique* is the interaction term of two dummy variables, Acquirer Advisor Tier 2 and Acquirer Boutique dummy. *Target advisor Tier 2 * Tboutique* is the interaction term of two dummy variables, Target Advisor Tier 2 and Target Boutique dummy. All other explanatory variables are defined in previous tables. T-values are presented in parentheses below the coefficients. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

	Full Sample		Merger sub-sample		Tender offer sub-sample	
	(1)	(2)	(3)	(4)	(5)	(6)
Acquirer Boutique	-6.499 (-1.63)	-6.654* (-1.67)	-1.689 (-0.22)	-2.264 (-0.29)	-8.554* (-1.83)	-8.483* (-1.81)
Acquirer Mixed	-2.501 (-0.90)	-2.765 (-1.00)	-1.947 (-0.41)	-2.158 (-0.45)	-2.690 (-0.79)	-2.983 (-0.87)
Target Boutique	-3.520 (-0.87)	-3.514 (-0.87)	-4.419 (-0.45)	-4.333 (-0.44)	-3.020 (-0.69)	-2.837 (-0.65)
Target Mixed	4.454* (1.70)	4.721* (1.80)	2.757 (0.61)	2.700 (0.59)	4.388 (1.33)	4.970 (1.50)
Ln(Deal Size)	-1.128* (-1.66)	-1.115 (-1.64)	0.401 (0.31)	0.672 (0.51)	-1.809** (-2.20)	-1.811** (-2.20)
Stock	-4.887** (-2.40)	-4.806** (-2.35)	-5.199 (-1.34)	-4.957 (-1.27)	-5.463** (-2.26)	-5.463** (-2.24)
Toehold	-12.347 (-1.46)	-12.695 (-1.50)	-0.152 (-0.01)	0.591 (0.04)	-20.021** (-1.94)	-20.846** (-2.02)
Hostile	4.562 (1.41)	4.339 (1.34)	5.603 (0.60)	5.546 (0.60)	4.269 (1.26)	3.942 (1.17)
Cross Industry	-3.548* (-1.81)	3.603* (-1.83)	-3.970 (-1.10)	-4.453 (-1.21)	-3.804 (-1.62)	-3.793 (-1.61)
Cross Border	4.317* (1.95)	4.131* (1.87)	6.464* (1.73)	6.491* (1.72)	3.287 (1.17)	2.882 (1.02)
Competition	17.172*** (6.00)	17.072*** (5.96)	13.389** (2.35)	12.925** (2.24)	19.286 (5.85)	19.210 (5.82)
Tender	10.772*** (5.08)	10.721*** (5.05)				
Acquirer Advisor Tier 1	0.267 (0.09)	0.304 (0.11)	2.381 (0.43)	2.347 (0.42)	-0.605 (-0.18)	-0.647 (-0.19)
Acquirer Advisor Tier 2	2.098 (0.74)	2.414 (0.85)	6.046 (1.04)	5.191 (0.88)	0.724 (0.22)	1.279 (0.39)
Target Advisor Tier 1	-9.232*** (-3.20)	-8.906*** (-3.08)	-12.221** (-2.22)	-12.164** (-2.20)	-7.215** (-2.09)	-6.732* (-1.94)
Target Advisor Tier 2	-5.120* (-1.83)	-5.098* (-1.82)	-5.579 (-1.01)	-6.050 (-1.08)	-5.000 (-1.53)	-4.992 (-1.52)
Acquirer advisor Tier 2 * Aboutique	4.458 (0.76)	4.211 (0.72)	-5.600 (-0.50)	-5.663 (-0.50)	9.228 (1.33)	8.481 (1.22)

Target advisor Tier 2 * Tboutique	11.182*	11.230*	17.127	17.274	8.232	8.138
	(1.88)	(1.88)	(1.31)	(1.32)	(1.23)	(1.21)
Relative size		-0.001		0.007		-0.003
		(-0.11)		(0.66)		(-0.54)
Target M/B		-0.105		-0.071		-0.108*
		(-1.86)		(-0.44)		(-1.84)
Target ROE		-0.686		-2.116		-0.693
		(-1.24)		(-0.76)		(-1.27)
Target D/E		-0.135		-0.361		-0.087
		(-0.83)		(-1.00)		(-0.47)
Constant	47.103***	47.405***	14.207	10.078	72.242***	72.820***
	(3.64)	(3.64)	(0.57)	(0.40)	(4.72)	(4.74)
Observations	906	906	333	333	573	573
R-squared	0.135	0.140	0.075	0.081	0.118	0.125

5.2.2. Self-selection bias

When examining the effects of boutique advisors on transaction outcomes, Song et al. (2013) recognize that the use of boutique advisors is itself endogenously determined by merging firms.

To control for potential self-selection bias, Song et al. (2013) utilize a two-stage procedure to examine the impact of boutique advisors on deal premium. The two-stage model consists of a treatment equation and a regression equation on the transaction outcome. I assume that there is an unobservable underlying variable, $Boutique_i^*$, that determines whether a firm employs a boutique advisor. The treatment rule is that a boutique advisor is observed if $Boutique_i^*$ exceeds zero; otherwise, the firm does not hire a boutique advisor. Letting Z_i denote a column vector of variables that predict whether a firm hires a boutique advisor, the first-stage treatment rule is given by

$$Boutique_i^* = \varphi Z_i + u_i, \quad (1)$$

Here $Boutique_i=1$ if $Boutique_i^* > 0$ and $Boutique_i=0$ otherwise. I obtain probit estimates of the treatment equation $\Pr(Boutique_i=1|Z_i) = \Phi(\varphi Z_i)$. From these estimates, the hazard rate, h_i , for each observation i is computed as $h_i = \varphi(\phi Z_i) / \Phi(\varphi Z_i)$, if $Boutique_i=1$ or $h_i = -\varphi(\phi Z_i) / \{1 - \Phi(\varphi Z_i)\}$, if $Boutique_i = 0$, where ϕ and Φ are the density and cumulative distribution functions of the standard normal distribution. The second stage regression model is given by

$$\text{Deal premium}_i = \alpha + \beta X_i + \gamma h_i + \varepsilon_i \quad (2)$$

The difference between Eq. (2) and the OLS is that the dummy variable on the use of boutique advisors in Eq. (2) is augmented by the hazard rate obtained from Eq. (1). The variables included in the vector X_i in Eq. (2) are those shown to have a significant impact on deal premium in previous research.

Specifically, in the first stage I run probit regressions where the dependent variable is a dummy indicating the use of boutique advisors on the acquirer side. For explanatory variables, I use the natural logarithm of deal size, a dummy stating whether the form of payment is stock, a dummy stating whether the deal is hostile, a dummy variable indicating whether it is a cross-industry deal, relative size (acquirer over target), and the target firm's characteristics (M/B, D/E, and ROE). From these probit estimates, I am able to calculate Z_i for each deal, and then the hazard rates, h_i utilizing the density and cumulative distribution functions of the standard normal distribution. This is done for the full sample, merger sub-sample, and tender offer sub-sample individually.

In the second-stage regressions on deal premiums, I include variables that have been shown to have a significant impact on deal premiums. These include some of the variables used in the treatment equation, e.g., Deal Size, Hostile dummy, as well as variables that are not expected to influence the use of boutique advisors but are expected to affect deal premiums, such as Toeholds and Tender Offer dummy. The key variable that differentiates my two-step procedure from the OLS regression is the hazard rate of acquirer boutique advisors obtained from the first-stage treatment equation. The results are presented in Table 9.

Song et al (2013) find supporting evidence from the two-step procedure related to findings in Table 8. I also find that the coefficients of Acquirer Boutique are highly negative. However, the coefficients are not statistically significant leaving these findings inconclusive

Table 9 - Impact of advisors on deal premiums (two-stage procedure)

In this table, I examine only deals that are advised by either boutique or full-service advisors (Acquirer mixed dummy= 0 for step 1 and Acquirer mixed & Target mixed dummies = 0 in step 2). In step 1 of each model, I obtain the probit estimates of the treatment equation for "Aboutique". From these estimates, the hazard rate for each observation is computed following Song et al. (2013). The coefficient of Acquirer Boutique variable is further obtained by augmenting the regression equation of step 2 with the hazard rate. Z-values or t-values are presented in parentheses below the coefficients. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively

	Full Sample		Merger sub-sample		Tender offer sub-sample	
	Step (1)	Step (2)	Step (1)	Step (2)	Step (1)	Step (2)
Acquirer Boutique		-28.354 (-0.79)		-10.084 (-0.16)		-28.710 (-0.64)
Target Boutique		0.632 (0.19)		3.807 (0.52)		-0.784 (-0.22)
Ln(Deal Size)	-0.154*** (23.86)	-1.945 (-1.34)	-0.199*** (10.82)	1.078 (0.39)	-0.140 (12.42)	-2.976* (-1.70)
Stock	-0.080 (0.47)	-5.403** (-2.05)	0.035 (0.03)	-7.123 (-1.34)	-0.109 (0.58)	-5.340* (-1.77)
Toehold		-16.017 (-1.58)		12.883 (0.65)		-29.153** (-2.48)
Hostile	-0.018 (0.01)	6.145 (1.51)	0.323 (0.47)	13.875 (1.10)	-0.037 (0.03)	5.346 (1.29)
Cross Industry	0.038 (0.11)	-4.075 (-1.64)	0.010 (0.00)	-2.702 (-0.55)	0.071 (0.25)	-5.507* (-1.93)
Cross Border		7.340*** (2.72)		11.062** (2.26)		6.441* (1.93)
Competition		17.787*** (4.86)		16.733** (2.22)		18.574*** (4.54)
Tender		11.000*** (4.21)				
Acquirer Advisor Tier 1		-0.674 (-0.20)		-5.973 (-0.92)		2.529 (0.63)
Acquirer Advisor Tier 2		2.846 (0.94)		4.639 (0.75)		1.676 (0.47)
Target Advisor Tier 1		-8.260** (-2.41)		-8.216 (-1.22)		-8.435** (-2.09)
Target Advisor Tier 2		-3.048 (-1.03)		-3.683 (-0.59)		-2.757 (-0.83)
Relative Size	0.000 (0.88)		0.000 (0.58)		0.000 (0.37)	
Target M/B	-0.003 (0.20)		0.000 (0.00)		-0.004 (0.12)	
Target ROE	-0.029		-0.372* (4.18)		-0.020 (0.52)	
Target D/E	-0.035* (2.74)		-0.113** (3.03)		-0.020 (0.24)	
Lambda		12.362 (0.62)		2.634 (0.08)		12.653 (0.51)
Constant	2.063*** (10.87)	65.682** (1.98)	3.060*** (6.53)	0.450 (0.01)	1.748** (4.97)	98.326 (2.45)
Observations	764	633	274	228	490	405

5.2.3. Deal duration

Deal duration refers to the number of days between the deal announcement date and the deal effective date or the withdrawn date. Longer deal duration indicates that the deal is more complex and therefore I run OLS regressions on the number of days from deal announcement to deal completion or withdrawal to determine the advisor's effect on deal duration. I control for deal and firm characteristics and report the results in Table 10.

Song et al. (2013) report that the use of boutique advisors on the acquirer side significantly lengthens deal duration. I do not find evidence of this in my sample, which indicates that deals advised by boutique advisors do not take longer to complete. This means that I do not find evidence in support of the *skill* hypothesis, and that according to this test, boutique advisors are not more likely to give advice on complex deals that require more due diligence and are more difficult to evaluate.

I find significant evidence that mixed groups of advisors on the target side significantly lengthen the duration of the deal. This suggests that mixed teams on the target side are hired when the target firm is facing more complex deals (such as hostile deals or deals in which the form of payment is stock).

Consistent with Song et al. (2013), my regression results indicate that deal size and the form of payment significantly impact deal duration. Larger deals are more complex (Servaes & Zenner, 1996) and thus require more extensive evaluation and due diligence, which results in longer deal durations. This same rationale can be applied to deals where the form of payment is stock. I also find significant evidence that having toeholds has a significant and positive effect on deal duration. In tender offers, cross-border deals have a positive and significant effect on deal durations. Surprisingly, the Cross industry dummy is significantly negative for the full sample at the 10% level implying that when a deal is between parties from different industries, the deals take less time to complete.

Overall, like Song et al. (2013), I find that deal complexity significantly impacts deal duration. However, I only find results consistent with the *skill* hypothesis regarding the use of mixed advisors on the target side.

Table 10 - Impact of advisors on deal duration

Impact of advisors on deal duration. This table reports how the type of financial advisor (boutique, full-service or a mixture of both) affects the deal duration, measured as number of days from the deal announcement date to the deal completion or withdrawal date. I examine the full sample in models 1 and 2, the merger sub-sample in models 3 and 4, and the tender sub-sample in models 5 and 6. All other explanatory variables are defined in previous tables. T-values are presented in parentheses below the coefficients. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

	Full Sample		Merger sub-sample		Tender offer sub-sample	
	(1)	(2)	(3)	(4)	(5)	(6)
Acquirer Boutique	-3.369 (-0.31)	-3.171 (-0.29)	2.305 (0.09)	1.797 (0.07)	-12.384 (-1.29)	-11.855 (-1.23)
Acquirer Mixed	2.187 (0.22)	2.375 (0.23)	7.667 (0.36)	7.393 (0.34)	-2.216 (-0.24)	-1.845 (-0.20)
Target Boutique	2.831 (0.26)	2.804 (0.25)	-10.797 (-0.36)	-10.707 (-0.36)	7.610 (0.83)	7.355 (0.80)
Target Mixed	20.034** (2.08)	19.839** (2.05)	34.098* (1.68)	33.136 (1.60)	1.691 (0.19)	0.529 (0.06)
Ln(Deal Size)	15.597*** (6.21)	15.587*** (6.20)	18.330*** (3.14)	18.441*** (3.09)	10.798 (4.81)	10.759 (4.78)
Stock	15.928** (2.11)	15.800** (2.09)	32.998* (1.88)	33.012* (1.87)	4.928 (0.74)	4.523 (0.68)
Toehold	107.386*** (3.45)	107.699*** (3.45)	243.272*** (3.58)	243.330*** (3.56)	12.296 (0.44)	13.172 (0.47)
Hostile	-8.114 (-0.68)	-7.931 (-0.67)	-64.184 (-1.54)	-64.762 (-1.55)	5.836 (0.64)	6.288 (0.68)
Cross Industry	-13.478* (-1.86)	-13.452* (-1.85)	-35.608** (-2.16)	-36.124** (-2.17)	-0.029 (0.00)	-0.158 (-0.02)
Cross Border	-2.069 (-0.25)	-1.939 (-0.24)	-17.124 (-1.02)	-16.925 (-1.00)	14.811* (1.93)	15.275** (1.98)
Competition	-0.494 (-0.05)	-0.473 (-0.04)	-18.851 (-0.74)	-18.929 (-0.73)	9.962 (1.10)	9.987 (1.11)
Tender	-3.458 (-0.44)	-3.454 (-0.44)				
Acquirer Advisor Tier 1	-3.054 (-0.30)	-2.975 (-0.29)	-25.499 (-1.06)	-26.110 (-1.08)	9.781 (1.06)	10.249 (1.11)
Acquirer Advisor Tier 2	-5.983 (-0.64)	-6.143 (-0.65)	-24.876 (-1.06)	-25.674 (-1.09)	10.241 (1.26)	9.701 (1.19)
Target Advisor Tier 1	-7.930 (-0.76)	-8.225 (-0.79)	-10.499 (-0.44)	-10.263 (-0.42)	-0.796 (-0.09)	-1.527 (-0.16)
Target Advisor Tier 2	0.676 (0.07)	0.617 (0.07)	11.393 (0.50)	12.014 (0.52)	-2.729 (-0.35)	-2.744 (-0.35)
Relative Size	-0.004 (-0.23)	-0.004 (-0.24)	-0.009 (-0.18)	-0.007 (-0.16)	0.007 (0.42)	0.007 (0.42)
Target M/B		0.103 (0.49)		-0.347 (-0.48)		0.224 (1.40)
Target ROE		0.596 (0.29)		-0.877 (-0.07)		0.850 (0.57)
Target D/E		0.030 (0.05)		0.050 (0.03)		-0.079 (-0.16)
Constant	-202.51*** (-4.24)	-202.68*** (-4.24)	-244.28** (-2.20)	-244.58** (-2.17)	-121.57*** (-2.91)	-121.20*** (-2.89)
Observations	906	906	333	333	573	573
R-squared	0.108	0.108	0.161	0.161	0.127	0.131

5.2.3. Deal completion

To examine whether the type of advisor has an impact of deal completion, I report the results of probit regressions with a binary dependent variable equal to one for completed deals and zero for withdrawn deals. The results (marginal effects) are reported in Table 10. I control for several firm and deal characteristics that have been shown to affect deal completion in prior studies. For example, previous studies have indicated that deal premium could affect deal completion (see, for example, Kisgen et al., 2009; Rau, 2000; Song et al. (2013)). My study shows that mixed teams on the acquirer significantly increase the likelihood of deal completion (column 1 and 2). However, the use of boutique advisors or mixed advisors on the acquirer side does not significantly affect deal completion.

Table 11 - Impact of advisors on deal completion

I run probit regressions on deal completion. The dependent variable equals one if the deal is completed, zero if the deal is withdrawn. I examine the full sample in models 1 and 2, the merger sub-sample in models 3 and 4, and the tender sub-sample in models 5 and 6. *High Premium* equals to one if the premium of the deal is higher than the median premium of the sample. Z-values are presented in parentheses below the marginal effects. ***, **, and * indicate significance at the 1, 5 and 10% level.

	Full Sample		Merger sub-sample		Tender offer sub-sample	
	(1)	(2)	(3)	(4)	(5)	(6)
Acquirer Boutique	-0.202 (1.17)	-0.201 (1.15)	-0.377 (1.27)	-0.371 (1.23)	-0.239 (1.00)	-0.246 (1.04)
Acquirer Mixed	0.315* (3.30)	0.307* (3.13)	0.401 (2.46)	0.406 (2.49)	0.298 (1.43)	0.277 (1.22)
Target Boutique	-0.120 (0.37)	-0.129 (0.43)	0.141 (0.11)	0.151 (0.13)	-0.187 (0.64)	-0.200 (0.73)
Target Mixed	0.078 (0.25)	0.069 (0.19)	-0.078 (0.11)	-0.104 (0.19)	0.157 (0.47)	0.157 (0.47)
Ln(Deal Size)	-0.044 (1.11)	-0.049 (1.35)	-0.018 (0.07)	-0.022 (0.10)	-0.065 (1.35)	-0.071 (1.58)
Stock	-0.281** (4.80)	-0.281** (4.76)	-0.361* (2.90)	-0.363* (2.91)	-0.183 (1.11)	-0.178 (1.04)
Toehold	0.868 (2.15)	0.851 (2.06)	2.285** (4.42)	2.289** (4.42)	0.004 (0.00)	-0.036 (0.00)
Hostile	-1.393*** (65.45)	-1.392*** (65.08)	-2.070*** (14.56)	-2.071*** (14.49)	-1.335*** (51.77)	-1.331*** (51.01)
Cross Industry	-0.046 (0.14)	-0.052 (0.18)	0.093 (0.21)	0.082 (0.16)	-0.162 (0.96)	-0.173 (1.08)
Cross Border	0.100 (0.52)	0.109 (0.62)	0.155 (0.59)	0.154 (0.57)	0.073 (0.13)	0.094 (0.21)
Competition	-1.481*** (101.31)	-1.487*** (100.21)	-2.056*** (47.99)	-2.042*** (46.14)	-1.313*** (52.56)	-1.332*** (52.83)
Tender	0.676*** (24.93)	0.686*** (25.54)				
High Premium	0.040 (0.09)	0.048 (0.14)	0.029 (0.02)	0.035 (0.03)	0.087 (0.25)	0.094 (0.28)
Acquirer Advisor Tier 1	-0.344** (4.07)	-0.351** (4.19)	-0.894*** (7.72)	-0.907*** (7.90)	-0.178 (0.62)	-0.172 (0.57)
Acquirer Advisor Tier 2	0.054 (0.10)	0.058 (0.12)	-0.560** (3.13)	-0.560** (3.09)	0.286 (1.64)	0.287 (1.64)
Target Advisor Tier 1	-0.008 (0.00)	-0.018 (0.01)	-0.071 (0.06)	-0.071 (0.06)	0.088 (0.14)	0.077 (0.11)
Target Advisor Tier 2	0.095 (0.35)	0.099 (0.38)	0.152 (0.29)	0.165 (0.33)	0.097 (0.23)	0.099 (0.23)
Relative Size	0.003 (1.15)	0.003 (1.23)	0.002 (0.51)	0.002 (0.52)	0.003 (0.62)	0.004 (0.71)
Target M/B		0.000 (0.01)		-0.004 (0.21)		0.000 (0.01)
Target ROE		0.079 (1.12)		0.048 (0.64)		0.103 (0.22)
Target D/E		0.018 (1.43)		0.016 (0.10)		0.013 (1.46)
Constant	2.112*** (6.78)	2.186*** (7.12)	2.094 (2.44)	2.166 (2.50)	3.018*** (7.90)	3.126*** (8.27)
Observations	906	906	333	333	573	573
Pseudo R-squared	0.430	0.433	0.460	0.462	0.443	0.446

Table 12 – Summary of hypotheses and results

This table demonstrates the hypotheses tested as well as a summary of the results found. Evidence for advisor choice is derived from Table 7, which utilizes a sample with a \$500 mil. cut-off. Evidence for deal outcome analyses derived from Table 8, 9, 10 & 11. Evidence against the hypotheses is presented in parentheses.

Hypothesis	Analysis type	Sub-hypothesis	Evidence		
Skill	Advisor Choice	Hostile	Boutique or mixed chosen for acquirer and target	Acquirer Boutique coefficient significantly positive for mergers	
		Competition	Boutique or mixed chosen for acquirer	Acquirer Mixed coefficient significantly positive for the full sample	
		Cross Industry	Boutique or mixed chosen for acquirer	Acquirer Boutique coefficient significantly positive for the full sample and for tender offers	
		Stock	Boutique or mixed chosen for acquirer and target	Acquirer Mixed coefficient significantly positive of mergers (Target boutique coefficient significantly negative)	
		Cross Border	Boutique or mixed chosen for acquirer	Acquirer Boutique coefficient significantly positive for tender offers (Acquirer Mixed coefficient negative in some regressions)	
	Deal Outcome	Premium	If acquirer uses boutique or mixed, premiums decrease	Acquirer Boutique coefficient significantly negative for the full sample and the tender offer sub-sample	
			If target uses boutique or mixed, premiums increase	Target Mixed coefficient significantly positive for the full sample Target Boutique*Target Advisor Tier 2 significantly positive	
		Duration	If acquirer uses boutique or mixed, durations increase	No impact found on deal duration	
			If target uses boutique or mixed, durations increase	Target mixed coefficient significantly positive for the full sample & merger sample	
		Completion	If acquirer uses boutique or mixed, no impact on completion	Acquirer mixed coefficient significantly positive for full sample	
			If target uses boutique or mixed, no impact on completion	No impact found on deal completion	
		Scale	Advisor Choice	Deal size	Full-service chosen for larger deals

6. Discussion of Results

In this section, I link the results of my analysis in the previous section to the literature review in Section 2 and my hypotheses of Section 3. I provide a brief overview of my results and discuss their implications. Table 12 presents a summary of my hypotheses and my results.

6.1. Empirical findings of advisor choice

I hypothesize that boutique advisors are more skilled and have more expertise in M&A than full-service investment banks. Therefore they are more likely to be chosen when the deal is complex. The first of my sub-hypotheses (**HI.1**) is developed to test if boutiques and mixed teams are employed by acquirers and targets when the deal is hostile. I find evidence from mergers (as opposed to tender offers) that boutiques are chosen by acquirers when they are facing a target with reluctant management. This evidence is found when utilizing a cut-off of \$500 million for my full sample, which I utilize for summarizing the results for advisor choice. The cut-off method is applied because of the implications of the *scale* hypothesis. Boutique advisors are hypothesized to be smaller, and thus less capable of serving all the needs that full-service investment banks can serve with their more sizeable resources. Thus it is logical that most of the biggest transactions will go to full-service investment banks as they provide a broad spectrum of services in addition to advisory services. When using a high minimum cut-off for the sample, I am able to test the hypothesis in a sample of only large deals. Here, if boutiques are hired, it will most likely be due to their skills and expertise. Consequently, because there is evidence after applying the cut-off, I find some support for the *skill* hypothesis from this sub-hypothesis.

The second sub-hypothesis (**HI.2**) states that boutique advisors and mixed teams are chosen by the acquirer when there is competition for the target. I find evidence that mixed teams are more likely to be chosen by the acquirer when there is competition for the target. However, there are no significant coefficients for the choice of boutique advisors. Overall from the tests on this sub-hypothesis, I find weak support for the *skill* hypothesis through the choice of mixed advisors for the target.

In my third sub-hypothesis (**HI.3**), I hypothesize that acquirers choose mixed or boutique advisors when they are acquiring targets from different industries. I find significant evidence that

acquirers are more likely to use boutique advisors when the target is from another industry. This evidence from the sample of larger deals shows evidence in support of the *skill* hypothesis. Cross-industry deals require specialized industry-specific knowledge and boutique advisors usually specialize in certain industries. In conclusion, I find support for the *skill* hypothesis from the third sub-hypothesis and its analysis.

The fourth sub-hypothesis (**HI.4**) is set to test whether boutique advisors and mixed teams are hired by acquiring and target firms when the form of payment is the shares of the acquiring company. The analyses show that mixed teams are more likely to be chosen by acquiring firms for mergers when the form of payment is stock. As payment with stock can be considered as an equity offering as well as a merger, the deal is much more complicated than a pure cash deal. However, as I find no evidence of boutique advisors alone being hired for deals where the payment is with stock, I conclude that this is weak support for the *skill* hypothesis. Additionally, I find significant evidence against the *skill* hypothesis on the target side. Boutiques are less likely chosen by targets when the acquirer pays with shares.

Finally, the fifth and last sub-hypothesis (**HI.5**) for testing the *skill* hypothesis in the advisor choice analysis states that boutique advisors or mixed teams are employed by the acquirer for deals where the acquirer and target are from different countries. I find that boutique advisors are more likely to be employed by acquirers in tender offers. Nevertheless, I do not find evidence for the merger or the full sample. Therefore the evidence here in support of the *skill* hypothesis is weak.

Overall, the empirical findings of the advisor choice analysis provide some, but generally weak support for the *skill* hypothesis as most findings are not found in the full sample. However, given some of the evidence in support of the sub-hypotheses, I can conclude that boutique advisors are more likely to be chosen by acquirers when the target is from another industry. This is evidence that supports the general opinion that boutiques usually have industry specific expertise. I can also conclude that my analysis shows that boutiques are likely to be chosen for other complex deals such as hostile and cross-border deals. A suggestion for future studies would be to test if higher tier boutiques are more likely to be chosen for complex deals than full-service investment banks. In my regressions with larger deals, I find evidence in support of the *skill* hypothesis. An alternative interpretation is that boutique advisors are not created equal. Those that have a higher reputation, and have the resources to conduct larger deals, could possibly be acknowledged to have higher

expertise than other boutiques and advisors in general. This is also a hypothesis left for future studies to test.

My first and only sub-hypothesis (**H2.1**) for the *scale* hypothesis states that both acquirers and targets will choose full-service advisors for larger deals. I find significant evidence throughout the regression analyses that support the hypothesis. This evidence supports the view that larger deals require more resources in terms of employees as well as financing capabilities, which full-service investment banks have. Additionally, mixed teams are most likely employed for the biggest deals in the sample. This is consistent with the findings of Song et al. (2013).

6.2. Empirical findings of deal outcomes

The *scale* hypothesis doesn't have any clear implications for deal outcomes. Consequently, this section focuses on the sub-hypotheses of the *skill* hypothesis with regard to deal outcomes.

The first sub-hypothesis (**H1.6**) states that boutique advisors or mixed teams decrease (increase) premiums for acquiring (target) firms. The results for the regressions imply that the use of boutique advisors significantly decreases deal premiums for acquirers. However, while the results imply that the use of boutique firms decreases deal premiums, they do not decrease premiums when compared with other Tier 2 full-service advisors, which is shown by the statistically insignificant interaction term coefficient. Therefore my results show that only Tier 3 advisors are able to decrease premiums. The results are interesting, because the advisor choice analyses imply that boutiques are chosen for large deals are also chosen for more complex deals. Additionally, larger deals are usually advised by higher tiered advisors. A possible implication worth studying in the future could be that boutiques are able to improve deal outcomes in deals of lesser complexity. I also find that mixed teams are capable of increasing deal premiums for targets while boutiques alone are not. Nevertheless, the coefficient for a boutique being Tier 2 is significantly positive meaning Tier 2 boutiques on the target side are able to improve premiums relative to other tier 2 advisors. This finding is inconsistent with the acquirer side. Admittedly, while the results are interesting and give some implications related to the skill of boutiques, the results here are mixed. The two-step procedure gives highly negative coefficients for boutique advisors on the acquirer side, but they aren't statistically significant, and therefore do not provide clarification.

The next sub-hypothesis (*H1.7*) states that the use of boutique advisors or mixed teams increases deal durations for acquiring and target firms. The evidence from the OLS regressions shows that mixed teams increase deal duration on the target side. This suggests that mixed groups face more complex deals that require more extensive due diligence, longer negotiation processes, or tougher evaluations. However, there is no supporting evidence from the advisor choice regressions relating to mixed team advisors for the target side. Consequently, I conclude that there isn't enough evidence in support of *skill* hypothesis in the analysis relating to deal duration.

In my final sub-hypothesis (*H1.8*), I hypothesize that boutique advisors and mixed teams have no significant impact on deal completion on neither the target nor the acquirer side. I find evidence in support of the hypothesis, but because of the lack of statistically significant evidence relating to the other deal outcome regressions, the findings here are inconclusive.

Overall, the empirical findings of the deal outcome analysis provide mixed evidence for the *skill* hypothesis. Consequently, I do not find conclusive evidence that boutique advisors would have significant impacts on deal outcomes. This is inconsistent with the study of Song et al. (2013). The reasons why I do not find enough evidence is partly because of my limited sample of European deals as my sample consists of less than half the amount of deals used in the study by Song et al. (2013). Other factors can also have an impact on the results. The classification of advisors is subjective, even though I use the same classification criteria as Song et al. (2013). In addition, the boutique advisors differ in the U.S. and in Europe and there could be fundamental differences in the market of advisory services. However, as many of my regressions give similar results, I can say that I have been able to accurately replicate the methodology used by Song et al. (2013).

7. Conclusions

The research of Song et al. (2013) on boutique advisors and the role that they play in M&A in the U.S. is the foundation for my study on the same subject. The contribution of my study to existing empirical M&A literature is the further testing of the two main hypotheses of their study with a sample of European M&A transactions. The aforementioned hypotheses are the *skill* and *scale* hypotheses. These hypotheses state that boutique advisors have specialized expertise in M&A (*skill*), but are small and lack the resources to act as advisors on the largest transactions (*scale*).

Boutique advisors have specialized expertise and independence, but they tend to be smaller and are definitely less diversified. In contrast, full-service advisors have greater resources and are diversified, but they suffer from potential conflicts of interest (Song et al. 2013).

Utilizing a sample of 906 M&A deals, I conduct multiple empirical analyses to examine the reasons for the choice of advisors, and the impact of the types of advisors on deal outcomes. Furthermore, I use multivariate logistic regressions to examine the determinants of advisor choice, and both logistic and linear regressions to examine deal outcomes. These regressions are implemented for the full sample as well as a sub-sample consisting of mergers and a sub-sample consisting of tender offers. Among the 906 M&A deals from 1987 – 2013, 29.36% of the deals are advised by boutiques on the acquirer side, and 31.13% of the deals are advised by boutiques on the target side²⁰.

The *skill* hypothesis is tested with eight different sub-hypotheses that are divided into two categories. The two categories are Advisor choice (sub-hypotheses related to the implications of *skill* and *scale* on the choice of advisors) and Deal outcome (sub-hypotheses related to the implications of *skill* on deal outcomes). My empirical results provide weak support for the *skill* hypothesis.

For advisor choice, I find evidence that boutique advisors are hired by acquirers when the target is from another industry, which can be attributed to the industry specific expertise commonly credited to boutique advisors. In addition, my results show that in mergers, boutique advisors are more likely to be chosen when the deal is hostile and when the deal is financed with stock. In tender offers, boutiques are more likely to be chosen for cross-border transactions. I find that boutique advisors are hired as a part of a mixed team by acquirers when there is competition for the target and when the form of payment is stock. The finding related to competition is significant for the full sample while the finding related to the form of payment is significant for tender offers only. Despite this favorable evidence in support of the *skill* hypothesis, most of the results are not consistent throughout the samples (only two of the findings for boutiques and mixed teams are significant for the full sample) meaning the evidence is inconclusive.

²⁰ Figures include boutiques, and boutiques as a part of a mixed team.

For deal outcomes, the evidence is mixed. I find that the choice of boutique advisors by acquirers improves deal outcomes by decreasing deal premiums. However, boutique advisors are not able to decrease premiums relative to other Tier 2 advisors, possibly suggesting that there are differences between the ranks of boutique advisors and the types of deals they are chosen to advise on. This is not included in the scope of this study, but is an interesting area for future research on boutique advisors. Mixed teams on the target side are also able improve deal outcomes by increasing premiums for their clients. Tier 2 boutiques are able to increase premiums relative to Tier 2 full-service advisors, which is inconsistent with the acquirer side results, which suggest that Tier 3 advisors are able to improve deal outcomes relative to full-service advisors but Tier 2 are not.

I also find that when targets employ boutique advisors in mixed teams, the deal duration is significantly longer, but regressions yield insignificant coefficients for boutiques acting as the sole advisor on the acquirer and target side. Therefore deal duration analyses are inconclusive along with deal completion analyses. Overall, the empirical findings of the deal outcome analysis provide mixed and inconclusive evidence for the *skill* hypothesis.

Consequently, when I combine the findings of the two categories of the *skill* hypothesis, I can conclude that my research finds some support for boutique advisors being chosen for their perceived expertise in M&A, but that this evidence is weak when looking at it holistically. Firms involved in M&A seem to recognize and appreciate the industry specific expertise of boutiques, and the results show that boutiques can be chosen for other complex deals either as the sole advisor or as a part of a mixed team. However, I am not able to show, like Song et al. (2013), that boutique advisors would deliver superior deal performance. I find some evidence related to this, but most of the results give mixed implications and are thus inconclusive. This is possibly due to a smaller sample size, or possibly due to fundamental differences in the European M&A advisory market.

The most significant evidence in my study is related to the tests of the *scale* hypothesis. For Advisor choice, I find that boutique advisors are more likely used when the deal is small. On the other hand, mixed teams of advisors are used when deals are large. My results show that deal size is an important factor in determining how merging firms select financial advisors. Boutique advisors are less likely to be chosen by either acquirers or targets as deal size increases (compared with full-service investment banks). The *scale* hypothesis has no implications for deal outcomes.

My research tests the *skill* and *scale* hypotheses and focuses on advisor choice and deal outcomes. However, there are additional interesting topics for future research. My results indicate that there are differences between different tiered boutique advisors and their capabilities. This is logical as some boutiques have over a thousand employees while some consist of only tens of employees. An interesting topic for future research would be to test the differences of boutique advisors by reputational ranking, size or some other classification method. This would enable deeper analysis of boutique advisors by testing which types of boutique advisors are chosen for complex deals and which types of boutique advisors are able to improve deal outcomes.

Furthermore, an empirical study of advisor type and advisor fees would be interesting giving that boutique advisors have been shown to be chosen for perceived skills, and previous studies have shown that they can have a positive impact on deal outcomes. Subsequently, while it may seem logical to think that the smallest boutique advisors with less reputation would charge lower fees, it doesn't seem plausible that advisors that are perceived to be the most skillful in the M&A market would charge less on average than other advisors. These research questions are left out of the scope of this study, but are fascinating topics for research in the future.

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9. Appendix

Appendix 1- Advisor Ranking (KPMG not included because neither full-service nor boutique)

Rank	Financial Advisor	Deal Value (\$ Mil)	Number of Deals
1	Goldman Sachs & Co	4 129 248.92	1 628
2	Morgan Stanley	3 729 405.09	1 733
3	JP Morgan	3 327 266.97	2 179
4	UBS	3 016 207.61	2 505
5	Citi/Salomon Brothers/Salomon Smith Barney	2 777 126.52	2 045
6	Bank of America Merrill Lynch	2 696 709.49	1 149
7	Deutsche Bank	2 567 976.62	2 288
8	Rothschild	2 563 236.68	2 943
9	Credit Suisse	2 371 079.49	1 703
10	Lazard	2 297 927.62	2 329
11	BNP Paribas SA	1 723 014.63	1 758
12	Nomura	1 496 735.73	937
13	Commerzbank AG	1 025 738.86	1 234
14	RBS	948 617.59	1 493
15	HSBC Holdings PLC	846 037.85	1 599
16	Societe Generale	733 698.66	1 096
17	Credit Agricole CIB	703 426.12	890
18	Barclays	621 129.23	655
19	Mediobanca	606 293.60	578
20	<i>KPMG</i>	<i>415 497.97</i>	<i>4 644</i>
21	Santander	368 011.75	382

Appendix 2 - Advisor classification

Advisor Name	Boutique				
		Bear Stearns & Co Inc	0	Citi	0
3i Corporate Finance Ltd	1	Bear Stearns International	0	Citicorp	0
ABG Sundal Collier	0	Beeson Gregory Ltd	1	Citigroup	0
ABN AMRO Bank	0	Berenberg Bank	0	Claudio Costamagna	1
ABN AMRO Bank NV	0	Blackstone Group LP	1	Close Brothers Corp Finance	0
ABN AMRO Hoare Govett	0	Blaettchen & Partner AG	1	Collins Stewart Ltd	0
ABN AMRO Hoare Govett (UK)	0	BMO Nesbitt Burns Inc	0	Commerzbank AG	0
ABN-AMRO Holding NV	0	BNP Equities	0	CORPIN Partners	1
Access Partners	1	BNP Paribas SA	0	County NatWest Limited	0
AIB Corporate Finance	0	Borghesi Colombo & Associati	1	Credit Agricole CIB	0
Alfred Berg A/S	1	Braveheart Financial Services	1	Credit Agricole Indosuez	0
Alpha Finance AE	0	Brewin Dolphin	0	Credit Commercial de France	0
Altium Capital Limited	1	Brewin Dolphin Investment	0	Credit Lyonnais Investissement	0
Ambrian Partners Ltd	1	Brewin Dolphin Securities Ltd	0	Credit Lyonnais Laing	0

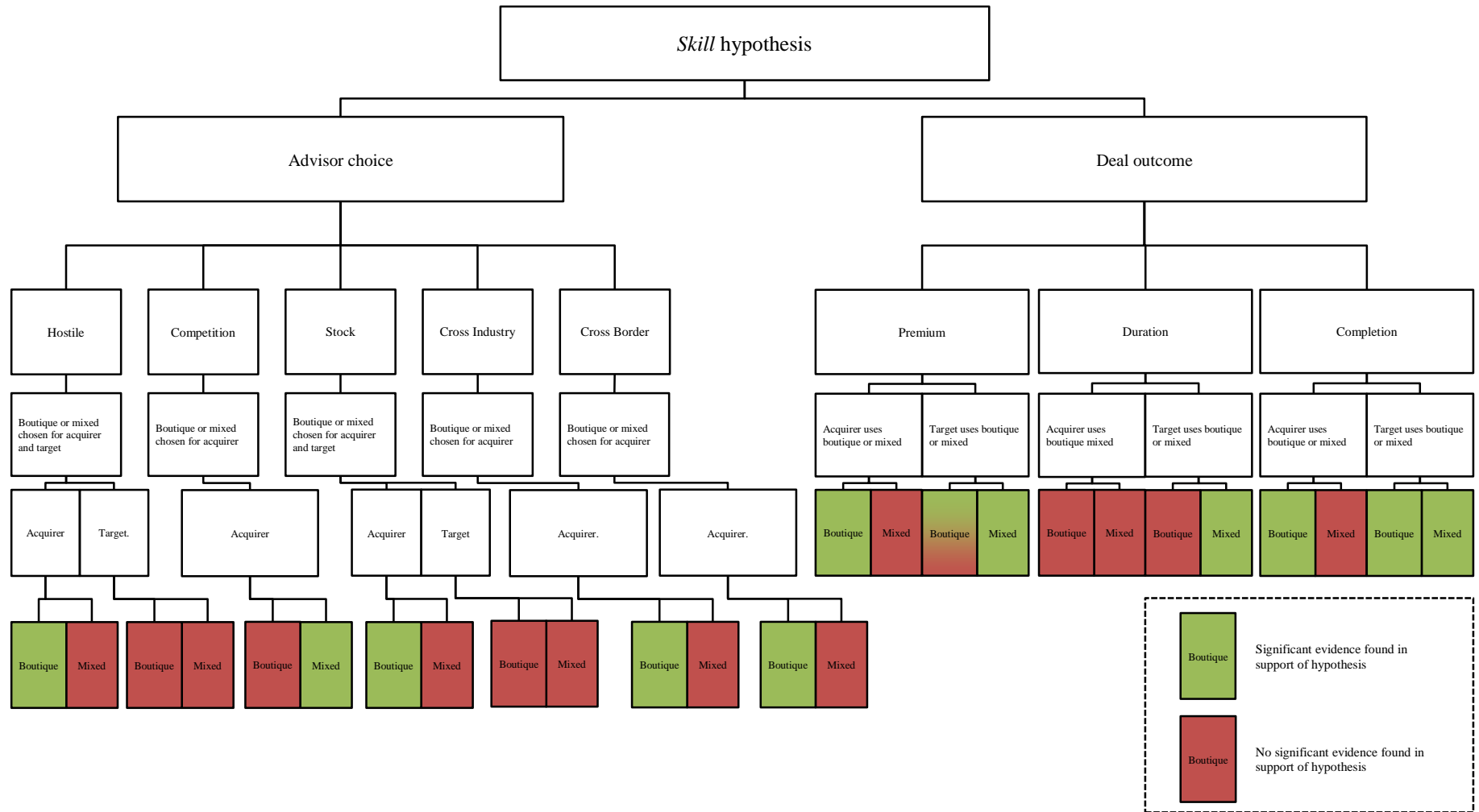
Apax Partners & Co Ltd	1	Bridgewell	1	Credit Lyonnais SA	0
Arbuthnot Securities Ltd	1	British Linen Advisers	1	Credit Lyonnais Secs (London)	0
Arctic Securities ASA	1	British Linen Bank Ltd	0	Credit Suisse	0
Arthur Andersen	0	Broadview	1	Credit Suisse FB (Europe)	0
Arthur Andersen Corp. Fin.	0	Broadview Associates	1	Credit Suisse First Boston	0
Atlas Advisors	1	Brummer & Partners	1	Credit Suisse First Boston Int	0
Aventum Partners	1	Bryan Garnier & Co	1	Credit Suisse First Boston/ CS	0
AZ Capital	1	BT Alex Brown Inc	0	Credit Suisse Group	0
Banc of America Securities LLC	0	BT Alex. Brown/Wolfensohn	0	CreditAgricole-CreditLyonnais	0
Banca IMI	0	Bucephale Finance	1	CS First Boston Corp	0
Banca IMI (Intesa Sanpaolo)	0	BZW/Barclays PLC	0	Daniel Stewart	0
Banca Popolare Emilia Romagna	0	CA-IB Investmentbank AG	0	Danske Bank	0
Banco Central Hispanoamericano	0	CaixaBank SA	0	Danske Securities AB	0
Banco de Negocios Argentaria	0	Calyon	0	Davy Corporate Finance	0
Banco de Santander SA	0	Canaccord Genuity Ltd	0	DB Consult GmbH	0
Banco Espirito Santo de Invstm	0	Capitalia SpA	0	DCB Bank Bhd	0
Banco Santander Central Hisp	0	Caretti & Associati	1	De Zoete and Bevan	0
Banco Santander SA	0	Carnegie	0	Deloitte & Touche	0
Banexi Capital Partenaires SA	1	Catalyst Advisors BV	1	Deloitte & Touche Corp Finance	0
Bank of America Merrill Lynch	0	Catella Sweden	1	DELOITTE (Spanish Office)	0
Bank of Scotland	0	Cazenove & Co	0	Deloitte Corporate Finance	0
Bank of Tokyo-Mitsub-ishi	0	CCF Charterhouse	0	Detroyat Associes SA	1
Bankers Trust / BT Wolfensohn	0	CDI Corporate Advisory AS	1	Deutsche Banc Alex Brown	0
Banque Degroof	0	Cenkos Securities PLC	1	Deutsche Bank	0
Banque Indosuez	0	Charles Stanley	0	Deutsche Bank AG (London)	0
Banque Nationale de Paris{BNP}	0	Charles Stanley Securities	0	Deutsche Morgan Grenfell	0
Barclays	0	Charterhouse Bank Ltd	0	DnB Markets AS	0
Barclays de Zoete Wedd Ltd	0	Charterhouse Japhet PLC	0	DnB NOR BANK ASA	0
Barclays PLC	0	Charterhouse Securities Ltd	0	Donaldson Lufkin & Jenrette	0
Barclays/BZW European Business	0	Charterhouse Tilney	0	Dow Schofield Watts LLP	1
Baring Brothers & Co Ltd	0	Chase H&Q	0	Dresdner Kleinwort	0
Baring Brothers International	0	Chase Manhattan Bank NA	0	Dresdner Kleinwort Benson	0
Baring Brothers Ltd	0	Chase Manhattan Bank PLC	0	Dresdner Kleinwort Wasserstein	0
Barings BV	0	Chase Manhattan Corp	0	Durlacher & Co	0
BBVA	0	Chemical Banking Corp	0	E Ohman Jr Fondkommission	0
BDO Stoy Hayward	0	Cie Financiere Edmond Roth	1	EEIP	1
EFG Hellas PLC	0	HSBC Holdings PLC	0	Lazard Freres & Co LLC	1
EFG Telesis Finance	0	HSBC Investment Bank Asia Ltd	0	Lazard Freres et Cie	1
English Trust Co Ltd	1	HSBC Investment Bank PLC	0	Lazard Houses	1

Enskilda Securities, Inc	0	HSBC Investment Banking Ltd	0	Lehman Brothers	0
EnVent SpA	1	HSBC James Capel & Co	0	Lehman Brothers International	0
equinet AG	0	Huebner Schloesser & Cie	1	Lenner & Partners	1
EquityGate	1	HVB Consult GmbH	0	Leonardo & Co	1
Erneholm & Haskel AB	1	IBI Corporate Finance	1	Lexicon Partners	1
Ernst & Young (UK)	0	IMI Bank Intl	0	Liberum Capital	1
Ernst & Young Corp Finance	0	IMI Securities	0	Lincoln International	1
Ernst & Young LLP	0	ING	0	Lombard Odier & Cie	0
Erste Group	0	ING Barings	0	Lombard Odier International SA	0
Euroland Finance	0	ING Groep NV	0	LongAcre Partners	1
Evercore Partners	1	Intelli Corporate Finance Ltd	1	M Klein & Co LLC	1
Evli Bank Plc	0	Intermonte Securities (SIM)	0	Macquarie Bank	0
Evolution Securities Ltd	1	Invercaixa Valores SV	0	Macquarie Capital Partners LLC	0
FBM Mahler	1	Invest Securities	0	Mandatum & Co	1
Fearnley Fonds A/S	0	Investec	0	MCC	0
finnCap Ltd	0	Investec Bank (UK) Ltd	0	McQueen Ltd	1
First Securities AS	0	Investec Bank Ltd	0	Mediobanca	0
First Securities Co Ltd	1	Investec Capital Alliance	0	Mediobanca SpA	0
Fiske & Co	0	Investec Group Ltd	0	Mees & Hope Corporate Finance	0
Fleet Boston Corp	0	Investec Henderson Crosthwaite	0	MeesPierson NV	0
Flemings	0	Investec Investment Banking	0	Merrill Lynch	0
Fondsfinans AS	0	Investec PLC	0	Merrill Lynch Bank AG	0
Fortis	0	J Henry Schroder & Co Ltd	0	Merrill Lynch Intl Ltd	0
Fortis Finance	0	J Henry Schroder Wagg & Co Ltd	0	Merrill Lynch, Pierce, Fenner	0
FOX DAVIES CAPITAL	1	Jaakko Poyry Oy	0	Messier Partners LLC	1
Fox-Pitt Kelton	1	James Capel & Co.	0	Michel Dyens	1
Georgieff Capital Advisors	1	Jefferies & Co Inc	0	Millennium BCP SA	0
Gleacher & Co LLC	1	Jefferies International Ltd	0	Moelis & Co	1
Gleacher Shacklock LLP	1	JM Finn & Co	1	Morgan Grenfell & Co Ltd	0
Goldman Sachs & Co	0	JO Hambro Magan & Co Ltd	0	Morgan Stanley	0
Goldman Sachs International	0	JP Morgan	0	Morgan Stanley & Co	0
Goodbody Stockbrokers	1	JP Morgan Cazenove	0	N+1	1
Grant Thornton	0	JP Morgan Italia	0	N+1 Brewin	1
Granville	1	JP Morgan Securities Inc	0	Nabarro Wells & Co Ltd	1
Granville & Co	1	Kaupthing Bank HF	0	Natixis	0
Greenhill & Co, LLC	1	KBC Peel Hunt Ltd	0	NatWest Markets	0
Gruppo Banca Leonardo	0	KBC Securities	0	NCB Corporate Finance Ireland	0
Gudme Raaschou Securities	0	Kempen and Co NV	0	Neilson Cobbold Ltd	0
Hambros Bank Ltd	0	Kinmont Ltd	1	Network Corporate Finance	1
Handelsbanken Capital Markets	0	Kleinwort Benson Ltd	0	NIB Capital NV	0

Hawkpoint Partners	1	KPMG	0	NIBC Bank NV	0
Henry Ansbacher Holding PLC	0	KPMG Asesores SL	0	NIBC NV	0
Henry Cooke Corporate Finance	0	KPMG Corporate Finance	0	NM Rothschild & Sons Limited	1
Hill Samuel & Co Ltd	0	Lambert Energy Advisory Ltd	1	NM Rothschild & Sons Ltd	1
Hoare Govett Ltd	0	Lansdowne Capital Ltd	1	Nmas1	1
Houlihan Lokey	1	Lazard	1	Noble & Co Ltd	1
HQ Bank AB	0	Lazard Brothers & Co Ltd	1	Noble Grossart	1
Nomura Code Securities Ltd	0	Rothschild Italia SpA	1	UBS Warburg	0
Nomura International PLC	0	RS Platou Securities AS	0	UBS Warburg (UK)	0
Nomura Securities	0	Ruegg & Co Ltd	1	UBS-Phillips & Drew Sec Ltd	0
Nordea Bank Sverige AB	0	Sal Oppenheim	1	UniCredit	0
Nordea Corporate Finance	0	Sal Oppenheim Jr & Cie (SW)	1	Unicredit Banca Mobiliare SpA	0
Nordea PLC	0	Salomon Brothers	0	UniCredit Group	0
Nordea Securities	0	Salomon Smith Barney	0	Union Bank of Switzerland	0
Norden Investment Banking	1	Samuel Montagu & Co Ltd	0	Unipol Banca	0
NORDFIRST	1	Santander	0	Warburg Dillon Read Inc	0
Numis	0	Santander Central Hispano	0	Wasserstein Perella Group Inc	1
Numis Securities Ltd	0	Santander Central Hispano Inv.	0	Wertheim Schroder	0
Oakley Capital Investments	1	SBC Warburg	0	West Merchant Bank Ltd	0
Oddo Corporate Finance	0	SBC Warburg Dillon Read Inc	0	Westdeutsche Landesbank Giro	0
Old Mutual Int'n Asset Mgrs	0	Schroder Salomon Smith Barney	0	Westhouse Securities LLP	1
Olliff & Partners Plc	1	Schroders	0	WestLB (UK)	0
Ondra Partners	1	Scrimgeour Vickers & Co	0	WestLB AG	0
Oriel Securities Limited	0	SDM Corporate Finance Group NV	1	WestLB Panmure Ltd	0
Panmure Gordon & Co Ltd	0	SEB	0	WH Ireland Ltd	1
Pareto Securities	0	Seymour Pierce	1	Williams de Broe PLC	1
Paribas SA	0	Seymour Pierce Butterfield	1	Wise Speke Ltd	0
PCA Corporate Finance Oy	1	Seymour Pierce Ltd	1	Vitale Borghesi & Co SpA	1
Peel Hunt & Co Ltd	0	SG Hambros Corporate Finance	0	Wood & Co	0
Peel Hunt LLP	0	SG Warburg & Co Inc (SZ)	0	Wood & Co Inc	0
Perella Weinberg Partners LP	1	SG Warburg Group PLC	0	Woori Invest & Sec Co Ltd	0
Petercam Securities SA	0	Sheppards	0	Zeus Capital Ltd	1
Peters Associates AG	1	Shore Capital Group	1		
Phoenix Securities Ltd	1	Sin&rgetica Srl	1		
Pierson Heldring & Pierson NV	0	Singer & Friedlander Group PLC	0		
Piper Jaffray Cos	0	Singer Capital Markets Ltd	1		
Poli e Associati SpA	1	Smith New Court PLC	1		
Price Waterhouse	0	Societe Generale	0		
PricewaterhouseCoopers	0	Sprott Securities Ltd	1		
Quilter & Co. Ltd	0	Strand Partners Ltd	1		
Rabobank NV	0	Strata Partners	1		

Rathbone Neilson Cobbold Ltd	0	Summa Capital Oy	1
RBC Capital Markets	0	Sun Capital Partners Ltd	1
RBS	0	Sundal Collier & Co AS	0
RBS Hoare Govett Ltd	0	Swedbank Markets	0
Regent Associates	1	Swiss Bank Corp	0
Ricol Lasteyrie & Associes SA	1	Tamburi Investment Partners Sp	1
Robert Fleming & Co Ltd (UK)	0	Teather & Greenwood Ltd	1
Robert Fleming Holdings PLC	0	Toft Advice ApS	1
Robert Fleming Inc	0	Tricorn Partners LLP	1
Robert W Baird & Co Inc	0	Trillium Partners Ltd	1
Roberto de Guardiola Co LLC	1	UBS	0
Rothschild	1	UBS AG	0
Rothschild & Cie Banque	1	UBS Investment Bank	0
Rothschild et Compagnie	1	UBS Ltd	0
Rothschild Group	1	UBS Ltd/Union Bank Switzerland	0
Rothschild Inc.	1	UBS Phillips & Drew Capital	0

Appendix 3a - Hypothesis framework and evidence (*skill hypothesis*)



Appendix 3b - Hypothesis framework and evidence (*scale hypothesis*)

