Mergers Advisors impact on M&A success: Canadian Evidence

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Abstract

This paper investigates the impact of advisors on the success of Canadian firms' mergers and acquisitions. Using a sample of 791 deals from Canadian TSX listed acquiring firms from 2001 to 2015, we first investigate what types of firms hire advisors and top advisors in particular. Second we investigate two important hypotheses of mergers advisors role: (a) the superior deal hypothesis, which expects the improvement in firm performance after the support of an advisor; and, (b) the deal completion hypothesis, which expects higher completion rates and speed for advisor-backed acquirers.

In summary, we found little support for the superior deal hypothesis. The short-term performance of an advisor-backed acquirer was significantly higher than that of non-advisor-backed acquirer only when the target has no advisor. The acquirer's CAR was worst when both parties (acquirer and target) had an advisor. In addition, we saw no evidence that acquirers with top advisors generate higher short-term returns than those with lower tier advisors. When investigating the long-term performance, we do not find any significant evidence that advisors positively impacted value for acquirers. The same conclusion holds for the completion hypothesis as we discovered that advisors have no impact on the time to completion. All the analyses controlled for acquirer, target, and deal characteristics.

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Dedications

To my dad and brother who have showed to me their support in any time.

To my mum who would have been very proud of this achievement if she was alive.

Mergers Advisors impact on M&A success: Canadian Evidence

Chapter 1: Introduction

Mergers and Acquisitions (M&As) are important corporate actions, which could potentially generate significant synergetic gains (Bao & Edmans, 2011). At the same time, M&As have a high failure rate and can lead to a significant level of shareholder wealth destruction (Roh, 2011). In order to cope with M&A deal related complexities and to improve M&A success rate, many acquiring firms hire M&A advisors.

Existing research has suggested two primary purposes for firms to hire an advisor in the context of M&A: a better deal performance and a faster deal completion. The superior deal hypothesis contends that M&A deals with advisors (or top tier advisors) should exhibit, on average, a superior merger performance than those without an advisor (or with lower-tier advisors), in a form of either a higher post-announcement return in the short run (Raghavendra Rau, 2000)[1] or a better post-merger operating performance in the long run. The deal completion hypothesis, on the other hand, maintains that advisors are also executors, hired to negotiate and increase chances and speed of completion (Rau, 2000). However, existing studies are inconclusive as to whether empirical observations support these theories.

As to the superior deal hypothesis, while some studies (Bao & Edmans, 2011; Golubov et al., 2012; Rau, 2000) found evidence of M&A performance exhibited by deals with advisors

[1] (Raghavendra Rau, 2000) is the same as (Rau, 2000) which is just a shorten notation for easier reading.

better than those without (or by deals with a top-advisor better than those with lower tier advisers), (Schiereck et al., 2009; Servaes & Zenner, 1996) found no significant difference in performance between M&As with advisors and those without (as well as between M&As with top advisors and those with lower tier advisors). In addition, Ismail (2010) reports evidence of value destruction associated with advisors. Regarding the deal completion hypothesis, while Bao & Edmans (2011) and Hunter & Jagtiani (2003) reported that top-advisors are associated with higher completion speed. Golubov et al. (2012) do not find significantly higher completion probabilities associated with top-advisors. Accordingly, the literature has not yet established a conclusive view regarding the usefulness of M&A advisor.

This study focuses on the Canadian market to examine the impact of M&A advisors. The investigation of the Canadian context has several advantages, through which it aims to contribute to the literature. First, the Canadian context provides a better experimental set-up to examine the value relevant to M&A advisor, as, in Canada, hiring an advisor for an M&A deal is not a common practice (about only 47 per cent of our initial sample of Canadian deals during the 2001-2015 period had an advisor). In contrast, the majority of firms in US use an advisor, making it difficult to examine the performance of M&A deals with advisors in comparison to those without. This characteristic of Canada, therefore, allows us to better compare deals with advisors with those without, in addition to also compare deals with top advisors with those with lower-tier advisors.

Second, the Canadian environment provides some characteristics different from the US market, where the majority of research on the topic has been done. In Canada, ownership is more concentrated (few entities with high percentage of share ownership), and the dual class share structure of firm ownership is more common (King & Santor, 2008). It has been found that

acquirers' market capitalization on average is many times greater than the targets' in US, while in Canada, acquirer and target are usually approximately similar in size (Eckbo, 1986). In addition, M&A laws are less strict and less enforceable in Canada compared to US (Green, 1993). For example, in US, courts can rule against a merger solely on the basis of market share concentration. In Canada, the market concentration is not enough to rule against the merger, and courts may need to consider other factors in order to reject the proposal (Green, 1993). Furthermore, while the use of anti-takeover measure is a common practice in the US; in Canada, in certain circumstances (such as where the acquisition is believed to be beneficial for both the acquirer and the target, as well as for the entire industry or society (Blakes Business Class, 2018)) securities commissions provide acquirers with tools to make the defence tactics less effective (Dutta & Jog, 2009). These systematic differences between the US and Canadian markets may influence the value relevant to M&A advisors.

Third, Canada had fewer players (advisors) compared to US, making it easier to assess and observe advisors' performance. Fourth, Canadian firms are more inclined towards cash acquisitions while US firms are known for greater percentages of stock deals (Eckbo & Thorburn, 2000; Loughran & Vijh, 1997; Rasedie & Srinivasan, 2011) . Stock deals tend to be more complex and thus may need more support from advisors. These particularities could have an impact on the choice of an advisor by an acquirer.

Given the size of corporate control market in most developed countries, M&A transactions have great impacts on a nation's – or even the world-wide economy. Accordingly, M&A advisors – if their influences are significant – could have considerable effects on trade,

industry, and financial well-being.[2] In order to have a better insights on the role of M&A advisors, this study examines a set of interrelated questions based on a large Canadian M&A sample. These include: (1) what type of firm in Canada uses an advisor? (2) when a firm does use an advisor, does the advisor in fact add value? and, (3) is there any extra value when a firm hires a top advisor rather than a non-top advisor?

This study measures the impact of M&A advisor in terms of both short-term post-announcement market reactions and long-term post-merger operating performance. An examination of short-term market reactions would help us to understand how various market participants value the involvement of advisors in M&A deals. Looking at the post-merger long-term operating performance of combined firms is also important to gauge the extent to which the presence of an advisor influences the synergy creation. To the best of our knowledge, there is no systematic research that has examined the impact of M&A advisors on long-term operating performance of combined firms. We believe that an M&A performance is better assessed in the long-term, as it takes time for the combined firms to materialize synergy values. The work measures the long-term operating performance by using the ratio of the EBITDA/TA (Earnings before interest, taxes, depreciation, and amortization to total assets) which is independent of a firm's choice of (depreciation-related) accounting and financing policies while capturing its cash generating ability through its use of assets available.

We investigate the above research questions using a sample of 791 acquisitions from Canadian TSX listed companies from 2001 to 2015. The results show that the likelihood for acquirers to hire an advisor increases with the size of the acquirer and with the ratio of target size to the acquirer's. Advisors were more solicited by acquirers when the target has an advisor on its

[2] For example, the values of M&A deals in Canada in 2016 and 2017 totalled $392 and $351 billion respectively (Blakes Business Class, 2018), representing about one fourth of Canada's GDP for those years.

side; in tender offers; and, when the payment method is stock. Acquirers are more likely to hire top advisors (rather than lower tier counterparts) when they: (1) are larger in size; (2) have a limited availability of cash flow; (3) have a lower percentage of independent board members; (4) have an independent chair; and, (5) execute tender offers. Acquisitions of public companies and companies in different countries reduce the likelihood for acquirers to choose top advisors.

Looking at the performance, overall, being backed by an advisor or a top advisor has no significant impact on acquirers' short-term returns nor long-term operating performance. Advisor-backed acquirers outperform non-advisor-backed counterparts (that is: the superior deal hypothesis is supported) only when the target does not have an advisor and the short-term performance is considered.[3] However, this short term outperformance exhibited by advisor-backed acquirers disappears when the target also has an advisor – in this case, the market reacts significantly negatively to the acquisition announcement. In a nutshell, the superior deal hypothesis was not supported empirically. The results are similar (i.e., no impact of advisors on M&A performance) when only stock swap acquisitions are considered. Similarly, the deal completion hypothesis is not supported: after controlling for acquirer, target, and deal characteristics, this study detects no significant effect of advisors on the deal completion speed. One possible explanation for the above results is that acquiring firms hire advisors to convince their shareholders and show to the market that the management takes prudent approach to M&A transactions, with less concern about the performance outcome of the deal.

The rest of this dissertation is organized in the following order. Chapter 2 will review the relevant literature where we discuss the theoretical foundations and empirical evidence on M&A

[3] Similarly, when an advisor is present only on the target side, the market reacts positively to the acquirer, consistent with the superior deal hypothesis and the signaling hypothesis (the presence of an advisor on the target side sends a positive signal that acquiring this company is a good deal for the acquirer).

advisors, presented by existing studies. Chapter 3 presents the research questions. The data and methodology are discussed in Chapter 4. Chapter 5 presents our findings. Finally, Chapter 6 concludes this dissertation by summarizing the findings and discussing the limitations and contribution of this study, and directions for future studies.

Chapter 2: Literature review

In this chapter we review the existing research relevant to the role of M&A advisors, focusing on the two hypotheses most frequently cited and investigated: the superior deal hypothesis and the deal completion hypothesis. The first section of this chapter introduces the superior deal hypothesis and empirical evidence presented by previous studies. The second section discusses the deal completion hypothesis and relevant empirical observations.

Previous literature has failed in providing conclusive evidence on the impact of advisors either on the firms' value or on completion speed. Accordingly the empirical supports of the two hypotheses remain open to debate. Therefore the end of each section discusses how this study empirically approaches the respective hypothesis thereby providing additional insights to the debate currently inconclusive.

2.1 - Superior deal hypothesis

The superior deal hypothesis (also known as the skilled-advice by Bao and Edmans (2011)) contends that firms supported by advisors should exhibit better M&A performances than those not supported by advisors, in a form of higher announcement excess returns or superior post-merger operating performance. It also maintains that deals with top-tier advisors should attain higher M&A performance than those with lower-tier advisors (Rau, 2000). Superior merger performances for deals supported by advisors is believed to be due to the advisors' ability to identify synergetic matches with target firms and to secure a big portion of that synergy to the acquiring firms during the negotiation of the acquisition premium, and such ability is thought to

be higher for top-tier advisors than lower-tier counterparts (Golubov et al., 2012). Yet debate is still open as to whether the hypothesis is supported by empirical observations or not.

2.1.1 – Studies supporting the superior deal hypothesis

On one hand, some studies found evidence of value creation by M&A advisors. For example, Rau (2000) found that cumulative abnormal returns (CARs) around the announcement period are significantly higher for tender-offers supported by top-tier advisors than those advised by lower-tier counterparts. Bao and Edmans (2011) also reported that top-tier advisors, in fact, do improve acquirers' CAR in mergers. Similarly, Golubov et al. (2012) identified that CARs are 1.01% higher for acquirers with top-tier advisors than those with lower tiers, when acquisitions of publicly traded firms are considered.[4] Golubov et al. contended that the difference in CARs between the two groups of acquiring firms is not only statistically but also economically significant, as 1.01% represents roughly US$66 million difference in the value of a mean-sized acquirer[5]. They argued that the fear of reputational damage gave top advisors an incentive to act in the best interest of their clients and such an incentive would be reinforced when the target is a public firms and therefore have stronger bargaining power. Similarly, Hunter and Jagtiani (2003) found that the value or return earned by the acquirer (measured by the difference in the value of the transaction between the announcement and completion dates) were lower when top-advisors are hired on acquirer's side compared to when lower-tier advisor were hired. Bowers & Miller,

[4] They do not find significant difference between deals with top-tier advisors than those with lower tiers when targets firms are private or unlisted firms.
[5] However, they found that acquirers' gains were reduced when targets also employ top advisors to negotiate the deal.

(1990) found that in fact top-tiers were skilled in identifying synergetic opportunities for their clients.[6]

The level of impact (benefit) of advisors might be different across different types of firms. Guo et al. (2018) found that top-tier advisors do create value for financially constrained clients, but not for neutral or unconstrained clients. The potential explanation for this finding provided by Guo et al. is as follows. Acquiring firms with large cash flows feel overly confident in their ability to identify target firms with which M&A deals generate excess returns. Accordingly, these firms do not hire advisors for finding target firms but for relying on their bargaining power to complete the deal. However, firms with limited cash flows do not have abundant resources to finance their M&A deals, and thus tend to rely heavily on the advisor's opinion for rational and safe decisions (Guo et al., 2018). This paper argues that comparisons of fees and the purpose of hiring advisors between constrained and unconstrained firms are necessary to test the validity of this explanation. This would have been important from the belief that if the mandate was just to complete the deal the fees would have been lower compared to a mandate of requiring thorough analysis of possible synergy and deal negotiation.

Studies suggested that hiring top-tier advisors benefits not only acquirers but also target companies. Ma (2013) found that target firms supported by top advisors obtained a premium, on average, 28.2% higher than those with lower-tier advisors and no advisor, which is not accompanied with lower CARs to compensate the higher premium for both acquirer and target sides. Ma (2013) argued that the top-tier advisors are able to help target firms in finding better matches with acquiring firms and through their negotiation skills. Ismail (2010) also found

[6] However Bowers & Miller found that they were not skilled enough in bargaining to capture a large share of the synergy value.

observations supporting the view of value creation by top advisors hired by target firms: the largest dollar gains were received by target firms hiring top advisors.

Ismail (2010) noticed that the presence of a top advisor on at least one side of the party resulted in value creation for both parties, with target firm recording larger gains (CARs), than acquiring firms, especially when the target firm is advised by a top-tier investment bank. Kale et al. (2003) documented similar results. Using their sample of 5337 mergers deals from 1995 to 2000, Hunter and Jagtiani (2003) reported that the higher the total advisory fees from both sides, meaning the higher the tier of advisor on both sides, the higher the value of the combined firm when the deal is completed.

2.1.2 – Studies not supporting the superior deal hypothesis

On the other hand, there are also studies that find empirical observations contradicting the superior deal hypothesis. Ismail (2010) found that top advisors were involved in most of the large losses, and that acquiring firms advised by top-tier investment banks lost, on average, around the announcement day, more than $42 billion while firms advised by second-tier advisors (who tend to have lower market share) gained about $13.5 billion. Ismail noticed that the impact of advisors, however, change over time, along with the macro economic environment. During the internet bubble, top advisors outperformed second-tier advisors, yet during the bear market, where most of the losses took place, they have underperformed second-tier advisors (Ismail, 2010). While Ismail (2010) failed to provide possible explanation for these findings, we suggest a potential factor playing a role behind these: advisor capacity. Due to their large capacity top advisors support a larger number of deals in good as well as in bad times. In good times, firms can afford top advisors with cash-flows they generate; in bad times, acquirers are more careful,

and will be more likely to hire top advisors. As M&A performances are more likely to be lower in bad times, top advisors are more likely to record larger losses, which explains why they underperformed lower-tier advisors during the bear market. During good times, performances are generally better, and due to their capacity, top advisors again support more deals, recording high returns for their clients, which explain the fact that they outperformed lower tier advisors during the boom. This is true especially when we consider dollar gains as the author did. While comparing "boutique advisors" (small, lower-tier advisors specialized in a particular segment or industry) to top advisors, Song et al. (2013) found that top-advisors were associated with higher premiums. They noticed that boutique-advisors were more niche or industry-skilled and industry-specific, and were able to obtain lower premiums for their acquiring clients (Song et al., 2013).

The above previous studies argued that lower-tier advisors are related to higher returns for their clients based on the *average* returns. However this study maintains the necessity to consider the number of deals. As top-advisors as those with higher market share and therefore bigger size, it is implied that they have the capacity to advise more deals compared with lower tier, and may choose any project as long as it provides a positive, although non high, return and at the same time increase their market share. As their performance throughout sample period is measured through average returns, one can argue that lower returns on some deals can pull downwards the average return. On the other hand one can believe that lower tier have a smaller capacity, and therefore will choose only projects with the highest returns, which will tend to pull their average return upward. If so, we cannot really say whether the lower or top-tier advisors outperformed the top or lower-tier advisors. In other words, the performance comparison must take the capacity difference into consideration.

In addition, Servaes and Zenner (1996) found that the tier of the advisor (top or second) did not affect abnormal returns earned by client firms. Similarly, Schiereck et al. (2009) found that there is no significant value effects for deals negotiated by different advisor tiers. In addition, Rau (2000), who found empirical observations that support the superior deal hypothesis when investigating tender-offers, discovered that it is not the case when it comes to mergers.[7] He found that merger deals supported by lower tier advisors exhibited a higher average CARs than those with top advisors.

Similarly, regarding the benefits of advisors hired by target firms, McLaughlin (1992) contended that the tier level of a target investment bank had no significant effect on the premium received by the target during the M&A process.

2.1.3 – Necessity of examination of long term operating performance

In a nutshell, there are studies that investigate the impact of hiring advisors on M&A performance, from the perspectives of both acquirers (the effect of advisors hired by acquirers) and targets (the influence of advisors hired by target companies), measured either by CARs around the announcement date or by premiums paid by acquiring firms. However, these studies reports inconclusive evidence so that the literature has not yet reached the consensus as to whether M&A advisors bring positive values to client firms (whether the superior deal hypothesis holds empirically).

In addition, previous literature has also failed in providing conclusive evidence on the impact of advisors' *presence* (as oppose to the absence) on firm value. Since hiring an advisor is

[7] Raghavendra Rau & Vermaelen (1998) found that acquiring firms in mergers underperform in the 3-year period following the merger whereas acquirers in tender offers record small but significant positive returns in the same period.

a common practice (advisors intervened in about 85% of deals worldwide in 2007 (Golubov et al., 2012)), studies have analyzed the difference between value created by top-tier advisers and non-top-tier counterparts, categorized based on their reputations measured by their past market-share and fee structure (Rau, 2000). Another gap in the literature is that no study (to our best knowledge) has examined the long term operating performance of deals with advisors (deals with top advisors) in comparison to those without (those with lower-tier advisors). There is a massive literature on M&A long-term operating performance *in general* (as oppose to the literature on M&A long-term operating performance *in relation to the role of advisors*). However, this "general" literature on M&A long-term operating performance itself has not yet reached the consensus. Some studies reported lower long-term performance for combined firms after M&As than matched counterparts; while others did not detect a significant difference between the two.[8] .

Accordingly, this study addresses the above two gaps in the literature by investigating the impact of advisors: (1) in terms of both the short-term market reactions and the long term operating performance; and, (2) in the context of Canada, where hiring an advisor is not a common practice for M&A transactions, allowing the comparison of deals with advisors and those without. It performs the above analyses using two samples: the first sample includes all the completed Canadian deals during the 2001-2015 period, and the second one is a subsample of the first one, consisting of only deals with stock payment. Stock acquisitions are more complex, and thus tend to generate lower returns. Therefore, the impact of advisors might be more easily

[8] In Canada, for example, Dutta and Jog (2009) did not find any evidence of value destruction in terms of long-term operating performance based on a sample of 1300 Canadian deals between 1993 and 2002.

manifested in the second sample. By doing so, this study aims to provide additional insights to the debates on the inconsistency in the empirical findings among existing studies. [9]

2.2 - Deal completion hypothesis

Another relevant hypothesis - the completion hypothesis (also known as the passive execution hypothesis by Bao and Edmans(2011)) – contends that advisors are also executors, being hired for smooth negotiation with the other party and to increase the chance and speed of deal completion (Rau, 2000). Rau (2000) argued that the fee structure by advisors and their motivation to increase their market shares give advisors an incentive to complete deals.

Rau (2000) found that market share (the variable frequently used to identify top or lower-tier advisors) is not related to post-acquisition performance of acquiring firms, which suggests that advisors are not chosen based on track performance record, and supports the completion hypothesis. He found that top-tier advisors completed a significantly larger proportion of their deals (mergers and tender offers) than lower-tier advisors. Bao and Edmans (2011) also found evidence that supports deal completion hypothesis in mergers. Hunter et al. (2003), assuming that being a top advisor is synonym of making greater effort, came also to the conclusion that top advisors were better able to complete deals than lower-tier advisors and that probability is even enhanced when a larger number of advisors are hired on one side (either acquirer or target sides). Golubov et al. (2012), however, did not find significant evidence that top-tier advisors were associated with high completion rates.

[9] Loughran and Vijh (1997), Linn and Switzer (2001), and Dutta and al. (2013) report significant differences in M&A performance between deals with cash payment and those with stock payment. Appendix B discusses factors affecting acquiring firms' choice of payment method.

While studies exhibit mixed results as to whether top advisors have a higher average deal completion rate or not, research (to date) appears to agree regarding the speed of completion. Hunter et al. (2003) and Golubov et al. (2012) found that top-tier advisors were more efficient in terms of deal completion speed. Hunter et al. (2003) report that, while the speed gets slower as the number of top-tier advisors increased due to increased complexity (considering both acquiring and target sides), it becomes faster when fees are contingent on deal completion. They also noticed that deals initiated by advisors took on average longer time to be completed than when they are initiated by clients, suggesting that firms hire advisors after having developed clear ideas about their merger projects and mostly solicit the advisor to complete the deal.

This study revisits the deal completion hypothesis through the comparison of time to completion between deals with advisors to those without (as well as "between deals with top advisors to those with lower tier advisors"). By doing so, it again aims to shed additional light to the empirical debate on the hypothesis, where most existing studies compare deals with top advisors and those with lower-tier counterparts.

Chapter 3: Research questions

This paper has two purposes. First, it examines the characteristics of firms that use advisors in Canada. More specifically, it aims to uncover: (1) what type of firms hires advisors; and, (2) what type of firms hires *top* advisors. Second, this paper investigates the two main hypotheses from the latent literature, reviewed in the previous chapter (Chapter 2). As part of the empirical investigation of the hypotheses (the second purpose) this study also examines the relationship between M&A performance and the presence of M&A (top) advisors after controlling for the method of payment.

Research question A: M&A advisory market in Canada

As discussed in the introduction part (Chapter 1), the market for corporate control in Canada differs from that in the US in several respects. Accordingly, this study starts its empirical investigation with addressing the following two fundamental questions on the characteristics of firms hiring advisors:

a) What types of firms are more likely to hire advisors?

b) What types of firms are more likely to hire top advisors?

Research Question B: Testing two hypotheses on M&A Advisors

B 1: Testing the superior deal hypothesis

As mentioned, this study examines whether the empirical observations support the two hypotheses proposed on M&A advisors. The first one, the superior deal hypothesis, stipulates that firms advised by top-advisors should exhibit, on average, better M&A performance than those advised by lower-tier advisors (Rau, 2000). This study assesses the impact of M&A advisors by comparing deals with advisors to those without, and deals with top advisors to those with lower tier advisors. Accordingly, it runs OLS regressions on M&A performance against the dummy variable indicating the presence of an advisor/a top advisor in the deal. The superior deal hypothesis will be supported if, after controlling for deal and firm characteristics, the coefficient of the advisor/top advisor dummy variable is positive and significant.

This study assesses M&A performance with two measures: cumulative abnormal returns (CARs) around the announcement day (short term stock market performance measure) and the ratio of the EBITDA/TA (long term operating performance measure). By using the short-term stock market performance, it examines the following research questions:

a) Are acquiring firms with an advisor more likely to record higher abnormal return in the short-run?

b) Are acquiring firms with a top advisor more likely to record higher abnormal return in the short-run compared to other acquiring firms?

Golubov et al. (2012) argued that top advisors have the ability to find synergetic matches between acquirers and targets. As synergy takes time to materialize, long-term operating performance is a good measure to assess the extent to which the M&A transaction has generated

the synergy. We measure operating performance with the ratio of EBITDA (Earnings before interest, tax, depreciation, and amortization) to total assets. This measure is independent from the firm's selection of accounting method to deal with depreciation and amortization and its capital structure (Healy et al., 1992). Using this ratio rather than the dollar value makes comparison more meaningful since firms may have different level of dollar cash flow depending on their size. In addition, this ratio captures the firm's ability to generate cash flow through its use of assets available. The synergy created by an M&A deal should be internal, reflected into improvement in its operations and cash generating abilities. The CAR is a measure for market reaction, which is influenced by noise, investor cognitive biases, and media coverage where players (advisors and firms) with big names tend to be more publicized around the deal announcement period.

Accordingly, in this study the improvement in performance brought by an M&A transaction is measured by the difference between the median EBITDA to assets for 3 years prior to, and for 3 years after, the M&A transaction. This difference is denoted Delta-EBITDA to Assets. Delta-EBITDA to Assets could be influenced not only by the M&A transaction but also by changes in the economic and industry setting. To control for the economy or industry effects on the firm's operating performance, this study uses adjusted Delta-EBITDA to Assets, which is the change in difference between EBITDA to Assets of the company (i.e., the acquirer under consideration) and that of a matched counterpart. A matching firm is chosen based on the following three criteria: industry, size, and growth potential.[10] In other words, a matching firm must: (1) belong to the industry where the acquirer operates; (2) be of the same size (total assets) as, and have a similar growth potential (price to book ratio) to, the acquirer (the matching firm's

[10] This is based on the assumption that changes in economy and industry environment hit similar companies in similar ways, where similar companies are identified based on the industry, size, and the growth potential.

values should not be outside of the ±50% range of the acquirer's); (3) have not completed acquisition for 3 years prior to the year in which the deal of the acquirer occurred. The adjusted EBITDA to Assets is the difference between the acquirer's median EBITDA to assets and the matching firm's. The adjusted Delta-EBITDA to assets is therefore the change in median of the adjusted EBITDA to assets between 3 years prior to, and the 3 years after the deal.

Using this "adjusted Delta-EBITDA to assets" as the measure for long term operating performance, this study examines the following two research questions:

c) Are acquiring firms with an advisor more likely to record higher operating performance?

d) Are acquiring firms with a top advisor more likely to record higher operating performance compared to other acquiring firms?

Because the impact of advisors might be more easily manifested in cases where stock was the payment method (as stock acquisitions are more complex, and thus tend to generate lower returns), this paper revisits the superior deal hypothesis with the sample consisting of stock acquisitions only. By doing this, this study addresses the following two research questions:

e) Compared to the firms without any advisor, do firms with an advisor generate higher returns (both short and long-term) when they use stock as payment method?

f) When firms use advisors, do top advisors generate higher returns (both short and long-term) when they use stock as payment method?

B 2: Testing the deal completion hypothesis

The second hypothesis is the deal completion hypothesis, which stipulates that the fee structure earned by advisors gives advisors incentive to just complete deals in order to increase the market share (Rau, 2000) with a lower concern for client firms' value creation. There are

widespread beliefs that higher market share implies higher quality of service, and that the choice of the advisor is less based on an assessment of its past performance. These beliefs give advisors an incentive to accept even value-decreasing deals just for the purpose of increasing the market share as well as the chance to appear in the league table that received the media attention, thereby increasing the chances to be selected in the future. From the viewpoint of client companies, they might hire an advisor for its negotiation and deal-closing skills, expecting advisors to make it certain that the deal is completed in a timely fashion. These arguments could be truer for the top advisors.

The test of the completion hypothesis uses the OLS regressions on time elapsed between deal announcement and deal completion days against the dummy variable indicating the presence of an advisor/a top advisor in the deal. It addresses the following research questions:

a) Are acquirer firms with an advisor more likely to complete a deal faster than acquirer firms without an advisor?

b) Are top advisors more likely to complete deals faster compared to other advisors?

Chapter 4: Data and methodology

4.1 - Sample

Our sample consist of Canadian companies primarily listed on the Toronto stock exchange (TSX), which have completed at least one M&A deal with a minimum value of $1 Million CDN from 2001 to 2015. The sample retains only acquiring firms of which nationality is Canada. As we are interested in deals through which the acquirer gains post-deal control of the ownership of the target, we consider only transactions where the acquirer would own more than 50% stake of the target companies after the deal (upon completion). Acquiring firms in the sample are in non-financial services industry. After retrieving M&A deals data from SDC Platinum database and after applying the above criteria, we obtain a sample of 2079 M&A deals.

We collected TSX listed firms accounting data from StockGuide database. Daily stock returns for the analyses of short-term M&A performance are collected from CFMRC (Canadian Financial Markets Research Centre) for the sample period. Finally, to strengthen our analyses we have manually collected corporate governance information on acquiring firms in our sample from proxy statements filed on Sedar.com. 791 deals, for which we are able to find deal, accounting, and stock return information comprise our final sample.

4.2 - Methodology

It is worth mentioning that an advisor could have put all the effort to identify and negotiate synergetic deals but the post-transaction outcome happens to be less favourable with

regard to value accrued to the client firm. That is to say that the performance outcome of an M&A deal is not fully attributable to the advisor. Many factors beyond the control of the advisor can impact the outcome although the advisor put reasonable effort to ensure value creation. This suggests that controlling for acquirer, target, and deal characteristics is crucial to extract the "pure" impact of an advisor; accordingly the analyses of this study include as many control variables as possible. We expect that this would reduce the noise in M&A performance resulting from factors other than advisors' contributions.

Table 1 present all the variables used in this study and their description.

Table 1: Variables description

Variable	Description
Advisor dummy	A dummy variable that takes value 1 if the acquirer uses an advisor, and 0 otherwise
Top advisor dummy	A dummy variable that takes value 1 if the acquirer uses a top advisor and 0 otherwise
Target advisor dummy	Dummy variable that takes value 1 if the target has an advisor, and 0 otherwise
CAR (-2,+2)	Cumulative abnormal return, cumulative sum of stock returns for the acquiring firm around announcement period (starting 2 days before announcement and ending 2 days after announcement); returns in excess of predicted returns as if the acquisition announcement had not happened
Delta-EBITDA to Assets	Difference between the medians of EBITDA to assets for the 3 years post-deal and the 3 years prior-deal adjusted for industry peers performance
EBITDA to Assets	Ratio of the acquiring firm's EBITDA (pre-tax income + interest + depreciation and amortization) to its total assets in the year of announcement
TIME	Time in days elapsed between the date of the merger announcement and date of its completion
Size	Size of the acquiring firm measured by the log of total assets at announcement

Relative size	The ratio of the value of the transaction to the size of the acquiring firm
Price to book ratio	The ratio of the acquiring firm's market value to its book value in the year of announcement
Debt to Equity ratio	The ratio of the acquiring firm's total debt to total equity in the year of deal announcement
Pure cash dummy	Dummy variable that takes value 1 if the deal is totally financed with cash, and 0 otherwise
Stock dummy	Dummy variable that takes value 1 if the deal is totally or partially financed with stock, and 0 otherwise
Tender	Dummy variable that takes value 1 if the deal is a tender offer and 0 otherwise
Public target dummy	Dummy variable that takes value 1 if the target firm is public, and 0 otherwise
Private target dummy	Dummy variable that takes value 1 if the target firm is private, and 0 otherwise
Subsidiary target dummy	Dummy variable that takes value 1 if the target firm is a subsidiary, and 0 otherwise
Cross border	Dummy variable that takes the value 1 if the target firm nation is not Canada, and 0 if Canada
Related acquisition	Dummy variable that takes the value 1 if acquiring and target firms are from the same industry as determined by the SIC 4digits industry classification, and 0 if not
Board independence	Percentage of board members of acquiring firm that are independent from the firm's management
Independent Chair	Dummy variable that takes value 1 if the acquiring firm Chairman is independent from firm's management, and 0 if not
Female CEO	Dummy variable which takes value 1 if the acquiring firm CEO is female
Percentage of female on Board	Percentage of board members of acquiring firm whose gender is female
CFO on Board	Dummy variable that takes value 1 if the acquiring firm Chief financial officer is a board member, and 0 if not
COO/CTO on Board	Dummy variable that takes value 1 if the acquiring firm Chief operating officer or Chief technical officer is a board member, and 0 if not
Block-holding percentage	Cumulative percentage of ownership of shareowners who individually owns more than 10% stake of the acquiring firm

Industry fixed-effects	Variable that controls for industry specific effects as determined by Fama-French 12 industry classification
Year fixed-effects	Variable that controls for announcement year specific effects

Our dependent variables are Advisor dummy (takes the value of one if the acquiring firm used an advisor for the given deal; zero otherwise), Top advisor dummy (takes the value of one if the acquiring firm used a top-tier advisor for the given deal; zero otherwise) for the research questions A; CAR (-2, +2) (the cumulative abnormal return between two days before and after the announcement day) for the research question B1-a, -b, -e, and –f; adjusted Delta-EBITDA to Assets for research question B1-c, -d, -e, and –f; and TIME to deal completion for research questions B2.

We use the following regression models to examine our research questions. All variables are described in Table 1.

RQ A-a: To examine the relation between firm and deal characteristics and the proclivity to hire an advisor using the logistic regression:

Advisor dummy = β_0 + β_1Size + β_2Relative size + β_3Price to Book ratio+ β_4EBITDA to Assets + β_5Debt to Equity ratio + β_6Purecash_dummy + β_7Public target dummy + β_8Private target dummy + β_9Cross-border dummy + β_{10}Tender + β_{11}Related acquisition + β_{12}Target advisor dummy + β_{13}Board independence + β_{14}Independent Chair + β_{15}Female CEO + β_{16}Percentage of female on Board + β_{17}CFO on Board + β_{18}COO/CTO on Board + β_{19}Block-holding percentage + β_{20}Year fixed-effects + β_{21}Industry fixed-effects

RQ A-b: To examine the relation between firm and deal characteristics and the proclivity to hire a top-advisor given an advisor is hired using the logistic regression:

Top advisor dummy = β_0 + β_1Size + β_2Relative size + β_3Price to Book ratio+ β_4EBITDA to Assets + β_5Debt to Equity ratio + β_6Purecash_dummy + β_7Public target dummy + β_8Private target dummy + β_9Cross-border dummy + β_{10}Tender + β_{11}Related acquisition + β_{12}Target advisor dummy + β_{13}Board independence + β_{14}Independent Chair + β_{15}Female CEO + β_{16}Percentage of female on Board + β_{17}CFO on Board + β_{18}COO/CTO on Board + β_{19}Block-holding percentage + β_{20}Year fixed-effects + β_{21}Industry fixed-effects

RQ B1 a & b: To examine the impact of M&A advisor on short-term M&A performance using the OLS regressions:

CAR (-2, +2) = β_0 + β_1Advisor dummy + β_2Size + β_3Relative size + β_4Price to Book ratio+ β_5EBITDA to Assets + β_6Debt to Equity ratio + β_7Purecash_dummy + β_8Public target dummy + β_9Private target dummy + β_{10}Cross-border dummy + β_{11}Tender + β_{12}Related acquisition + β_{13}Target advisor dummy + β_{14}Board independence + β_{15}Independent Chair + β_{16}Female CEO + β_{17}Percentage of female on Board + β_{18}CFO on Board + β_{19}COO/CTO on Board + β_{20}Block-holding percentage + β_{21}Year fixed-effects + β_{22}Industry fixed-effects

CAR (-2, +2) = β_0 + β_1Top advisor dummy + β_2Size + β_3Relative size + β_4Price to Book ratio+ β_5EBITDA to Assets + β_6Debt to Equity ratio + β_7Purecash_dummy + β_8Public target dummy + β_9Private target dummy + β_{10}Cross-border dummy + β_{11}Tender + β_{12}Related acquisition + β_{13}Target advisor dummy + β_{14}Board independence + β_{15}Independent Chair +

β_{16}Female CEO + β_{17}Percentage of female on Board + β_{18}CFO on Board + β_{19}COO/CTO on Board + β_{20}Block-holding percentage + β_{21}Year fixed-effects + β_{22}Industry fixed-effects

We further examine the impact of M&A advisors on acquirers' long-term operating performance. As presented before, our measure of long-term performance is the adjusted delta of median EBITDA to assets for each acquiring firm.

RQ B1 c & d: To examine the impact of M&A advisor on long-term M&A performance using the OLS regressions:

Delta-EBITDA to Assets = β_0 + β_1Advisor dummy + β_2Size + β_3Relative size + β_4Price to Book ratio+ β_5Debt to Equity ratio + β_6Purecash_dummy + β_7Public target dummy + β_8Private target dummy + β_9Cross-border dummy + β_{10}Tender + β_{11}Related acquisition + β_{12}Target advisor dummy + β_{13}Board independence + β_{14}Independent Chair + β_{15}Female CEO + β_{16}Percentage of female on Board + β_{17}CFO on Board + β_{18}COO/CTO on Board + β_{19}Block-holding percentage + β_{20}Year fixed-effects + β_{21}Industry fixed-effects

Delta-EBITDA to Assets = β_0 + β_1Top advisor dummy + β_2Size + β_3Relative size + β_4Price to Book ratio+ β_5Debt to Equity ratio + β_6Purecash_dummy + β_7Public target dummy + β_8Private target dummy + β_9Cross-border dummy + β_{10}Tender + β_{11}Related acquisition + β_{12}Target advisor dummy + β_{13}Board independence + β_{14}Independent Chair + β_{15}Female CEO + β_{16}Percentage of female on Board + β_{17}CFO on Board + β_{18}COO/CTO on Board + β_{19}Block-holding percentage + β_{20}Year fixed-effects + β_{21}Industry fixed-effect

We further revisit the impact of the presence of an advisor when stock is used as the payment method.

RQ B1 - e: To determine whether acquiring firms generate better returns in presence of an advisor when stock is used as the method of payment

Short/long-term performance = β_0 + β_1Advisor dummy + β_2Size + β_3Relative size + β_4Price to Book ratio+ β_5EBITDA to Assets + β_6Debt to Equity ratio + β_7Purecash_dummy + β_8Public target dummy + β_9Private target dummy + β_{10}Cross-border dummy + β_{11}Tender + β_{12}Related acquisition + β_{13}Target advisor dummy + β_{14}Board independence + β_{15}Independent Chair + β_{16}Female CEO + β_{17}Percentage of female on Board + β_{18}CFO on Board + β_{19}COO/CTO on Board + β_{20}Block-holding percentage + β_{21}Year fixed-effects + β_{22}Industry fixed-effects

RQ B1 - f: To determine whether acquiring firms generate better returns in presence of a top advisor when stock is used as the method of payment

Short/long-term performance = β_0 + β_1Top advisor + β_2Size + β_3Relative size + β_4Price to Book ratio+ β_5EBITDA to Assets + β_6Debt to Equity ratio + β_7Purecash_dummy + β_8Public target dummy + β_9Private target dummy + β_{10}Cross-border dummy + β_{11}Tender + β_{12}Related acquisition + β_{13}Target advisor dummy + β_{14}Board independence + β_{15}Independent Chair + β_{16}Female CEO + β_{17}Percentage of female on Board + β_{18}CFO on Board + β_{19}COO/CTO on Board + β_{20}Block-holding percentage + β_{21}Year fixed-effects + β_{22}Industry fixed-effects

RQ B2: To examine the impact of M&A advisor on deal completion time using the OLS regressions:

$$TIME = \beta_0 + \beta_1 Advisor\ dummy + \beta_2 Size + \beta_3 Relative\ size + \beta_4 Price\ to\ Book\ ratio + \beta_5 EBITDA\ to\ Assets + \beta_6 Debt\ to\ Equity\ ratio + \beta_7 Purecash\_dummy + \beta_8 Public\ target\ dummy + \beta_9 Private\ target\ dummy + \beta_{10} Cross\text{-}border\ dummy + \beta_{11} Tender + \beta_{12} Related\ acquisition + \beta_{13} Target\ advisor\ dummy + \beta_{14} Board\ independence + \beta_{15} Independent\ Chair + \beta_{16} Female\ CEO + \beta_{17} Percentage\ of\ female\ on\ Board + \beta_{18} CFO\ on\ Board + \beta_{19} COO/CTO\ on\ Board + \beta_{20} Block\text{-}holding\ percentage + \beta_{21} Year\ fixed\text{-}effects + \beta_{22} Industry\ fixed\text{-}effects$$

$$TIME = \beta_0 + \beta_1 Top\ advisor\ dummy + \beta_2 Size + \beta_3 Relative\ size + \beta_4 Price\ to\ Book\ ratio + \beta_5 EBITDA\ to\ Assets + \beta_6 Debt\ to\ Equity\ ratio + \beta_7 Purecash\_dummy + \beta_8 Public\ target\ dummy + \beta_9 Private\ target\ dummy + \beta_{10} Cross\text{-}border\ dummy + \beta_{11} Tender + \beta_{12} Related\ acquisition + \beta_{13} Target\ advisor\ dummy + \beta_{14} Board\ independence + \beta_{15} Independent\ Chair + \beta_{16} Female\ CEO + \beta_{17} Percentage\ of\ female\ on\ Board + \beta_{18} CFO\ on\ Board + \beta_{19} COO/CTO\ on\ Board + \beta_{20} Block\text{-}holding\ percentage + \beta_{21} Year\ fixed\text{-}effects + \beta_{22} Industry\ fixed\text{-}effects.$$

Chapter 5: Findings

5.1 - Descriptive statistics

Table 2 presents the descriptive statistics of the main variables used in this study, for the complete sample; the sample of deals without an advisor; and the sample of deals with at least one advisor. In Panel A, we present the aggregate value of all transactions per year of announcement, as well as mean, median, and the standard deviation of the transaction values of deals in a given year.

Out of 791 deals in the sample, 239 (30% of the sample) deals had an advisor on the acquiring side. However this 30% of deals accounts for 81.5% ($180,618 of $221,703) of the total deal value. This shows that advisors tend to be hired for larger deals; they intervene in a small number but large transactions.

Panels B and C present acquiring firms' characteristics and corporate governance information, respectively. Panel B shows that on average acquiring firms with an advisor are significantly larger (in term of size (market capitalization), total assets, book value per share, net sales, etc.). Deals with an advisor (on acquirer side) seem to take longer to be completed compared to deals in which the acquirer had no advisor, probably because deals supported by advisors involve larger transactions (as indicated by Panel A), which could be synonym of increased due diligence and longer negotiations. Looking at corporate governance characteristics, acquiring firms with advisors tend to have higher board independence (higher percentage of board members who are not related to the firm's management), as well as independent chairs. They exhibit, on average, the percentage of block-holding (cumulative percentage of ownership

by principal shareholders who individually own at least 10% stake in the firm) significantly lower than those without advisors.

Panel D presents deal characteristics. It shows that acquirers with advisors are more likely to use stock for payment over cash. Pure cash as method of payment was mostly observed with acquiring firms without an advisor. Advisors are more likely present in tender offers, when the target company had an advisor, and when the target was a public company. Surprisingly cross-border deals were significantly more frequent among deals without advisors than among those with advisors.

Table 3 presents the correlation matrix of the main variables.

Table 2: Descriptive Statistics

Table 2 presents the descriptive statistics for a sample of Canadian TSX listed acquiring firms from 2001 to 2015 drawn for SDC Platinum database. Panel A presents the aggregate transaction value, the mean, median, and standard deviation of transaction value per year for the group of acquirers (0) which had no advisor and for the group of acquirers (1) which had an advisor. Panel B presents the mean, median, and standard deviation of transaction value for acquirers' characteristics which are accounting data collected from SDC platinum and Stock-Guide databases. N represents the number of observations for which data was available. The p-value of the difference in means for each variable between groups (0) and (1) is also presented. Panel C presents the statistics for acquirers' corporate governance for each group of acquirer. Count represents the number of acquirers for each group for which the dummy variable representing the characteristic takes value 1. Panel D presents the statistics for deal and target characteristics. Percentages represent the ratio of the each acquirer group for which the dummy variable representing the characteristic takes value 1. Transaction values are in US dollars. Other values are in Canadian dollars.

Panel A: Aggregate transaction value per year

	No advisor (0)					With an advisor (1)					All sample				
Year	**Transaction Value(Mil)**	**Mean**	**Median**	**Std. deviation**	**N**	**Transaction Value(Mil)**	**Mean**	**Median**	**Std. deviation**	**N**	**Transaction Value(Mil)**	**Mean**	**Median**	**Std. deviation**	**N**
2001	2,271.696	73.281	10.374	140.903	31	5,503.025	458.585	216.277	567.640	12	7,774.721	180.807	19.825	359.375	43
2002	1,717.621	52.049	9.964	82.275	33	3,856.872	350.625	177.885	462.977	11	5,574.493	126.693	22.850	268.309	44
2003	4,006.266	117.831	21.675	188.742	34	1,509.892	251.649	97.789	411.310	6	5,516.158	137.904	39.475	232.753	40
2004	1,769.985	70.799	10.761	127.847	25	3,643.807	728.761	296.606	948.394	5	5,413.792	180.460	26.904	446.978	30
2005	1,320.475	45.534	11.200	82.900	29	490.539	122.635	126.711	54.355	4	1,811.014	54.879	24.400	83.327	33
2006	1,736.185	46.924	17.978	90.505	37	9,620.623	874.602	211.941	1,335.597	11	11,356.808	236.600	22.000	713.722	48
2007	3,579.883	94.207	14.190	309.500	38	11,484.340	883.411	605.144	1,000.843	13	15,064.223	295.377	28.870	657.229	51
2008	1,777.802	49.383	33.531	70.763	36	4,846.096	403.841	285.129	266.990	12	6,623.898	137.998	41.075	210.882	48
2009	1,800.797	51.451	14.382	78.447	35	20,541.700	1,141.206	205.305	3,621.561	18	22,342.497	421.557	29.000	2,136.193	53
2010	2,641.189	69.505	10.590	178.968	38	15,605.000	780.250	192.914	1,621.932	20	18,246.189	314.589	37.091	1,006.880	58
2011	3,527.620	90.452	18.049	276.514	39	9,168.782	352.645	197.929	471.561	26	12,696.402	195.329	67.363	386.028	65
2012	3,100.891	79.510	27.816	129.086	39	25,235.120	814.036	430.940	1,127.049	31	28,336.011	404.800	99.164	834.568	70
2013	3,104.558	67.490	21.321	116.486	46	23,588.010	1,025.566	215.254	2,564.563	23	26,692.568	386.849	42.790	1,530.949	69
2014	5,324.394	123.823	28.894	432.673	43	22,969.120	850.708	347.175	1,423.449	27	28,293.514	404.193	75.170	1,002.224	70
2015	3,406.054	69.511	23.000	141.051	49	22,555.220	1,127.761	256.346	2,358.352	20	25,961.274	376.250	37.000	1,342.382	69
Total	**41,085.416**	**74.430**	**18.193**	**196.418**	**552**	**180,618.146**	**755.725**	**243.206**	**1,690.310**	**239**	**221,703.562**	**280.283**	**37.982**	**992.806**	**791**

Panel B: Acquiring firm characteristics

	No advisor (0)				With an advisor (1)				(0) - (1)	All sample			
	Mean	Median	Std. Deviation	N	Mean	Median	Std. Deviation	N	p-value	Mean	Median	Std. Deviation	N
Assets at Announcement (Bil)	3.07	5.75	6.88	528	5.78	2.09	9.67	232	0.000	3.89	8.48	7.93	760
Book value per share	9.506	4.861	38.103	528	15.524	8.118	52.161	232	0.075	11.343	5.566	42.940	760
Cash flow to debt	155.118	0.515	365.452	489	129.788	0.485	347.434	225	0.383	147.136	0.501	359.821	714
Price to EBITD	165.281	9.183	358.013	523	177.072	8.782	369.207	230	0.681	168.883	9.179	361.264	753
Net Margin	-0.176	0.064	3.117	486	14.098	0.066	226.911	218	0.166	4.244	0.064	126.268	704
Debt to Equity	0.775	0.223	2.441	528	0.726	0.458	0.881	232	0.767	0.760	0.358	2.091	760
EBITDA to Assets	0.082	0.108	0.167	528	0.084	0.097	0.122	232	0.819	0.082	0.106	0.155	760
Price to Book	8.189	2.021	75.429	523	6.279	1.640	65.823	230	0.740	7.606	1.876	72.592	753
Total Assets LTM (Mil)	2,843.118	488.700	6,502.796	534	4,874.353	1,734.900	8,461.692	231	0.001	3,456.471	678.700	7,206.016	765
Common Equity LTM (Mil)	1,214.700	280.985	2,766.811	534	2,280.437	922.110	3,711.241	231	0.000	1,536.511	402.080	3,118.777	765
Book Value Per share LTM	9.796	4.920	30.774	525	15.271	8.120	46.277	231	0.056	11.469	5.715	36.277	756
Net Sales LTM (Mil)	1,649.903	324.300	3,544.250	500	2,416.136	758.800	4,732.052	221	0.017	1,884.768	471.200	3,958.918	721
EBITDA LTM (Mil)	370.775	60.350	983.607	531	690.295	188.335	1,305.198	230	0.000	467.344	94.850	1,099.797	761
Days elapsed	61.056	25.000	129.753	552	86.222	61.000	74.228	239	0.005	68.660	43.000	116.345	791

Panel C: Acquiring firm corporate governance variables

	No advisor (0)						With advisor (1)						(0) – (1)	All sample					
	Min	Max	Mean	Median	Std. deviation	N	Min	Max	Mean	Median	Std. deviation	N	p-value	Min	Max	Mean	Median	Std. deviation	N
Board Independence	0.2	1	0.7221	0.7273	0.1403	546	0.286	1	0.760	0.778	0.127	238	0.0005	0.2	1	0.734	0.750	0.137	784
Female board member	0	0.5	0.0706	0.0000	0.1015	546	0	0.417	0.070	0.000	0.095	238	0.9900	0	0.5	0.071	0.000	0.100	784
Block-holding (%)	0	100	25.9345	17.0700	28.5173	546	0	99.900	17.635	10.465	24.303	238	0.0000	0	100	23.415	14.215	27.557	784

	Count	Percent	Std. deviation	N	Count	Percent	Std. deviation	N	p-value	Count	Percent	Std. deviation	N
Female CEO	11	0.020	0.141	545	6	0.025	0.157	238	0.6575	17	0.022	0.146	783
CFO on board	39	0.072	0.258	545	15	0.063	0.244	238	0.665	54	0.069	0.254	783
COO/CTO on board	49	0.090	0.286	546	19	0.080	0.272	238	0.651	68	0.087	0.282	784
Independent Chair	251	0.460	0.499	546	137	0.576	0.495	238	0.003	388	0.495	0.500	784

Panel D: Deal and Target characteristics

	No advisor (0)			With an advisor (1)			(0)-(1)	All sample		
Variables	**Transaction Value(Mil)**	**N**	**Percentage**	**Transaction Value(Mil)**	**N**	**Percentage**	**p-value**	**Transaction Value(Mil)**	**N**	**Percentage**
Payment Method										
Cash offer	12,368.82	140	25.36%	26,095.47	44	18.41%	0.000	38,464.29	184	23.26%
Stock offer	4,170.65	60	10.87%	50,955.30	65	27.20%	0.000	55,125.95	125	15.80%
Mixed offer	7,219.39	143	39.18%	88,914.68	96	45.93%	0.115	96,134.07	239	41.64%
Target Status										
Public deals	6,010.81	66	11.96%	128,225.80	135	56.49%	0.000	134,236.61	201	25.41%
Private deals	9,367.15	255	46.20%	15,388.00	42	17.57%	0.000	24,755.15	297	37.55%
Other deals (Subsidiary…)	25,707.46	231	41.85%	37,004.40	62	25.94%	0.000	62,711.86	293	37.04%
Other characteristics										
Cross-Industry deals	9,665.22	149	26.99%	33,413.02	56	23.43%	0.295	43,078.24	205	25.92%
Cross-border deals	19,934.14	279	50.54%	71,413.59	73	30.54%	0.000	91,347.73	352	44.50%
Tenders	326.05	10	1.81%	32,437.43	41	17.15%	0.000	32,763.48	51	6.45%
Target with advisor	26,408.38	142	25.72%	173,348.70	195	81.59%	0.000	199,757.08	337	42.60%

Table 3: Correlation table

This table present the pairwise correlation of the variables presented in Table 1. Below each correlation is presented the significance level (p-value). The sample consists of acquisitions from Canadian TSX listed acquiring firms from 2001 to 2015.

	Advisor dummy	Top advisor	CAR (-2, +2)	Delta-EBITDA	Time	Target advisor	Size	Relative size	Pure cash dummy	Public target	Private target	Related acquisition
Advisor dummy	1											
Top advisor	0.6849	1										
	0											
CAR (-2, +2)	-0.1188	-0.099	1									
	0.0021	0.0104										
Delta-EBITDA	-0.0103	-0.0354	0.0302	1								
	0.7935	0.3685	0.4699									
Time	0.1812	0.1709	-0.0226	-0.0059	1							
	0	0	0.5607	0.882								
Target advisor	0.5255	0.3439	-0.1288	-0.0334	0.152	1						
	0	0	0.0009	0.397	0							
Size	0.2876	0.3311	-0.1257	-0.066	0.1025	0.3362	1					
	0	0	0.0012	0.0939	0.005	0						
Relative size	0.0965	0.0071	-0.0263	0.0387	0.0139	0.0619	-0.1542	1				
	0.0082	0.8469	0.5002	0.3259	0.7042	0.0904	0					
Pure cash dummy	-0.1729	-0.0254	0.0301	0.0486	-0.0869	-0.0502	0.145	-0.0549	1			
	0	0.5462	0.5078	0.2888	0.0386	0.2326	0.0007	0.201				
Public target	0.466	0.2204	-0.1759	-0.0566	0.2557	0.442	0.0971	0.0837	-0.2202	1		
	0	0	0	0.151	0	0	0.0079	0.0218	0			
Private target	-0.2832	-0.1838	0.0807	-0.018	-0.365	-0.3509	-0.2645	-0.0403	-0.0215	-0.4647	1	
	0	0	0.0371	0.6474	0	0	0	0.2705	0.61	0		
Related acquisition	0.1109	0.0241	-0.0566	-0.012	0.0102	0.0879	-0.0001	0.0264	-0.0838	0.1252	-0.0199	1
	0.002	0.5026	0.1438	0.7617	0.7768	0.0143	0.998	0.4696	0.046	0.0005	0.5804	
Cross-border	-0.1809	-0.1234	0.1331	-0.0345	-0.0174	-0.0823	-0.0328	-0.0382	0.1366	-0.2455	0.0548	-0.1231
	0	0.0006	0.0006	0.3811	0.6284	0.0218	0.3705	0.2956	0.0011	0	0.1268	0.0006

Table 3: Correlation table (Continued)

	Advisor dummy	Top advisor	CAR (-2, +2)	Delta-EBITDA	Time	Target advisor	Size	Relative size	Pure cash dummy	Public target	Private target	Related acquisition
EBITDA to assets	0.0095	0.015	-0.0495	-0.2565	-0.0705	0.0363	0.3105	-0.156	0.1699	-0.0975	0.0648	-0.0169
	0.7961	0.6823	0.2044	0	0.0541	0.3215	0	0	0.0001	0.0077	0.0769	0.6452
Price to book	-0.0131	-0.0363	-0.0684	0.1379	0.0057	0.0076	-0.0957	0.0038	0.0013	0.0387	-0.0561	0.0348
	0.7227	0.3244	0.0806	0.0004	0.8777	0.8375	0.0092	0.9182	0.976	0.2929	0.127	0.3441
Debt to Equity	-0.0102	0.018	0.0851	-0.0535	-0.0039	0.0094	0.1044	-0.0201	-0.067	-0.0881	0.0793	-0.0998
	0.7809	0.6235	0.0291	0.1746	0.9144	0.7968	0.0043	0.5838	0.1192	0.016	0.0301	0.0063
Tender	0.285	0.2367	-0.0261	-0.0581	0.1889	0.2341	0.0954	-0.0088	0.0882	0.4368	-0.2085	-0.0006
	0	0	0.5005	0.1401	0	0	0.0091	0.8102	0.0358	0	0	0.9866
Board independence	0.1301	0.0965	-0.0163	0.0009	0.0552	0.1666	0.2539	-0.0179	0.0065	0.0411	-0.0944	0.0686
	0.0003	0.0074	0.6758	0.9818	0.1261	0	0	0.6252	0.8769	0.2545	0.0088	0.057
Female CEO	0.0141	0.0009	-0.0662	0.0065	0.0368	-0.0208	-0.0047	-0.0058	0.0147	0.0323	-0.0099	-0.0126
	0.6956	0.9806	0.0891	0.8693	0.3077	0.5642	0.8986	0.8741	0.7277	0.3707	0.7844	0.728
Female board member	-0.0005	0.0866	-0.0536	-0.0315	0.091	0.0406	0.364	-0.0218	0.1285	-0.0915	-0.0315	-0.1724
	0.9884	0.0163	0.1686	0.426	0.0115	0.26	0	0.5535	0.0022	0.0111	0.3829	0
CFO on board	-0.0189	-0.0189	-0.0154	-0.0295	-0.0436	-0.0188	-0.0236	-0.027	0.0212	0.0468	0.0127	-0.0163
	0.6016	0.6005	0.6924	0.4559	0.2276	0.6033	0.5212	0.4631	0.6155	0.195	0.7251	0.6526
COO/CTO on board	-0.017	0.0041	-0.0057	0.0655	0.0352	-0.0213	-0.1237	0.0092	-0.0149	0.0388	-0.0166	-0.0026
	0.6368	0.9088	0.8845	0.0976	0.3292	0.5558	0.0007	0.8019	0.7235	0.2825	0.645	0.9424
Independent Chair	0.1081	0.1212	-0.068	-0.047	0.0978	0.0588	0.1336	0.0404	-0.1113	0.021	-0.0665	0.1146
	0.0027	0.0007	0.0804	0.2353	0.0066	0.1028	0.0003	0.271	0.0082	0.5613	0.0649	0.0015
Block-holding	-0.14	-0.0544	0.0781	0.0236	-0.0214	-0.0706	-0.0926	-0.0184	0.1907	-0.1936	0.1101	-0.2362
	0.0001	0.1317	0.0447	0.5506	0.5532	0.0501	0.0117	0.6161	0	0	0.0022	0

Table 3: Correlation table (Continued)

	Cross-border	EBITDA to assets	Price to book	Debt to Equity	Tender	Board independence	Female CEO	Female board member	CFO on board	COO/CTO on board	Independent Chair	Block-holding
Cross-border	1											
EBITDA to assets	-0.0009	1										
	0.9805											
Price to book	0.0124	-0.2744	1									
	0.736	0										
Debt to Equity	0.0622	0.0678	-0.3704	1								
	0.0895	0.0642	0									
Tender	-0.0361	0.0601	-0.0188	-0.0224	1							
	0.315	0.1008	0.6094	0.5403								
Board independence	-0.005	0.0288	0.0412	-0.0674	0.0166	1						
	0.8892	0.4345	0.2654	0.0665	0.6452							
Female CEO	-0.0437	-0.011	-0.0116	0.0381	0.1038	-0.1497	1					
	0.2264	0.7655	0.7537	0.3001	0.0039	0						
Female board member	0.05	0.0866	-0.0397	0.1696	0.041	0.1046	0.2722	1				
	0.1654	0.0184	0.2827	0	0.2553	0.0037	0					
CFO on board	-0.0786	0.0406	-0.0215	-0.0454	0.072	-0.2274	-0.0414	-0.0802	1			
	0.0293	0.2705	0.5619	0.2173	0.0459	0	0.2521	0.0261				
COO/CTO on board	0.0148	-0.0945	0.0443	-0.0979	-0.0066	-0.2773	0.0163	-0.0729	-0.0308	1		
	0.6826	0.01	0.2311	0.0077	0.8559	0	0.6523	0.0433	0.3943			
Independent Chair	-0.0379	0.0389	-0.0385	0.0192	-0.0605	0.5135	-0.0248	0.0645	-0.1902	-0.029	1	
	0.2933	0.2901	0.2973	0.6018	0.0934	0	0.4927	0.0735	0	0.4209		
Block-holding	0.1179	0.0415	-0.0108	0.0635	-0.0291	-0.2351	-0.035	0.181	0.0652	0.0991	-0.2115	1
	0.001	0.2595	0.7704	0.0842	0.4197	0	0.3318	0	0.0708	0.0059	0	

5.2 - Determinants of the choice of an advisor

Table 4 presents the results of the logistic regression analyses on the determinants for firms to choose hiring an advisor. Model (1) exhibits the results of the base model, where only acquiring firm characteristic variables are included; and Model (2) presents the results of the full model, to which the target and deal characteristic variables are added to the base model. Both models controlled for year and industry fixed effects.

The base model results (Model 1) show that size has a positive and significant impact, with a coefficient of 0.490 and 1% significance level, on the choice of an advisor. The higher (lower) the size of an acquiring firm the more (less) likely that firm is to choose an advisor for an M&A deal. Size indicates availability of financial resources to afford an advisor. Large firms are also more likely to engage in large M&A transactions where hiring an advisor becomes necessary. Guo et al. (2018) hypothesize that high availability of cash flow may stimulate overconfidence and decrease the likelihood of relying on an advisor. This hypothesis is not strongly supported by the results as EBITDA to total assets is only marginally significant (at a 10% level). The conservative nature of females may explain the increased odds of choosing an advisor with a 5% significance level for firms with female CEOs. Surprisingly, however, the higher (lower) the percentage of female on board, the less (more) likely is a firm to choose an advisor at 1% significance level.

In Model 2, the results of the full model are presented. The inclusion of target and deal characteristic variables does not change the impact of size (the size variable is still positive and significant at 1% level). However, the gender of CEO and board members are no longer significant. Similarly, EBITDA to total assets is no longer significant. Instead, price to book ratio turns out to be negative and marginally significant (at 10% level). The acquiring firm stock

overvaluation may stimulate overconfidence which has a negative impact on the choice of an advisor.

The relative size (ratio of the transaction value to the acquirer size) is positive and significant at 1%. Intuitively, the higher the size of the target to the acquirer the more likely the acquiring firm is to hire an advisor to deal with the arising complexity. The presence of an advisor on the target side has a strong positive significant effect on the decision of the acquirer to hire one also. This supports the bargaining and signaling hypotheses. The bargaining hypothesis implies that an acquirer will chose to have an advisor on its side to better negotiate a deal, and to balance the power especially when the target has chosen to do so. The signaling hypothesis stipulates that the choice of an advisor on the target side sends a strong signal to the acquiring firm that the target is a good company to acquire, and that target is engaged in getting the most of the expected synergy value out at the deal completion.

Firms are significantly more likely to hire an advisor when executing a tender offer (at 1% level of significance). Tender offers involve lengthy and thorough negotiation processes, which may increase complexity and thus prompt acquirers' need for an advisor. Offering cash as method of payment is often a straightforward approach compared to stock offering. It therefore reduces the need of having an advisor. This is demonstrated by a strong negative and significant coefficient for the pure cash payment variable. Finally, the cross-border variable shows a negative relationship with the choice of an advisor (although not strongly significant, only a 10% level). This is counterintuitive as geographical distance to target companies is expected to increase the level of information asymmetry and thus deal complexity due to lack of local knowledge, necessitating an advisor's support on the acquirer side. One potential explanation for this finding relates to the relative size difference between the acquirer and the target of cross-

border deals. Our sample reveals that cross-border targets were relatively small in size compared to the acquirers (Appendix B), which reduces the need to hire an advisor. Another possible explanation is that the high costs associated with cross-border deals make acquiring firms reluctant to spend extra dollars in hiring, or unable to afford, advisors.

Table 4: Logistic regression analysis of the choice of an advisor

Table 4 presents the logistic regression of the choice of an advisor on acquiring firm, target firm, and other deal characteristics on a sample of Canadian TSX listed acquiring firms from 2001 to 2015. Model (1) presents the results after controlling for only the acquiring firm characteristics. Model (2) presents the results after controlling for also the target and deal characteristics. All variables are defined in Table 1. All models control for year and industry fixed effects whose coefficients have been omitted. Robust standard errors are in parentheses. The symbols ***, **, *, are statistical significance at 1%, 5%, and 10% levels, respectively. Observations denote the number of cases for which we have complete data and which were used in the corresponding regression models.

	(1)	(2)
VARIABLES	**Acquirer characteristics**	**All characteristics**
Size	0.490***	0.591***
	(0.0704)	(0.124)
EBITDA to Assets	-1.452*	0.875
	(0.791)	(0.954)
Price to book ratio	-0.00190	-0.187*
	(0.00324)	(0.113)
Debt to Equity ratio	-0.147	-0.176
	(0.127)	(0.203)
Board independence	0.474	-0.0963
	(0.951)	(1.525)
Female CEO	1.560**	0.600
	(0.632)	(0.729)
Percentage of female on Board	-4.150***	-1.839
	(1.175)	(1.682)
CFO on Board	0.212	0.0143
	(0.370)	(0.491)
COO/CTO on Bboard	0.0516	0.0982
	(0.346)	(0.511)
Independent Chair	0.268	0.303
	(0.226)	(0.357)
Block percentage	-0.000583	-0.000537
	(0.00466)	(0.00704)
Relative size		5.239***
		(1.727)
Pure Cash dummy		-1.206***
		(0.365)
Public target dummy		0.385
		(0.394)

Private target dummy		-0.150
		(0.355)
Related acquisition		0.353
		(0.346)
Cross-border dummy		-0.558*
		(0.327)
Target advisor dummy		1.780***
		(0.334)
Tender		2.902***
		(0.613)
Constant	-10.93***	-12.71***
	(1.743)	(3.290)
Year fixed-effects	Yes	Yes
Industry fixed-effects	Yes	Yes
Observations	731	534

The comparison of both models shows that corporate governance variables (the gender of CEOs and board members) do not have a significant impact on an acquirer decision of having an advisor. The acquirer size, and the deal characteristics (acquirer-deal relative size, payment method, presence of an advisor on the target side, type of acquisition) are the main determinants of the choice of an advisor.

5.3 - Determinants of the choice of a top advisor

5.3.1 - Determining Canada's top advisors

This section attempts to identify top advisors in the Canadian M&A market.[11] Table 5 presents the top 25 advisors, based on the aggregated market value of all deals of which the

[11] The concept behind the distinction among advisors stems from the apparent mechanism linking reputation, quality, and fees. The literature generally assumes a positive relationship between reputation and fees charged. Intuitively, clients are willing to pay a fee to an advisor, and a higher fee to a more prestigious advisor if the resulting benefit significantly outweighs the cost (fee paid) compares to the cases of hiring a less prestigious counterpart. That benefit could be an increase in financial value for the hiring firm or the combined entity, a greater

acquirer was a Canadian firm and for which the advisor was hired, during the 2001 to 2015 period.[12] This ranking system follows Golubov et al. (2012) approach. In each deal, an advisor was given full credit for the value of the deal it intervened in even as co-advisor. This explains why the sum of advisors individual market share presented in Table 5 does not sum up to 100% (as the value of a deal advised by two co-advisors, for example, is reflected in the market share of each advisor).

The above described ranking system (based on the aggregate deal value for the sample period), however, has two issues. The first is that an advisor who has advised a small number of big deals (in terms of value) in a single year may be ranked high; yet in fact the advisor is not consistently solicited throughout years of the sample period. To check for consistency of the advisor's presence in the M&A market and provide a more meaningful ranking, we followed Rau (2000) approach: use the same ranking method as above but for each year in our sample period (2001 to 2015). Then, a score system is used to find top advisors throughout the sample period. Each advisor is given a score of 1 if it appears in the top 10 ranking of a given year. We decided the top advisors are those with the 10 best scores (the sum of the scores, each of which is given to the advisor each year).

completion probability, or a shorter completion period. Ismail (2010) has found that about 38.5% of the total fees paid in 2006 were perceived by only 10 prestigious advisors (top tier), which also advised the most deals announced in that period.

[12] The league table, from which top 25 advisors were identified, was downloaded from the SDC Platinum database.

Table 5: Top 25 Mergers and Acquisitions advisors ranking by transaction value

Table 5 presents the top 25 M&A advisors ranking based on the total value of all deals they advised for Canadian TSX listed acquiring firms for the 2001 to 2015 period. Data has been collected from SDC Platinum database. The currency is US dollars. The number of deals per advisor is also presented. Credit is fully given to acquirer and target advisors and to each advisor that intervened as deal co-advisor for a single side. Sample criteria are described in the Data and methodology chapter.

Financial Advisor Full to Each Eligible Advisor	Deal Value (US$ Mil)	Rank	Market Share (%)	Number of Deals
OVERALL RANK				
CIBC World Markets Inc	132,399.8	1	29.8	153
RBC Capital Markets	122,383.9	2	27.5	117
BMO Capital Markets	96,702.6	3	21.7	143
Scotiabank	91,676.5	4	20.6	115
Bank of America Merrill Lynch	81,826.2	5	18.4	41
JP Morgan	70,141.5	6	15.8	29
Deutsche Bank	59,252.8	7	13.3	23
GMP Capital Corp	54,007.0	8	12.1	103
TD Securities Inc	51,566.7	9	11.6	101
Morgan Stanley	48,536.3	10	10.9	21
Macquarie Group	46,204.6	11	10.4	84
National Bank of Canada Fin'l	46,080.8	12	10.4	95
Goldman Sachs & Co	40,173.4	13	9.0	27
FirstEnergy Capital Corp	30,700.3	14	6.9	88
Canaccord Genuity	30,603.0	15	6.9	65
Barclays	23,013.5	16	5.2	16
Credit Suisse	22,859.5	17	5.1	25
Citi	19,867.3	18	4.5	12
Rothschild & Co	19,009.4	19	4.3	29
HSBC Holdings PLC	14,711.2	20	3.3	4
Centerview Partners LLC	14,467.6	21	3.3	1
UBS	10,481.1	22	2.4	20
Moelis & Co	10,414.7	23	2.3	2
Evercore Partners	9,336.3	24	2.1	5
Jefferies LLC	9,231.4	25	2.1	12
Subtotal with Financial Advisor	**411,281.9**	**-**	**92.5%**	**975**
Subtotal without Financial Advisor	**33,459.8**	**-**	**7.5%**	**1,104**
Industry Total	**444,741.7**	**-**	**100.0%**	**2,079**

The second issue is that this ranking may be specific to the sample period of this study. Assuming that an advisor's reputation is related to its market share in the current and previous years, an acquirer's choice of an advisor in, for example, 2001, cannot be based on the advisor's market share in years after 2001. Therefore we reassessed advisors' rankings taking their market shares for the 1990-2000 period into consideration. We use the same ranking criteria as before to choose the 10 top scores for each period. Appendix A shows the scores of advisors for the period of 1990-2015. It shows that this ranking is similar across different time periods and Panel C exhibits a 4 points gap between the 10^{th} and the 11^{th} advisors, supporting the top 10 cut-off.

5.3.2 - Determinants of the choice of a Canadian top advisor

Table 6 presents factors influencing acquirers' choice of a top advisor. Models (1) and (3) present the results of the base model, where only acquirer characteristic variables are included in the right hand side of the equation; Models (2) and (4) exhibit the results of the full model, in which target and deal characteristic variables are added. Models (1) and (2) present the regression estimates based on the whole sample; Models (3) and (4) exhibit the estimates based on the sample that include only cases where an advisor is present regardless of it is a top or non-top.

The results are similar across all models. As it is in the choice of an advisor (Table 4: the analyses of determinants in hiring an advisor), size remains a significant determinant in hiring a *top* advisor. The larger the size of the acquiring firm, the more financial resources are available, and the more likely an acquiring firm is to afford (and thus choose) a top advisor. On the other hand, cash-rich companies (as indicated by EBITDA to assets) are less likely to hire a top

advisor, consistent with Guo et al.'s (2018) hypothesis (that high availability of cash flow may stimulate overconfidence and decrease the likelihood of relying on an advisor). The results also show that acquiring firms with an independent chair are more likely to choose a top advisor, while those with higher board independence are less likely to do so. More independent board members reduces the need of having a top advisor and play a governance role in preventing the extra cost of a top advisor.

As they were the determinants of hiring an advisor, executions of tender offers and acquisitions of firms backed by advisors increase the acquirers' probability to hire a top advisor. The level of complexity in negotiation process is supposed to be higher for tender offers, which appears to increase acquirers' need for an advisor. As for the acquisition of firms supported by advisors, once again the results support the bargaining and signalling hypotheses discussed in section 4.2. However in Model (4), which shows the estimation results based on the sample of acquirers who choose to hire an advisor (regardless of whether it is in the top or a lower tier), the presence of an advisor on the target side did not play a significant role in choosing a top one. Accordingly, it appears that the acquisition of an advisor-backed target prompts acquirers to hire an advisor but the advisor does not have to be in the top tier.

Acquisitions of public firms and cross-border deals have a lower likelihood of being backed by a top advisor. Public targets and cross-border deals are generally more complex. However, these deals are more costly, which might deter acquiring firms' desire of spending extra dollars in hiring expensive top advisors, especially in cross-border deals where the targets are smaller in size relative to the acquirer.

Table 6: Logistic regression analysis of the choice of a top-advisor

Table 6 presents the logistic regression of the choice of a top advisor on acquiring firm, target firm, and other deal characteristics on a sample of Canadian TSX listed acquiring firms from 2001 to 2015. Models (1) and (3) control only for acquirer characteristics. Models (2) and (4) control for acquirer characteristics, and also for target and deal characteristics. Models (1) and (2) analyse the whole sample. Models (3) and (4) only consider cases where the acquirer has an advisor. All variables are defined in Table 1. All models control for year and industry fixed effects whose coefficients have been omitted. Robust standard errors are in parentheses. The symbols ***, **, *, are statistical significance at 1%, 5%, and 10% levels, respectively. Observations denote the number of cases for which we have complete data and which were used in the corresponding regression models.

VARIABLES	**(1)** **Top with Acquirer characteristics- Full sample**	**(2)** **Top with All characteristics- Full sample**	**(3)** **Top with Acquirer characteristics**	**(4)** **Top All characteristics**
Size	0.722***	0.815***	0.833***	1.093***
	(0.0868)	(0.123)	(0.190)	(0.231)
EBITDA to Assets	-2.997***	-2.835***	-3.259**	-4.479*
	(0.960)	(1.098)	(1.348)	(2.294)
Price to book ratio	-0.160	-0.0501	-0.0552	0.0886
	(0.133)	(0.115)	(0.137)	(0.207)
Debt to Equity ratio	0.00919	-0.0612	0.770**	0.594
	(0.132)	(0.143)	(0.355)	(0.466)
Board independence	-2.355**	-4.686***	-5.666***	-7.958***
	(1.196)	(1.574)	(2.199)	(2.830)
Female CEO	0.880	-0.432	-1.261	-2.556
	(0.936)	(0.861)	(2.572)	(2.071)
Percentage of female on Board	-2.966**	-1.160	-1.362	-0.879
	(1.342)	(1.899)	(3.089)	(3.548)
CFO on Board	0.164	-0.474	-0.304	-0.363
	(0.442)	(0.591)	(0.721)	(0.910)
COO/CTO on Board	0.245	0.0674	0.344	0.578
	(0.449)	(0.606)	(0.851)	(1.232)
Independent Chair	1.048***	1.428***	1.902***	2.346***
	(0.275)	(0.361)	(0.518)	(0.590)
Block-holding percentage	0.000960	0.00670	0.0135	-0.00301
	(0.00546)	(0.00805)	(0.0129)	(0.0125)
Relative size		0.0996		0.0800
		(0.0672)		(0.0835)
Pure Cash dummy		-0.390		0.996
		(0.388)		(0.655)
Public target dummy		-0.929**		-2.888***
		(0.420)		(0.927)
Private target dummy		0.105		-0.0595
		(0.406)		(0.867)
Related acquisition		0.104		0.0681
		(0.353)		(0.574)
Cross-border dummy		-0.779**		-1.979***
		(0.347)		(0.602)
Target advisor dummy		2.025***		0.0106
		(0.402)		(0.671)

Tender		2.439***		1.932***
		(0.510)		(0.698)
Constant	-14.03***	-14.56***	-12.06***	-12.50***
	(2.124)	(2.844)	(4.063)	(4.784)
Year fixed-effect	Yes	Yes	Yes	Yes
Industry fixed-effect	Yes	Yes	Yes	Yes
Observations	709	514	221	196

5.4 - Analysis of performance

5.4.1 - Short-term performance

Table 7 presents the impact of an advisor in the acquiring firm's side on its short-term performance, measured by CAR (-2, +2), after controlling for acquiring firm, target, and deal characteristics. Models (1) and (2) show the results of the analyses on the impact of having an advisor, while Models (3) and (4) present those on the impact of having a *top* advisor. Models (2) and (4) exhibit the results of the analyses that investigate the interaction effect of having an advisor on acquirer and on target sides.

Model (1) shows that the main effect of having an advisor is not significant on the acquirer's short-term performance. The investigation of the interaction between acquirer- and target-side advisors (Model 2), however, presents evidence of value creation by an advisor in either the acquirer or the target side. The positive 5% significant effect on CAR (-2, +2) of the presence of an advisor on the acquirer side (which increases the acquirer's CAR by 4.4%) supports the superior deal hypothesis. It also supports the signalling hypothesis, which contends that market participants value M&A deals positively with the presence of a target advisor; a presence that sends a signal of an acquisition of this company being a good deal. However, a simultaneous presence of advisors on both sides appears to be value destroying to acquirer in the

short-term. This might be because such a situation often results in lengthier negotiation process, waste of financial resources, and higher premium paid to targets.

Among the control variables, some corporate governance-related ones appear to influence the CARs: higher level of independence in board members has a positive effect, while more females on board has a negative effect, on the short-term market reactions to M&A announcement. In addition, acquisitions of public companies tend to generate lower, and cross-border acquisitions tend to generate higher, short term abnormal returns.

Model (3) indicates that among advisor-backed acquiring firms, those that hired a top advisor tend to generate significantly lower abnormal returns around the announcement period, although the significance level is marginal (10%). The presence of an advisor on the target side has also a significantly negative effect on CARs at the 5% level (this result is consistent with the coefficient for the interaction term in Model (2), which indicates that the market tend to react negatively to a simultaneous presence of advisors on both sides). However, when the model includes the interaction term between the presence of a top advisor on the acquirer side and the presence of an advisor on the target side, the significance disappears for all advisor-related variable coefficients (Model (4)). Overall, there is virtually no evidence of the superior deal hypothesis.

Corporate governance variables, which are significant in model (1) and (2), were not significant in both model (3) and (4). Both Models show a positive and significant effect of debt to equity ratio on short-term returns (although the level of significance is marginal). This is consistent with a Guo et al.'s (2018) finding: financially constrained acquirers yielded higher CARs. As mentioned before, this might be because financially constrained firms are more careful about the execution of M&A transactions.

Table 7: Multivariate OLS regression analysis of acquiring firm CAR (-2, +2)

Table 7 presents the results of OLS regression of acquirer CAR (-2, +2) on acquirer, target, and deal characteristics on a sample of Canadian TSX listed acquiring firms from 2001 to 2015. Models (1) and (2) analyse the effect of having an advisor. Models (3) and (4) present the effects of having a top advisor. Models (2) and (4) investigate the interaction effect of having an advisor on acquirer and on target sides. All variables are defined in Table 1. All models control for year and industry fixed effects whose coefficients have been omitted. Robust standard errors are in parentheses. The symbols ***, **, *, are statistical significance at 1%, 5%, and 10% levels, respectively. Observations denote the number of cases for which we have complete data and which were used in the corresponding regression models.

VARIABLES	(1) CAR	(2) CAR with interaction	(3) CAR with Top advisor	(4) Top advisor with interaction
Advisor dummy	-0.00682	0.0437**		
	(0.0107)	(0.0208)		
Top advisor dummy			-0.0270*	-0.0507
			(0.0147)	(0.0449)
Target advisor dummy	0.000105	0.0210**	-0.0524**	-0.0688
	(0.00984)	(0.00988)	(0.0259)	(0.0435)
Advisor dummy x Target dummy		-0.0770***		
		(0.0239)		
Top advisor dummy x Target dummy				0.0276
				(0.0489)
Size	-0.00446	-0.00379	-0.00321	-0.00323
	(0.00310)	(0.00298)	(0.00630)	(0.00622)
EBITDA to Assets	-0.0437	-0.0378	-0.0964	-0.0971
	(0.0387)	(0.0396)	(0.0715)	(0.0727)
Price to book ratio	-0.000131*	-0.000125	-0.00273	-0.00339
	(7.33e-05)	(7.75e-05)	(0.00500)	(0.00549)
Debt to Equity ratio	0.00122	0.00121	0.0144*	0.0146*
	(0.00216)	(0.00216)	(0.00813)	(0.00832)
Board independence	0.0761*	0.0732*	0.110	0.110
	(0.0412)	(0.0403)	(0.0759)	(0.0762)
Female CEO	-0.0222	-0.0243	-0.0432	-0.0419
	(0.0218)	(0.0221)	(0.0441)	(0.0439)
Percentage of female on Board	-0.0896**	-0.0847*	-0.116	-0.114
	(0.0455)	(0.0442)	(0.0791)	(0.0792)
CFO on board	0.00400	0.00887	0.0162	0.0154
	(0.0118)	(0.0115)	(0.0191)	(0.0196)
COO/CTO on board	-3.02e-05	-0.00122	0.0225	0.0237
	(0.0146)	(0.0148)	(0.0264)	(0.0269)
Independent Chair	-0.0177*	-0.0149	-0.0212	-0.0226
	(0.00919)	(0.00925)	(0.0167)	(0.0166)
Block-holding percentage	9.57e-05	0.000139	-0.000284	-0.000272
	(0.000182)	(0.000182)	(0.000305)	(0.000310)
Relative size	-0.000757	-0.000467	-0.00155	-0.00148
	(0.00148)	(0.00147)	(0.00183)	(0.00178)
Pure Cash dummy	0.000489	0.00179	0.0190	0.0182
	(0.00882)	(0.00876)	(0.0172)	(0.0170)

Public target dummy	-0.0305***	-0.0265**	-0.0468**	-0.0477**
	(0.0112)	(0.0110)	(0.0212)	(0.0207)
Private target dummy	-0.00220	-0.00258	-0.0213	-0.0237
	(0.00919)	(0.00894)	(0.0220)	(0.0220)
Related acquisition	-2.26e-05	0.000962	0.00283	0.00428
	(0.00844)	(0.00833)	(0.0160)	(0.0164)
Cross-border dummy	0.0218**	0.0205**	0.0473***	0.0472***
	(0.00928)	(0.00917)	(0.0162)	(0.0164)
Tender	0.0241	0.0254	0.0337	0.0326
	(0.0153)	(0.0158)	(0.0218)	(0.0220)
Constant	0.0610	0.0299	0.0369	0.0600
	(0.0740)	(0.0714)	(0.158)	(0.172)
Year fixed-effects	Yes	Yes	Yes	Yes
Industry fixed-effects	Yes	Yes	Yes	Yes
Observations	471	471	187	187
R-squared	0.161	0.192	0.372	0.375

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In all models, acquisitions of public companies tend to generate lower short term abnormal returns at a 5% significance level. This is consistent with Fuller et al. (2002) findings. Public targets are favored by securities exchange commission, which gives them anti-takeover tools that may play a negative effect on acquirers' returns and performance. The coefficient for cross-border acquisitions is positive and significant at a 5% significance level. This suggests that the market reacts positively to geographical expansion of firms, which is a synonym of growth potential.

5.4.2 - Long-term performance

Table 8 presents the results of the OLS regression analyses that examine the effect of an advisor on the long-term operating performance (measured by the change in adjusted difference

in EBITDA to assets between prior and post-deal periods). Model (1) investigates the effect of an advisor while model (2) investigates the effect of a top advisor among all advisor-backed firms.

Table 8: Multivariate OLS regression analysis of acquiring long-term performance

Table 8 presents the results of multivariate regression of change in EBITDA to Assets between the prior and post-deal periods adjusted for industry peers performance on a sample of Canadian TSX listed acquiring firms from 2001 to 2015. Model (1) regression investigates the effect of having an advisor. Model (2) regression investigates the marginal effect of having a top advisor among acquirers that had an advisor. All variables are defined in Table 1. All models control for year and industry fixed effects whose coefficients have been omitted. Robust standard errors are in parentheses. The symbols ***, **, *, are statistical significance at 1%, 5%, and 10% levels, respectively. Observations denote the number of cases for which we have complete data and which were used in the corresponding regression models.

	(1)	(2)
VARIABLES	**With an advisor**	**With a top advisor**
Advisor dummy	0.0195	
	(0.0194)	
Top advisor dummy		-0.0236
		(0.0256)
Target advisor dummy	-0.0310*	0.0209
	(0.0168)	(0.0326)
Size	-0.00124	-0.00624
	(0.00580)	(0.00844)
Price to book ratio	0.000481***	0.0201***
	(5.37e-05)	(0.00727)
Debt to Equity ratio	0.00761*	-0.00407
	(0.00457)	(0.0186)
Board independence	0.00444	-0.0936
	(0.104)	(0.127)
Female CEO	0.0293	0.0479
	(0.0348)	(0.0722)
Percentage of female on Board	0.0296	0.153
	(0.0734)	(0.118)
CFO on board	0.00692	-0.00159
	(0.0262)	(0.0334)
COO/CTO on board	0.0192	-0.0149
	(0.0304)	(0.0455)
Independent Chair	-0.0213	-0.00811
	(0.0169)	(0.0305)
Block-holding percentage	-0.000546	-4.45e-05
	(0.000431)	(0.000665)
Relative size	0.165***	-0.0180
	(0.0566)	(0.0624)
Pure Cash dummy	0.000523	0.00579
	(0.0151)	(0.0286)
Public target dummy	-0.0388**	-0.0312
	(0.0194)	(0.0279)

Private target dummy	-0.0179	-0.0460
	(0.0170)	(0.0290)
Related acquisition	-0.00278	-0.00565
	(0.0160)	(0.0254)
Cross-border dummy	-0.0364***	-0.0251
	(0.0137)	(0.0214)
Tender	-0.0332	-0.0425
	(0.0276)	(0.0294)
Constant	0.120	0.224
	(0.111)	(0.216)
Year fixed-effects	Yes	Yes
Industry fixed-effects	Yes	Yes
Observations	476	182
R-squared	0.197	0.330

Overall the presence of an advisor or a top advisor on acquirer side has no significant effect on the long-term operating performance. This is inconsistent with the superior deal hypothesis. Advisor-backed M&As do not exhibit long term operating performance superior to non-advisor-backed deals. On the other hand, Model (1) shows a negative and significant effect of the presence of an advisor in the target side on performance (although the significance level if marginal). This supports the hypothesis that the presence of a target advisor may results in overpayment by the acquirer. However model (2) indicates that the target advisor has no significant effect when the sample includes only advisor-backed acquirers, i.e., when the acquirer also has an advisor.

Model (1) also shows that price to book ratio, debt to equity ratio, and relative size have significant positive effects on performance while acquisitions of public companies and cross-border deals have negative effects. From all those variables, only the price to book ratio remains significant in model (2). The sign of the price to book ratio coefficient is significantly positive: the higher the price to book of the acquirers, the better the performance of the M&A in the long

run. This makes intuitive sense since this ratio is often synonym of growth potential (the market price is a function of growth potential of the firm while accounting or book value is not). In the long run, the growth potential implied by the price to book ratio around the announcement day is realized along with the synergy effect, manifested in the long run improvement in operating performance.

Table 7 results also show that the bigger the size of the target relative to the acquirer, the better the long-term performance. The impact of an acquisition of a small company (relative to the acquirer) may not be clearly manifested in the financial statements of a large acquiring company. With a target size increase (relative to the acquirer's) it becomes easier to detect the impact of the acquisition on the acquirer's (combined firm's) performance. The positive significance of debt to equity ratio again supports the view of Guo et al. (2018) that financially constrained firms are more likely to exhibit better performance.

Acquisitions of public and foreign companies are more likely to end up with worsening long run performance of combined firms. We recall from Table 6 that acquisitions of public firms have a negative effect in the short run returns while cross-border acquisitions have a positive incidence. In Table 7 we see that the effect of public company acquisitions remains negative while cross-border deals short-term positive effect change to negative in the long-run. This change in sign of the coefficient in the long-run might be due to difficulties in integrating distant targets because of social, cultural, and regulatory differences and lack of local knowledge, (which ended up outweighing what the market expected at the time of announcement).

5.4.3 – Effect of top advisor on performance when stock is offered

Table 9 presents the results of regression analyses, which examine the impact of advisors on short- and long-term M&A performance (while controlling for acquirer, deal, and target characteristics) based on the sample of acquirers which had selected stock as method of payment. In models (1) and (3) the dependant variable is the short-term M&A performance measured (CAR (-2, +2)), while in models (2) and (4) it is the long-term performance (Delta-adjusted EBITDA to assets). Models (1) and (2) present the results of the analyses based on the sample of all firms that have selected stock payment, Models (3) and (4) exhibit those based on the sample of advisor-backed acquiring firms that have selected stock payment.

Table 9: Multivariate regression analysis of performance when payment method is stock

Table 9 presents the results of a regression of performance on acquirer, deal, and target characteristics for the group of acquirers which had selected stock as method of payment for a sample of Canadian TSX listed acquiring firms from 2001 to 2015. In models (1) and (3) the dependant variable is short-term performance measured by CAR (-2, +2) while models (2) and (4) dependant variable is long-term performance measured by Delta-EBITDA to assets. Models (1) and (2) present all firms that have selected to offer stock as payment. Models (3) and (4) present acquiring firms that have an advisor and have selected stock as payment.

VARIABLES	(1) Short-term-Stock	(2) Long-term-Stock	(3) Short-term-Stock	(4) Long-term-Stock
Advisor dummy	-0.00133	0.00767		
	(0.0135)	(0.0253)		
Top advisor dummy			-0.00923	-0.0411*
			(0.0160)	(0.0235)
Target advisor dummy	-0.0108	-0.0353	-0.0711**	0.0328
	(0.0139)	(0.0259)	(0.0298)	(0.0446)
Size	-0.00532	0.00606	-0.00402	-0.00505
	(0.00401)	(0.00757)	(0.00693)	(0.00903)
EBITDA to Assets	-0.0531		-0.232***	
	(0.0470)		(0.0777)	
Price to book ratio	-0.000135	0.000514***	-0.00677	0.0126
	(0.000101)	(5.91e-05)	(0.00593)	(0.00796)
Debt to equity ratio	0.00255	0.00533	0.00948	-0.0151
	(0.00248)	(0.00473)	(0.0107)	(0.0204)
Board independence	0.116**	-0.108	0.155**	-0.200*
	(0.0495)	(0.133)	(0.0762)	(0.109)
Female CEO	-0.0135	0.0507	-0.0538	-0.000834

	(0.0282)	(0.0419)	(0.0449)	(0.0779)
Percentage of female on Board	-0.126**	0.0514	-0.143*	0.221
	(0.0639)	(0.101)	(0.0856)	(0.147)
CFO on board	0.00558	0.00529	0.0237	0.0380
	(0.0137)	(0.0320)	(0.0208)	(0.0322)
COO/CTO on board	0.0140	0.0281	0.0377	-0.0184
	(0.0174)	(0.0405)	(0.0314)	(0.0471)
Independent Chair	-0.0234**	0.0109	-0.0225	0.0300
	(0.0116)	(0.0209)	(0.0190)	(0.0287)
Block-holding percentage	-5.50e-05	-0.000298	-5.58e-05	0.00106
	(0.000252)	(0.000647)	(0.000389)	(0.000690)
Relative size	-0.00122	0.207***	-0.00281	0.0411
	(0.00138)	(0.0779)	(0.00211)	(0.0820)
Public target dummy	-0.0245*	-0.0443*	-0.0384	-0.0479
	(0.0143)	(0.0239)	(0.0262)	(0.0388)
Private target dummy	0.0150	-0.0166	-0.00813	-0.0523
	(0.0128)	(0.0241)	(0.0282)	(0.0361)
Related acquisition	-0.00476	-0.00630	-0.000117	0.00237
	(0.0115)	(0.0198)	(0.0178)	(0.0325)
Cross-border dummy	0.0321***	-0.0498**	0.0556***	-0.0467*
	(0.0124)	(0.0215)	(0.0181)	(0.0242)
Tender	0.0121	-0.0370	0.0403	-0.0267
	(0.0207)	(0.0260)	(0.0272)	(0.0274)
Constant	0.0191	0.0123	-0.146	0.257
	(0.0930)	(0.143)	(0.189)	(0.242)
Year fixed-effects	Yes	Yes	Yes	Yes
Industry fixed-effects	Yes	Yes	Yes	Yes
Observations	315	324	147	147
R-squared	0.230	0.237	0.476	0.381

The results show that, when stock payment acquisitions are concerned, having an advisor did not have a significant impact on the either the short or long-term performance. In addition, while the short-term performance does not differ between top advisor-backed and lower-tier advisor-backed acquirers (Model 3), there is weak evidence (10% significance) that top advisor-backed acquirers exhibit long term performance that is lower than that of lower-tier-advisor backed counterparts.

5.5 - Analysis of completion speed

Table 10 shows the results of the regression analyses regarding the impact of advisors on deal completion speed. It demonstrates that having an advisor (as opposed to no advisor) and being backed by a top advisor (as opposed to being backed by a lower-tier advisor) has no effect on the speed of deal completion.

Model (1) shows that the higher (lower) the ratio of EBITDA to assets for the acquiring firm, the lower (higher) the number of days between announcement and completion of a deal. This could be explained by the fact that on one hand firms with large cash flow availability feel overconfident and rush the completion of deal. This is consistent with the view of Jensen (1986) that high cash flow availability induces empire-building deals. On the second hand, firms with limited cash flow spend more time on diligence and negotiation because they could not afford poor or expensive deals. It also shows that acquisitions of private companies take less time to completion than those of public companies. This supports the intuitive view that the latter tends to be more complex and therefore more time consuming. The higher the percentage of female on board the longer it took to have a deal completed. This is consistent with the notion that females are less overconfident, more cautious and careful in decision making (Huang & Kisgen, 2013; Levi et al., 2014) and ensuring diligence.

In model (2) the coefficient for the target advisor dummy is positive and (although marginally) significant. When advisors are present in both sides (recall: model 2 is based on the sample of advisor-backed acquirers), not only the market reacts more negatively to the acquisition announcement (Table 7), but also it takes longer time for the deal to complete, This supports the view that the simultaneous presence of advisors in both sides makes negotiations

more complex and therefore time to deal completion longer. All the other variables are not significant except the tender and relative size variables.

Surprisingly, the higher the value of the transaction to acquirer's size, the less time it took to complete the deal in both models. One possible explanation for this is that the higher the size of a target to acquirer's, the more information is available to the acquirer: this less severe information asymmetry may speed up the deal evaluation and negotiating process.

Table 10: Multivariate OLS regression analysis of completion speed

Table 10 presents the results of multivariate regression of number of calendar days elapsed from deal announcement to completion on acquirer, target, and deal characteristics on a sample of Canadian TSX listed acquiring firms from 2001 to 2015. All variables are defined in Table 1. All models control for year and industry fixed effects whose coefficients have been omitted. Robust standard errors are in parentheses. The symbols ***, **, *, are statistical significance at 1%, 5%, and 10% levels, respectively. Observations denote the number of cases for which we have complete data and which were used in the corresponding regression models.

VARIABLES	(1) Time	(2) Time with Top advisor
Advisor dummy	2.402	
	(7.230)	
Top advisor dummy		19.02
		(13.26)
Target advisor dummy	4.773	26.69*
	(7.660)	(13.91)
Size	-0.626	-4.801
	(2.831)	(4.403)
EBITDA to Assets	-33.60*	7.095
	(20.35)	(37.30)
Price to book ratio	0.0461	3.036
	(0.0324)	(3.212)
Debt to Equity ratio	2.364	0.458
	(1.593)	(7.832)
Board independence	26.19	16.68
	(34.51)	(45.38)
Female CEO	7.366	60.79
	(36.56)	(73.75)
Percentage of female on Board	98.56**	109.9
	(48.20)	(88.92)
CFO on Board	-3.330	-0.0260
	(8.140)	(12.53)
COO/CTO on Board	15.81	11.01

	(13.89)	(20.61)
Independent Chair	9.376	5.807
	(7.087)	(11.01)
Block-holding percentage	0.141	0.167
	(0.165)	(0.359)
Relative size	-3.033**	-2.945**
	(1.290)	(1.355)
Pure Cash dummy	-12.79	-25.16
	(7.877)	(17.22)
Public target dummy	19.39*	13.68
	(10.53)	(20.33)
Private target dummy	-30.47***	-26.77
	(8.311)	(19.28)
Related acquisition	-0.546	0.802
	(6.853)	(11.50)
Cross-border dummy	3.485	6.113
	(8.337)	(13.50)
Tender	33.86***	33.04*
	(12.82)	(17.38)
Constant	45.23	137.4
	(70.39)	(131.2)
Year fixed-effects	Yes	Yes
Industry fixed-effects	Yes	Yes
Observations	534	202
R-squared	0.301	0.384

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Chapter 6: Discussion and analysis

6.1 – Motivation and findings

This paper investigates the determinants of the choice of an advisor on the acquirer side. It examines, in the Canadian context, the two main hypotheses on the role of M&A advisors presented in the literature: the superior deal and deal completion hypotheses. While most studies on M&A advisors focused on their impacts on short-term M&A performance (market reactions to the announcement), this study takes this issue further, investigating also their long term effects. Our method for the determination of top advisor combines the approaches of Rau (2000), and Golubov et al. (2012), while addressing an issue that both studies did not do. Using a sample of 791 deals initiated by TSX listed firms during the period from 2001 to 2015, this study found that acquirers are more likely to hire an advisor when: (1) the acquirer is larger in size; (2) the size of the transaction is larger relative to the size of the acquirer; (3) an advisor is present on the target side; (4) the stock payment is chosen; and, (5) the deal is a tender offer. The only circumstance under which the superior deal hypothesis is supported is when the target does not have an advisor and the short-term performance is considered. In this situation, advisor-backed acquirers outperform non-advisor-backed counterparts in short-run (in terms of short-term market reactions), but not in terms of long-term operating performance. In addition, the simultaneous presence of advisors on both sides was detrimental for acquirer's short term stock returns. Among advisor-backed acquirers who use stock payment, acquirers supported by top advisors underperform those with lower-tier advisors when the long-term operating performance

is considered. However no evidence has been found in the short-term. Finally, the sample did not show any evidence of the deal completion hypothesis.

Overall, our sample virtually shows no evidence of positive impact of advisors on M&A performance nor deal completion speed. One possible explanation is that advisors are hired mainly for acquiring firms to demonstrate "prudence", i.e., to convince shareholders and show market that precautious measures are taken in designing M&A transactions. This could explain why a large number of acquiring firms don't have advisor in Canada, where ownership is more concentrated (few entities with high percentage of share ownership), and the dual class share structure of firm ownership (family business structure) is more common (King & Santor, 2008), which might make relatively easier for the management to convince shareholders regarding the M&A transaction it has in its mind (i.e., less need for advisors in order to convince shareholders). These findings also imply that there is virtually no point to choose top advisors as there is no significant difference in performance between top and lower-tier advisors. Hiring a (relatively cost effective) lower-tier advisor could be justifiable if the management seeks better short term market reaction to the announcement. An advisor presence on acquirer side could be of interest to speculators as the impact is only in the short-term horizon. With respect to regulations, this study findings imply no necessity from regulators to require acquirers to hire advisors.

6.2 – Limitations and contribution of this study and directions for future research

This study has been conducted on 791 acquisitions made by TSX listed firms for which we were able to match deal and accounting information. This suggests a potential sample selection bias, if the availability of information is systematically related to certain types of acquirers. Another limitation is that it did not investigate the impact of advisors on deal completion rates[13]. We could also perform a robustness check that re-examines the superior deal hypothesis using EBITDA to Assets ratio adjusted by industry average, rather than by matching firms.[14] Nevertheless, this study is among the first to investigate the impact of advisors on long term operating performance, using both presence-absence of advisors and top-lower tier advisors comparisons. In addition, it proposes an additional reason for firms to hire M&A advisors, i.e., to convince shareholders based on the results of this study. Future research could investigate the empirical validities of this newly proposed hypothesis.

[13] Initially, the purpose of this study did not include the empirical examination of the deal completion hypothesis. For that reason only completed deals formed the sample, making it unable to investigate deal completion rates.
[14] The limited availability of Canadian firms accounting data for our sample period prevented us from computing industry values. That is why we used only matching firms in our study of long-term performance.

Appendices

Appendix A – Score system for ranking top advisors

Panel A: Ranking of advisors for period 2001-2015

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Score	Ranking
CIBC World Markets Inc	1	1	1	1	1	1	1	1	1	1	1	1	1		1	14	1
Scotiabank	1	1	1	1	1	1	1	1		1	1	1	1	1	1	14	2
RBC Capital Markets	1	1			1	1	1	1	1	1	1	1	1	1	1	13	3
BMO Capital Markets	1	1		1	1	1	1	1	1	1	1	1	1	1		13	4
Bank of America Merrill Lynch		1	1	1	1	1	1	1		1	1		1			10	5
TD Securities Inc	1			1	1		1		1	1		1		1	1	9	6
GMP Capital Corp				1	1	1	1	1		1	1					7	7
Morgan Stanley	1		1	1					1	1			1		1	7	8
National Bank of Canada Fin'l		1	1		1		1	1			1	1				7	9
Goldman Sachs & Co	1		1						1	1		1	1	1		7	10
JP Morgan				1		1	1					1	1		1	6	11
Macquarie Group					1	1		1	1		1			1		6	12
Deutsche Bank			1	1				1	1						1	5	13
Canaccord Genuity						1	1		1		1			1		5	14
Credit Suisse	1	1	1	1								1				5	15
FirstEnergy Capital Corp		1			1			1	1							4	16
Citi	1		1			1										3	17
Lazard											1		1			2	18
Barclays														1		1	19
Rothschild & Co										1						1	20
HSBC Holdings PLC															1	1	21
Centerview Partners LLC															1	1	22
UBS		1														1	23
Moelis & Co															1	1	24
Evercore Partners														1		1	25
Jefferies LLC												1				1	26
Griffiths McBurney & Partners	1															1	27
ING		1														1	28
Guggenheim Securities LLC													1			1	29
Perella Weinberg Partners LP														1		1	30
Commerzbank AG			1													1	31

Panel B: Ranking of advisors for period 1990-2000

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Score	Ranking
Goldman Sachs & Co	1		1	1	1	1	1	1	1	1	1	10	1
Credit Suisse	1	1	1	1		1	1	1	1	1	1	10	2
RBC Capital Markets	1			1	1	1	1	1	1	1	1	9	3
BMO Capital Markets		1	1	1	1	1	1	1	1			8	4
CIBC World Markets Inc			1	1	1		1		1	1	1	7	5
JP Morgan		1		1	1			1	1	1	1	7	6
Morgan Stanley			1		1		1	1	1	1	1	7	7
Bank of America Merrill Lynch		1				1	1	1	1		1	6	8
Scotiabank			1	1	1	1		1				5	9
Citi				1			1	1	1	1		5	10
TD Securities Inc						1		1		1	1	4	11
Deutsche Bank	1			1					1			3	12
National Bank of Canada Fin'l		1	1									2	13
Barclays						1					1	2	14
Rothschild & Co				1	1							2	15
UBS			1								1	2	16
NatWest Markets	1	1										2	17
Richardson Securities of Canad						1	1					2	18
FirstEnergy Capital Corp										1		1	19
HSBC Holdings PLC						1						1	20
First Equity Development	1											1	21
PowerWest Financial		1										1	22
Loewen Ondaatje McCutcheon Inc		1										1	23
Lancaster Financial		1										1	24
McNeil Mantha		1										1	25
Capital Group Securities		1										1	26
Goepel Shields			1									1	27
Societe generale					1							1	28
Wells Fargo							1					1	29
Jefferies LLC			1									1	30
Griffiths McBurney & Partners										1		1	31
ING	1											1	32
Lazard					1							1	33

Panel C: Aggregate scores and ranking based on both periods

	1990-2000	2001-2015	Score	Ranking
RBC Capital Markets	9	13	22	1
CIBC World Markets Inc	7	14	21	2
BMO Capital Markets	8	13	21	3
Scotiabank	5	14	19	4
Goldman Sachs & Co	10	7	17	5
Bank of America Merrill Lynch	6	10	16	6
Credit Suisse	10	5	15	7
Morgan Stanley	7	7	14	8
TD Securities Inc	4	9	13	9
JP Morgan	7	6	13	10
National Bank of Canada Fin'l	2	7	9	11
Citi	5	3	8	12
GMP Capital Corp	0	7	7	13

Appendix B – Comparison of target relative size by cross-border status

This table show the minimum and maximum values of the size of targets relative to acquirers' (ratio of target assets value to acquirer's assets value) depending on whether the target's nation is Canada or not for our sample of Canadian TSX listed acquiring firms from 2001 to 2015. Cross-border dummy takes the value 1 if the target firm nation is not Canada, and 0 if Canada

Cross-border dummy	Observations	min	max
0	422	0.00038	23.24338
1	342	0.000139	1.876353
Total	764	0.000139	23.24338

Appendix C - Rationale for the analysis of advisors' impact with stock as payment method

Previous studies suggest that the method of payment matters in M&A deals. Cash can be offered by acquirers when they are sure about the target valuation (Myers & Majluf, 1984) or when the target size is significantly small relative to the acquirer's (Dutta et al., 2013). The other side of the coin is also true that acquirers tend to offer stock when they are unsure about the value of the target and when the target's size is comparable to the acquirer's. This implies that stock is more likely offered in situations of higher complexity: complexity in evaluating target companies and in negotiations – the latter is likely to occur when the target is about the same size as the acquirer or has powerful takeover defence tactics with good negotiation skills.

From the agency or target monitoring perspective, acquirers may prefer to offer stock in order to accelerate the integration of targets into their strategy, inducing them in a collaborative environment of the combined firm, which is vital especially when the target and acquirer are distant in terms of industry or geography (therefore stock offer is often observed in friendly takeovers). The extra integration effort requires management's time and energy as well as capital resources so it could be detrimental to value creation for the firm, so if stock payment facilitates integration, this makes stock payment an attractive option for acquirers.

Another motivation behind an acquirer offering stock is the desire to exploit its stock overvaluation (Fu et al., 2013) so that the price (including the premium) paid is lower in terms of "true value". The dollar value of the stock of the acquiring firm (paid to the target shareholders) fluctuates depending on the post-merger performance exhibited by the combined firm, while with cash the value is fixed prior to the merger completion (Eckbo et al., 2018); accordingly the former is intuitively more attractive to acquirers at the time of overvaluation of the acquirer's

stock. However, targets may suspect overvaluation in the acquirer's stock, making the negotiation more difficult or inducing the target to ask for a greater percentage of cash as method of payment (in the case of hybrid payment).

Cash payment is most often associated with the dismissal of the target's management after the deal completion. This often happens (Denis & Denis, 1995) especially if it has been proven to be ineffective and thus, hiring a new and more effective management is believed to bring better performance. Stock as payment is often accompanied with target management retention. On one hand stock acquisition may generate higher returns because it facilitates the integration and collaboration. On the other hand stock acquisitions may generate lower returns due to the retention of ineffective target management. It appears that the empirical observations support the latter. Examining a sample of 947 US deals, Loughran and Vijh (1997) revealed that for the 5 year post-merger period, on average firms that used stock as method of payment earned significant negative excess returns (-25%) while firms that completed cash tender offers earn significant positive excess returns of about 61.7%. Linn and Switzer (2001) examined 413 US M&A deals and found evidence that supports the view that cash financed deals generated significant greater positive value for acquirers than those with stock payment. Similarly, in Canada, Dutta et al. (2013) observed that cross-border stock financed deals significantly underperformed cross-border cash financed deals in the long term.

Nevertheless, all the above suggest significant impacts of methods of payment on M&A performance. Therefore an advisor's ability to generate better returns is tested, in this study, not only based on the entire sample but also with the sample that includes only stock.

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