The Impact of Advisors' Industry and Country Experience on Announcement Returns in Buy-Side M&A

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November 13, 2021

Abstract: This study examines the effect of prior advisor industry and country experience on pricing, premiums, returns, and deal completion. We segment four distinct types in a 2x2 factor design of investment banks according to their track record in prior country and industry projects: *Experience-Based Top Advisors* (high industry and country experience), *Industry Specialists* (high industry experience and low country experience), *Country Specialists* (low industry experience and high country experience), and *Rookies* (low industry and country experience). We further compare our results with another definition of top advisors, *Reputation-Based Top Advisors*, which is commonly based on deal value, deal volume, reputation, and league tables. Implementing regression, fixed effects, propensity score matching, and Heckman selection models, we find that *Experience-Based Top Advisors* negotiate significantly better deals for their clients on the buy side than do *Rookies*: they achieve higher *CARs* by negotiating lower prices and premiums.

KEYWORDS: Mergers & Acquisitions, Financial Advisors, Transactions
JEL CODES: G24, G34, G41

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1. Introduction

The question of whether investment bank advisors deliver value to their clients has received considerable attention in the literature. However, the extant research on buy-side M&A provides rather ambiguous guidance. In this chapter, we examine the impact of top advisors on value creation for acquirers. Top advisors in the literature are typically referred to as advisors with high rankings in league tables, evaluated based on total deal value and volume. Departing from that typical definition, we define top advisors based on their prior industry and country experience directly relevant to the acquisition on which they are consulting. In our experience-based advisor typology, we segment investment banks into four distinct types of advisors based on their prior industry and country experience. First, *Experience-Based Top Advisors* are those with high experience in both the industry and country of the M&A target. Second, *Country Specialists* are investment banks with high experience in the target's country but not its industry. Third, *Industry Specialists* only have high experience in the industrial sector of the M&A target. Fourth, *Rookies* are those investment banks with no more than medium (and often lower) industry and country experience relevant to the client. We use the Thomson Reuters SDC Platinum database on M&A transactions to gather all reported M&A transactions initiated between 1978 and 2020. We further include data sets on stocks and indexes from the CRSP database to compute cumulative abnormal announcement returns, since these data are not included in the main data set from Thomson Reuters SDC.

Our identification strategy addresses the question of whether *Experience-Based Top Advisors* create value for their clients, comparing our observations with the impact that other advisor types have on acquisitions. We disentangle the effect of industry and country expertise, investigating if and how *Industry Specialists* and *Country Specialists* create value

in buy-side engagements. Finally, we investigate the effectiveness of *Rookies* in acquisitions: do they add or destroy value for acquirers in terms of announcement returns?

To implement our identification strategy, we apply regression, fixed effects, propensity score matching, and Heckman selection models to investigate the impact of these four types of investment banks on pricing, acquisition returns, and deal completion. We situate the results in the context of the *Reputation-Based Top Advisors'* impact, contributing a novel perspective to the definition and value creation of a top investment bank. In the next section, we describe the theoretical foundation of this chapter and how it contributes to the literature in this field.

2. Literature Review

Servaes and Zenner (1996), Rau (2000), and Ecer and Trautmann (2020) report a negative or insignificant effect of buy-side advisors on M&A transactions in general, while other research suggests a fairly positive effect of buy-side advisors (Bao & Edmans, 2011; Golubov et al., 2012). A further branch of research focuses on top investment advisors: those with the highest deal value and volume as reported in league tables. Hunter and Jagtiani (2003) suggest that top-tier advisors are more likely to complete deals in less time than lower-tier advisors but also find that gains for buy-side clients decline with top advisor engagement. Similarly, Ismail (2010) finds that top advisors destroy value for their clients, while lower-tier advisors achieve gains for their clients. However, Golubov et al. (2012) find that top-tier advisors deliver higher bidder returns but only in public deals. A potential explanation for this ambiguity might be rooted in the definition of top advisors. While the dominant definition relies on league tables that tabulate investment banks' market share, Bao and Edmans (2011), among others, question this definition and suggest that advisors' prior track record in value creation is a better criterion for advisor choice than market share.

3.1. Motives for Advisor Engagement

Large investment banks dominate the M&A advisory market specifically because of their track record of successfully closed transactions. League tables and other rankings consider the number of transactions, deal volume, and deal value as the key criteria for ranking investment advisors. Ultimately, decisions made to engage an investment advisor are partly driven by indications given through league tables. Bao and Edmans (2011) find that mandates are awarded based on the past market share of the advisor and thus the league tables. Francis et al. (2014) find that shareholders care more about the advisor being U.S.-based than having experience in the target country; they argue that certification is most important for shareholders. Servaes and Zenner (1996) find that the choice to use an investment bank depends on the complexity of the transaction, the type of transaction, the acquirer's prior acquisition experience, and the degree of diversification of the target firm. The authors suggest that transaction costs are the main determinant of investment bank choice. Chang et al. (2016a) show that M&A advisors' industry expertise increases their likelihood of being chosen by clients. The determinants of advisor engagement are mainly driven by reputation and league tables. However, further research is required to address the effectiveness and efficiency of decisions based on this selection criterion. Bao and Edmans (2011) address the question of how acquirers should select their advisors, suggesting that advisor engagement decisions should be based on past performance measures. With the present study, we contribute to the effort to reassess what matters in the selection of investment advisors by suggesting using advisors' industry and country experience—rather than reputation, deal volume, and deal value— as primary decision criteria.

3.2. Definition and Value Creation of Reputation-Based Top Advisors

Despite many mergers being efficient, overpricing and value destruction for acquirers' shareholders are prevalent in M&A (Andrade et al. 2001; Ecer & Trautmann, 2020; Moeller

et al., 2004; Renneboog & Vansteenkiste, 2019). Hunter and Jagtiani (2003) define top advisors based on deal value and deal volume, suggesting that top-tier advisors are more likely to complete deals in less time than lower-tier advisors, but they also find that gains for buy-side clients decline with top advisor engagement. Similarly, Ismail (2010) defines top advisors based on rankings in terms of deal volume and value, finding those top advisors (tier-one advisors based on rankings for deal size and the number of deals advised) destroy value for their clients, while lower-tier advisors achieve gains for their clients. Kale et al. (2003) define top advisors based on market share in the year of the transaction; thus, deal value and volume again serve as the key criteria in distinguishing this type of advisor from average advisors. Kale et al. (2003) examine the effect of financial advisor reputation on wealth gains, finding that advisor reputation is positively related to the probability of deal completion. Further, the authors conclude that clients with better advisors are more likely to withdraw from potentially value-destroying deals.

Golubov et al. (2012), meanwhile, define top advisors based on the total dollar value of transactions. They suggest that top-tier advisors deliver higher bidder returns than lower-tier advisors in public transactions, elaborating that top-tier advisors achieve higher gains for bidders due to their ability to identify more synergistic combinations and negotiate a higher share of total synergies in their clients' favor. Overall, it remains unclear whether and to what extent *Reputation-Based Top Advisors* create value for acquirers. We contribute to this discussion by proposing a different perspective on advisor quality. Instead of selecting top advisors based on reputation, we promote industry and country experience as better criteria to find valuable external support in buy-side transactions. Before presenting our main results in section 3.5., we link our results to this stream of the corporate finance literature in section 3.2.3. and present our analytical framework for our identification strategy in section 3.3.

3.3. Definition and Value Creation of Experience-Based Top Advisors

Song et al. (2013) investigate the performance of boutique advisors with specialized industry experience and suggest that they deliver more favorable deal outcomes for their clients because of their focused industry expertise. Stock (2015) seeks to discover when advisor industry experience matters most, suggesting that prior experience in a specific industrial sector has a positive impact on acquisition returns, completion speed, and deal likelihood, along with a higher probability of completing value-increasing acquisitions and withdrawing from value-destroying ones. Wang et al. (2021) find that acquirers create higher shareholder returns when advised by investment banks with more experience in the target industry. Hayward (2003) shows that financial advisors derive power over their clients from specialized expertise, leading them toward complex solutions with potentially adverse outcomes. Chang et al. (2016a) also examine the role of financial advisors in M&A and focus on the industry expertise of the acquirer advisor; they find that industry expertise is associated with higher deal completion but not with any valuation effects of acquisitions.

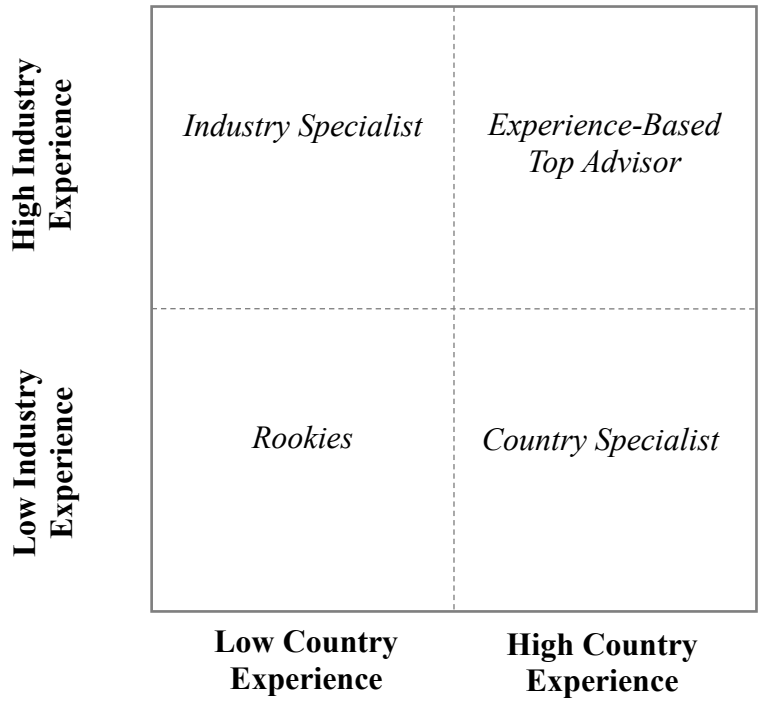
While the literature suggests a widespread definition of top advisors in terms of market share, the value creation of top advisors defined in this manner remains unclear. In the following, we segment advisors into four distinct types based on our experience-based advisor typology, which is the analytical framework for our identification strategy.

3.4. Theoretical Framework: Experience-Based Advisor Typology

We construct a 2x2 matrix with the dimensions *Industry Experience* and *Country Experience*, differentiating the degree of advisor experience in terms of high and low; we define advisor types based on the number of transactions they completed in the two dimensions.

Since the average number of deals an acquirer advisor was engaged in the respective industry of their client is approximately five and the average number of deals in the headquarters country of their client was eight, we establish two thresholds. *Low industry experience* applies when an acquirer advisor has consulted on one to four deals, *medium industry experience* is defined as five to nine deals, and *high advisor experience* had 10 or more prior industry transactions relevant to the client's industry. The average number of transactions advisors had concluded in the same country as the client in their current transaction was eight, so we define *low country experience* as one to seven transactions, *medium country experience* as 8 to 15, and *high country experience* as 16 or more transactions. Thus, *Experience-Based Top Advisors* are those with 10 or more prior transactions in the industry and 16 or more in the country of the advised M&A target. *Country Specialists* are investment banks with 16 or more transactions in the M&A target's country, but with fewer than 10 transactions in its industry. *Industry Specialists* have 10 or more transactions of prior experience in the M&A target's industry but fewer than 16 transactions in its headquarters country. Fourth, *Rookies* are those advisors that are comparatively new to the industry and the country on which they are advising, having reported fewer than 10 prior transactions in the same industry as the M&A target they advise and fewer than 16 transactions in its headquarters country.

Figure 1. Experience-Based Advisor Typology



In our identification strategy, we use this framework (Figure 3.1.) to establish regression, fixed effects, propensity score matching, and Heckman models to identify the association between *Experienced-Based Top Advisors*, *Industry Specialists*, *Country Specialists*, and *Rookies* in terms of value creation for their clients. We then use the results of these analyses to contrast with the results found using the common definition of top advisors: *Reputation-Based Top Advisors*. We lay out our data set and define variables in section 3.4.

3.5. Data and Methodology

3.5.1. Data

We use the Thomson Reuters SDC Platinum database on M&A transactions to gather all reported M&A transactions initiated between 1978 and 2020. Data are sourced through direct deal submissions from global banking and legal contributors, coupled with extensive

research performed by a global research team that collected data from regulatory filings, corporate statements, media, and pricing wires. According to Thomson Reuters, more than 2,500 control validations occur at the point of data entry. We focus on transactions with a deal size above $0.5M and exclude transactions with a negative *EBITDA Margin* or an *EBITDA Margin* larger than 1 and negative *Sales Absolute* (defined technically below);[2] otherwise, we make use of the full data set. We further include additional data sets on stocks and indexes from the CRSP to compute cumulative abnormal announcement returns, since these data are not included in the main data set from Thomson Reuters SDC.

3.5.2. Variables

The key variables of interest in this study are *Cumulative Acquirer Advisor Industry Experience (CAAIE)*, *Cumulative Acquirer Advisor Country Experience (CAACE)*, *CARs*, *Premium*, *EBITDA Multiple*, and *Deal Completion*.

To measure the degree to which an advisor accumulated transaction experience through the number of transactions in the industry and/or country of the advised M&A target, we constructed the variables *CAAIE* and *CAACE*, which indicate the cumulative number of transactions an advisor[3] conducted in the industry and country, respectively, before the transaction of interest in the sample.

We use the CRSP database to model CARs. We measure bidders' CARs with the variables *CAR(-1/+1)*, *CAR(-2/+2)*, *CAR(-3/+3)*, *and CAR(-4/+4)*, all expressed in percentages. We estimate the model over a 255-day window ending 46 days prior to the announcement date, using the CRSP Value-Weighted Index as our market proxy. We report

[2] Firms with a negative *EBITDA Margin* and negative *Sales Absolute* are excluded from our analysis because the *EBITDA Multiple* is not a robust valuation indicator for such assets. We exclude a total of 607 initiated transactions due to negative *EBITDA Margins* or *EBITDA Margins* larger than 1 and negative *Sales Absolute*.
[3] "Advisor" is defined as one advisor or a combination of advisors reported in the sample, as acquirers in some cases not only hire a single buy-side advisor but multiple ones to enhance the efficiency of the transaction.

CARs over three-, five-, seven-, and nine-day windows. We define the premiums paid by acquirers, *Premium 1 Day*, *Premium 1 Week*, and *Premium 1 Month*, as the difference between the offer price and the target's closing stock price one day (one week, one month) before the original announcement date, all expressed as percentages. To account for outliers, we winsorize the premiums at the 1% and 99% levels. Further, we use *EBITDA Multiple* as a measure for relative deal pricing. Because of the highly skewed distribution of the *EBITDA Multiple*, we transform it into its logarithm, indicated by the variable *EBITDA Multiple (Log)*, in our analyses. Moreover, *Deal Status* is registered in the data set with five possible status levels: deal completed, deal pending, deal intended, deal withdrawn, and other deal status. For our analysis, we create the indicator variable *Deal Completed*, coded as one if *Deal Status* equals deal completed and zero otherwise.

The presence of target or acquirer advisors is measured by binary indicators. Target advisors consult the selling firm on the transaction, while acquirer advisors consult the buy side. The variable *Target Advisor* is one when a target advisor was reported and zero otherwise, and the variable *Acquirer Advisor* is one when an acquirer advisor was reported and zero otherwise. Acquirer advisors, typically investment banks and management consultants, manage the buy-side process, which includes deal sourcing through the identification of M&A targets, target screening (the first filter of relevant M&A targets regarding strategic and financial fit), drafting indicative offers, due diligence, and support in negotiating, signing, and closing deals. Contracts of buy-side advisors are structured with a high variable payment contingent upon deal completion, raising substantial governance concerns about the absence of an incentive to negotiate prices down. As defined in section 3.3., we segment acquirer advisors in our experience-based advisor typology as the analytical basis of our identification strategy.

Given the heterogeneity of our transaction sample, we include a set of control variables. These include the size of the M&A target, defined by the variable *Sales Absolute*

and measured in U.S. dollars. We transform *Sales Absolute* into its logarithm, indicated by the variable *Sales Absolute (Log)*, because of its highly skewed distribution. Further, we use the profitability of the M&A target, defined by the variable *EBITDA Margin*, which is calculated by annual *EBITDA Absolute* over annual *Sales Absolute*. We add further controls at the deal level: *Deal Attitude* (indicated by the dummy variables *Friendly*, *Neutral*, or *Hostile* to reflect the attitude of the acquirer towards the seller), *Form of the Transaction* (indicated by the dummy variables *Acquisition*, *Merger*, or *Other Form*), and *Target Public Status* (indicated by the dummy variables *Public*, *Private*, or *Other Status*). Finally, we include target country, year, and industry fixed effects.

Tables 1. and 2. present descriptive statistics for the variables used in this study. We report 35,979 transactions. For the entire sample, the average *Deal Size* is $719 million, the *EBITDA Multiple* is 19.5, and the average *Sales Absolute* is approximately $730 million; average *Premiums* range from 27.1% to 33.9%, while *CARs* range between -26.9% to 31.1%.

To implement our identification strategy, we use the experience-based advisor typology framework to establish regression, fixed effects, propensity score matching, and Heckman models. We disentangle the association between *Experienced-Based Top Advisors*, *Industry Specialists*, *Country Specialists*, and *Rookies* in terms of each advisor type's value creation for acquirers. We then use the results of these analyses to contrast with the results found using the common definition of top advisors: *Reputation-Based Top Advisors*.

Table 1. Summary Statistics

Variable	Observations	Mean	Std. Dev.	Min.	Max.
Experience-Based Top Advisor	35,979	0.485	0.5	0	1
Industry Specialist	35,979	0.012	0.111	0	1
Country Specialist	35,979	0.094	0.291	0	1
Rookies	35,979	0.409	0.492	0	1
Deal Size ($M)	35,979	718.978	2,057.644	0.505	15,025.07
Deal Size (Log)	35,979	4.512	2.151	-0.683	9.617
EBITDA Multiple	35,979	19.497	54.213	0.001	985.898
EBITDA Multiple (Log)	35,979	2.205	1.138	-6.908	6.894
Sales Absolute	35,815	730.399	1,997.318	1.483	14,426.23
Sales Absolute (Log)	35,815	4.788	1.951	0.394	9.577
EBITDA Absolute ($M)	35,531	105.607	299.635	-0.146	2,184.6
EBITDA Absolute (Log)	35,127	2.691	2.113	-6.215	7.689
EBITDA Margin	35,979	0.182	0.167	0.001	1
Premium 1 Day	21,254	27.135	38.538	-70.83	202.2
Premium 1 Week	21,139	30.352	40.186	-71.43	212
Premium 1 Month	21,113	33.893	42.918	-72.03	223.56
CARs (+1/-1)	8,431	0.001	0.04	-0.132	0.149
CARs (+2/-2)	8,431	0.001	0.08	-0.233	0.28
CARs (+3/-3)	8,431	0	0.088	-0.259	0.298
CARs (+4/-4)	8,431	0	0.094	-0.269	0.311
Acquirer Advisor	35,979	0.549	0.498	0	1
Target Advisor	35,979	0.619	0.486	0	1
Public	35,979	0.731	0.444	0	1
Subsidiary	35,979	0.107	0.309	0	1
Private	35,979	0.158	0.364	0	1
Other Status	35,979	0.002	0.041	0	1
Friendly	35,979	0.896	0.305	0	1
Neutral	35,979	0.021	0.145	0	1
Hostile	35,979	0.026	0.16	0	1
Other Attitude	35,979	0.056	0.23	0	1
Completed	35,979	0.805	0.397	0	1
Incomplete	35,979	0.195	0.397	0	1

Notes: We use the Thomson Reuters SDC Platinum database to gather all reported M&A transactions between 1978 and 2020. Data are sourced through direct deal submissions from global banking and legal contributors, coupled with extensive research performed by a global research team that collected data from regulatory filings, corporate statements, media, and pricing wires. According to Thomson Reuters, more than 2,500 control validations occur at the point of data entry. We use the CRSP database to model CARs. We estimate the model over a 255-day window ending 46 days prior to the announcement date, using the CRSP Value-Weighted Index as our market proxy. We report CARs over three-, five-, seven-, and nine-day windows. To account for outliers, we winsorize the variables *Premium* (*1 day*, *1 week*, *1 month*) and *CARs* (*-1/+1*, *-2/+2*, *-3/+3*, *-4/+4*). Further, we focus on transactions with a deal size above $0.5M and exclude transactions with a negative *EBITDA Margin*, but we otherwise make use of the full data set.

Table 2. Summary Statistics: Acquirer Advisor Types

	All	Rookies	Country Specialists	Industry Specialists	Experience-Based Top Advisors
Number of Deals	35,979	14,710	3,368	448	17,453
Share of Completed Deals	0.805	0.836	0.8845	0.821	0.762
Deal Size (Mean, $M)	718.978	1,119.308	1,080.381	1,074.801	302.689
EBITDA Multiple (Mean)	19.497	19.148	21.185	19.58	19.462
Premium 1 Day	27.135	27.21	30.721	21.535	26.047
Premium 1 Week	30.352	30.58	34.227	25.267	28.935
Premium 1 Month	33.893	33.836	38.275	30.617	32.607
CAR (-1/+1)	0.001	-0.001	-0.001	-0.001	0.003
CAR (-2/+2)	0.001	-0.005	-0.006	-0.014	0.01
CAR (-3/+3)	0	-0.006	-0.007	-0.007	0.009
CAR (-4/+4)	0	-0.005	-0.008	-0.014	0.008
Sales Absolute (Mean, $M)	730.399	1,045.21	844.492	1,288.758	428.035
EBITDA Margin	0.182	0.192	0.178	0.217	0.174

Notes: We use the Thomson Reuters SDC Platinum database to gather all reported M&A transactions between 1978 and 2020. Data are sourced through direct deal submissions from global banking and legal contributors, coupled with extensive research performed by a global research team that collected data from regulatory filings, corporate statements, media, and pricing wires. According to Thomson Reuters, more than 2,500 control validations occur at the point of data entry. We use the CRSP database to model CARs. We estimate the model over a 255-day window ending 46 days prior to the announcement date, using the CRSP Value-Weighted Index as our market proxy. We report CARs over three-, five-, seven- and nine-day windows. To account for outliers, we winsorize the variables *Premium* (*1 day*, *1 week*, *1 month*) and *CARs* (*-1/+1*, *-2/+2*, *-3/+3*, *-4/+4*). Further, we focus on transactions with a deal size above $0.5M and exclude transactions with a negative *EBITDA Margin*; otherwise, we make use of the full data set.

4. Main Result: Association of Advisor Industry and Country Experience with Acquirer Announcement Returns

In this section, we establish our main results regarding the association of advisor industry and country experience with deal pricing, premiums, CARs, and the likelihood of deal completion. Implementing our fixed effects regression model, we analyze the impact of top advisors based on their accumulated deal value and deal volume (*Reputation-Based Top Advisors*), which are commonly used to determine rankings in league tables (see Table 3).

In line with prior research (Hunter & Jagtiani, 2003; Ismail, 2010), we find that top buy-side advisors based on this definition do not create returns for their clients; they increase deal completion likelihood while leading to higher prices. In a second step, we disentangle buy-side advisors into the four types defined in section 3.3: *1) Experience-Based Top Advisors*, *2) Industry Specialists*, *3) Country Specialists*, and *4) Rookies*.

Table 4. shows the divergent results for the association of *Experience-Based Top Advisors* with pricing, premiums, returns, and deal completion. We find that this type negotiates significantly lower EBITDA multiples and premiums, resulting in significantly higher CARs. At the same time, this group closes deals at a lower rate. In a context with positive CARs, we interpret this decrease in deal completion rate as efficient selection and negotiation skill by experienced advisors, who strike the right balance by not compromising and agreeing to exaggerated price demands by the seller. Table 5. reports *Experience-Based Top Advisors'* effect on pricing, premiums, returns, and deal completion compared to the other types. Compared to *Experience-Based Top Advisors*, *Rookies* on the buy side not only have an increasing effect on prices but also achieve significantly lower CARs. While *Country Specialists* and *Industry Specialists* do not significantly destroy value, we do observe an increasing effect on relative deal pricing. In terms of *Country Specialists*, we see a negative trend in CARs. *Industry Specialists*, *Country Specialists*, and *Rookies* all have a positive impact on deal completion.

Table 3. Reputation-Based Top Advisors Compared to All Others

	EBITDA Multiple (Log)	Premium 1 Day	Premium 1 Week	Premium 1 Month	CAR (-4/+4)	CAR (-3/+3)	CAR (-2/+2)	CAR (-1/+1)	Deal Completed
Reputation-Based Top Advisors	0.454***	0.177	0.663	1.483*	0.002	0.002	0.001	0.001	0.050***
	(0.016)	(0.680)	(0.708)	(0.760)	(0.003)	(0.002)	(0.002)	(0.001)	(0.005)
Sales Absolute (Log)	-0.191***	-0.733***	-0.807***	-1.166***	-0.004***	-0.004***	-0.004***	-0.001**	-0.010***
	(0.005)	(0.204)	(0.216)	(0.228)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)
EBITDA Margin	-2.136***	-9.975***	-11.136***	-11.511***	-0.024***	-0.027***	-0.030***	-0.003	0.058***
	(0.057)	(2.280)	(2.411)	(2.562)	(0.009)	(0.009)	(0.008)	(0.004)	(0.014)
Target Advisor	0.346***	2.692***	2.996***	2.920***	-0.006**	-0.006**	-0.008***	-0.002	0.122***
	(0.016)	(0.817)	(0.851)	(0.940)	(0.003)	(0.003)	(0.003)	(0.001)	(0.005)
Relative Deal Size		2.658***	2.697***	3.805***	-0.007***	-0.007***	-0.006***	-0.002***	0.008***
		(0.422)	(0.443)	(0.461)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Constant	3.211***	24.758***	28.143***	30.966***	0.044***	0.045***	0.046***	0.012***	0.738***
	(0.025)	(1.775)	(1.861)	(1.952)	(0.006)	(0.006)	(0.005)	(0.003)	(0.009)
Further Deal-Level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, Industry, Acquirer, and Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35,788	21,181	21,069	21,044	8,370	8,370	8,370	8,370	35,788
R-squared	0.224	0.120	0.122	0.123	0.122	0.127	0.129	0.082	0.246

Notes: The entries show coefficients of OLS regressions; standard errors are in parentheses. The dependent variables are *EBITDA Multiple (Log)*, *Premiums* (*1 day*, *1 week*, *1 month*), and *CARs* (*-1/+1*, *-2/+2*, *-3/+3*, *-4/+4*), indicating the relative deal price of the transaction, premiums paid by the acquirer, and CARs earned by the bidder in the various event windows. We use the covariates *Sales Absolute (Log)*, *EBITDA Margin*, *Target Advisor*, and *Relative Deal Size*; we also include further deal-level controls *Deal Attitude* (friendly, neutral, hostile), *Target Public Status* (public, private), and *Form of the Transaction* (acquisition, merger, other form). We use fixed effects variables for the period (year), industry of the M&A target, and country of the target's headquarters. We analyze the effect of *Reputation-Based Top Advisors'* engagement on pricing, premiums, CARs, and Deal Completed compared to investment banks that are not defined as *Reputation-Based Top Advisors*. ***, **, and * denote significance at the 0.01, 0.05, and 0.1 levels, respectively.

Table 4. Experience-Based Top Advisors Compared to Rookies, Country Specialists, and Industry Specialists

	EBITDA Multiple (Log)	Premium 1 Day	Premium 1 Week	Premium 1 Month	CAR (-4/+4)	CAR (-3/+3)	CAR (-2/+2)	CAR (-1/+1)	Deal Completed
Experience-Based Top Advisors	-0.292***	-1.283**	-2.125***	-2.327***	0.003	0.005**	0.005**	0.002**	-0.076***
	(0.012)	(0.611)	(0.638)	(0.682)	(0.002)	(0.002)	(0.002)	(0.001)	(0.005)
Sales Absolute (Log)	-0.168***	-0.733***	-0.816***	-1.119***	-0.004***	-0.004***	-0.004***	-0.001***	-0.023***
	(0.003)	(0.174)	(0.181)	(0.194)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)
EBITDA Margin	-2.100***	-10.221***	-11.469***	-11.548***	-0.022**	-0.024***	-0.027***	-0.002	0.031**
	(0.038)	(2.029)	(2.119)	(2.264)	(0.008)	(0.008)	(0.007)	(0.004)	(0.015)
Target Advisor	0.301***	2.987***	3.226***	3.404***	-0.010***	-0.009***	-0.011***	-0.002	0.096***
	(0.014)	(0.724)	(0.756)	(0.809)	(0.003)	(0.003)	(0.002)	(0.001)	(0.005)
Relative Deal Size		2.640***	2.672***	3.834***	-0.007***	-0.007***	-0.007***	-0.002***	0.003
		(0.289)	(0.302)	(0.323)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Constant	3.347***	25.140***	29.075***	31.510***	0.047***	0.045***	0.046***	0.011***	0.881***
	(0.022)	(1.498)	(1.565)	(1.672)	(0.006)	(0.006)	(0.005)	(0.003)	(0.010)
Further Deal-Level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, Industry, Acquirer, and Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35,788	21,182	21,069	21,045	8,370	8,370	8,370	8,370	35,788
R-squared	0.217	0.116	0.119	0.119	0.115	0.120	0.122	0.079	0.111

Notes: The entries show coefficients of OLS regressions; standard errors are in parentheses. The dependent variables are *EBITDA Multiple (Log)*, *Premiums* (*1 day*, *1 week*, *1 month*), and *CARs* (*-1/+1*, *-2/+2*, *-3/+3*, *-4/+4*), indicating the relative deal price of the transaction, premiums paid by the acquirer, and CARs earned by the bidder in the various event windows. We use the covariates *Sales Absolute (Log)*, *EBITDA Margin*, *Target Advisor*, and *Relative Deal Size*; we also include further deal-level controls *Deal Attitude* (friendly, neutral, hostile), *Target Public Status* (public, private), and *Form of the Transaction* (acquisition, merger, other form). We use fixed effects variables for the period (year), the industry of the M&A target, and the country of the target's headquarters. We analyze the effect of *Experience-Based Top Advisors*' engagement on pricing, premiums, CARs, and Deal Completed compared to *Rookies*, *Country Specialists*, and *Industry Specialists*. ***, **, and * denote significance at the 0.01, 0.05, and 0.1 levels, respectively.

Table 5. Rookies, Country Specialists, and Industry Specialists Compared to Experience-Based Top Advisors

	EBITDA Multiple (Log)	Premium 1 Day	Premium 1 Week	Premium 1 Month	CAR (-4/+4)	CAR (-3/+3)	CAR (-2/+2)	CAR (-1/+1)	Deal Completed
Rookies	0.272***	1.521**	2.326***	2.368***	-0.003	-0.005**	-0.006**	-0.003**	0.074***
	(0.013)	(0.640)	(0.668)	(0.715)	(0.003)	(0.003)	(0.002)	(0.001)	(0.005)
Country Specialists	0.371***	0.573	1.467	2.042**	-0.004	-0.005	-0.005*	-0.002	0.087***
	(0.021)	(0.909)	(0.947)	(1.013)	(0.003)	(0.003)	(0.003)	(0.001)	(0.008)
Industry Specialists	0.376***	-0.070	1.551	3.605	0.006	0.010	0.004	0.005	0.078***
	(0.050)	(2.157)	(2.249)	(2.403)	(0.016)	(0.015)	(0.014)	(0.007)	(0.019)
Experience-Based Top Advisors					(*excluded advisor category*)				
Sales Absolute (Log)	-0.168***	-0.729***	-0.814***	-1.122***	-0.004***	-0.004***	-0.004***	-0.001***	-0.023***
	(0.003)	(0.174)	(0.181)	(0.194)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)
EBITDA Margin	-2.100***	-10.237***	-11.488***	-11.566***	-0.022**	-0.024***	-0.027***	-0.002	0.031**
	(0.038)	(2.029)	(2.120)	(2.264)	(0.008)	(0.008)	(0.007)	(0.004)	(0.015)
Target Advisor	0.300***	2.987***	3.228***	3.409***	-0.010***	-0.009***	-0.011***	-0.002	0.095***
	(0.014)	(0.724)	(0.756)	(0.809)	(0.003)	(0.003)	(0.002)	(0.001)	(0.005)
Relative Deal Size		2.649***	2.679***	3.834***	-0.007***	-0.007***	-0.007***	-0.002***	0.002
		(0.289)	(0.302)	(0.323)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Constant	3.055***	23.810***	26.919***	29.192***	0.050***	0.050***	0.051***	0.013***	0.805***
	(0.018)	(1.336)	(1.396)	(1.491)	(0.005)	(0.005)	(0.005)	(0.002)	(0.009)
Further Deal-Level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, Industry, Acquirer, and Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35,788	21,182	21,069	21,045	8,370	8,370	8,370	8,370	35,788
R-squared	0.217	0.116	0.119	0.119	0.115	0.121	0.123	0.079	0.111

Notes: Entries show coefficients of OLS regressions; standard errors are in parentheses. The dependent variables are *EBITDA Multiple (Log)*, *Premiums* (*1 day*, *1 week*, *1 month*), and *CARs* (*-1/+1*, *-2/+2*, *-3/+3*, *-4/+4*), indicating the relative deal price of the transaction, premiums paid by the acquirer, and CARs earned by the bidder in the various event windows. We use the covariates *Sales Absolute (Log)*, *EBITDA Margin*, *Target Advisor*, and *Relative Deal Size*; we include further deal-level controls *Deal Attitude* (friendly, neutral, hostile), *Target Public Status* (public, private), and *Form of the Transaction* (acquisition, merger, other form). We use fixed effects variables for the period (year), the industry of the M&A target, and the country of the target's headquarters. We analyze the effect of *Experience-Based Top Advisors*' engagement on pricing, premiums, CARs, and Deal Completed compared to *Rookies*, *Country Specialists*, and *Industry Specialists*. ***, **, and * denote significance at the 0.01, 0.05, and 0.1 levels, respectively.

To summarize, we observe that prior industry and country experience is crucial for valuable external advice in buy-side M&As. We find that highly experienced advisors are more efficient for acquirers' shareholders by creating value in terms of CARs. Further, we suggest that advisors specialized in a specific sector (*Industry Specialists*) support a favorable outcome in terms of returns for their clients. *Country Specialists* help in closing deals but do not create value in terms of returns for clients. Finally, we see a value-destroying trend when acquirers engage advisors that do not have no extensive prior experience in the industry and country on which they are advising.

These findings add further evidence to our understanding of which types of advisors create value for their clients. They support the notion of redefining a top advisor in terms of value creation rather than reputation built largely on league tables. The present study also contributes to practitioners' decision-making in terms of advisor engagement. Based on our findings, we suggest hiring advisors based on their prior industry and country experience relative to a given M&A target and that advisors be chosen for the value they create rather than for their reputations. Since M&A decisions are among the most crucial decisions a CEO can make (Bao & Edmans, 2011), we emphasize the practical relevance of our findings.

5. Investigating Causal Effects of Experienced-Based Top Advisor Engagement

5.1. Matching Methodology

In section 3.5., we demonstrate the significant impact of *Experience-Based Top Advisors* on CARs for acquirers' shareholders. We now aim to establish whether these correlations can be interpreted in terms of causal effects. Several selection issues may be important in the current setting. Firms may be more likely to hire experienced advisors, or experienced advisors may be better able to select engagements on potentially more valuable and more

likely deals; experienced advisors may also be better at identifying higher-synergy deals. Given our large data set, we can use the matching methodology (Caliendo and Kopeinig, 2008) to overcome selection issues. The idea is to compare similar deals (in terms of observable pre-deal properties of the target) with and without the presence of the various advisor types. To make inferences about the impact of advisor engagement on deal pricing, premiums, returns, and completion, we need to examine how the transaction outcome would have differed had there been no advisor engagement. Because the counterfactual for a given transaction is not observed, we formalize the problem as the potential outcome approach or Roy-Rubin model (Caliendo and Kopeinig, 2008; Roy, 1951; Rubin, 1974). The fundamentals of the Roy-Rubin model are individuals (here: transactions), treatments (here: with or without advisor engagement), and outcomes (here: *EBITDA Multiple*, *Premiums*, *CARs*, and *Deal Completed*).

To estimate the causal treatment effects of advisors on relative deal pricing, premiums, bidder returns, and deal completion, we apply propensity score matching. Our matching model sorts the data into two groups: the "treated" group, which includes those transactions with an *Experience-Based Top Advisor*, and the control group, which includes transactions without that kind of advisor. Treatment *D* is a binary variable that equals *D*=1 for treated observations and *D*=0 for control observations. In a first step, we estimate a logit model with *D* as the latent variable for the propensity of transactions to be conducted with the support of an *Experience-Based Top Advisor*. The vector of explanatory variables *x* includes the variables *Sales Absolute (Log)*, *EBITDA Margin*, *Industry of M&A Target*, *Country of M&A Target*, *Deal Attitude*, *Public Status of the Target*, and *Year of Transaction*. The propensity score *p(x)* is the predicted probability that an acquirer advisor will be engaged, given the characteristics *x*:

$$p(x) = logit(D = 1|x) = E(D|x) \quad (1)$$

In a second step, the model matches transactions from the treated and control sub-samples based on their propensity scores. Following Caliendo and Kopeinig (2008), we choose the nearest neighbor matching estimator with replacement. Thus, our estimator selects those transactions without advisors as matching partners for a transaction with an advisor that is closest in terms of the propensity score. Transactions from the control group can be used multiple times as a match for a transaction in the treated sample, increasing matching quality and reducing model bias. In a third step, we calculate the ATE for the dependent variable of interest *y* (e.g., *EBITDA Multiple (Log)*), which is the difference between the outcomes *y* of matched transactions with and without an advisor:

$$ATE = E(y|x, D = 1) - E(y|x, D = 0) \quad (2)$$

We apply the matching model to the entire sample. ATE is only defined if the variables in *x* do not perfectly predict treatment *D*. The region of common support is defined by the overlap between the treated and controlled observations in terms of their propensity score. As Caliendo and Kopeinig (2008) suggest, we visualized the support of the treatment and control groups to confirm the common support assumption in Appendix 3B.

5.2. Matching Analysis

Table 6. shows the results of the matching estimation for *Experience-Based Top Advisors* in comparison to all other advisor types (*Industry Specialists*, *Country Specialists*, and *Rookies*) for the dependent variables *EBITDA Multiple*, *Premium (1 day*, *1 week*, *1 month*), *CARs* (*-1/+1*, *-2/+2*, *-3/+3*, *-4/+4*), and *Deal Completed*. We observe a significant effect of *Experience-Based Top Advisors* on announcement returns, supporting our main results. Overall, we interpret these results as further support of our finding that extensive industry and country experience is crucial for efficient advice on the buy side in M&A transactions.

Table 6. Propensity Score Matching: Average Treatment Effects of Experience-Based Top Advisors on Pricing, Premiums, CARs, and Deal Completion

	Experience-Based Top Advisors
EBITDA Multiple (Log)	-0.302***
	(0.020)
Premium 1 Day	-1.282
	(0.933)
Premium 1 Week	-2.280**
	(0.885)
Premium 1 Month	-2.481**
	(1.101)
CAR (-1/+1)	0.005***
	(0.002)
CAR (-2/+2)	0.004
	(0.003)
CAR (-3/+3)	0.003
	(0.003)
CAR (-4/+4)	-0.0004
	(0.002)
Deal Completed	-0.093***
	(0.006)

Notes: The table shows propensity score matching models results (nearest neighbor estimator with replacement), indicated by ATE, which is the average treatment effect of *EBITDA Multiple (Log)*, *Deal Completed*, *Premium* (*1 day*, *1 week*, *1 month*), and *CARs* (*-1/+1*, *-2/+2*, *-3/+3*, *-4/+4*), indicating the difference between outcomes of transactions with and without the presence of an advisor. Bootstrap standard errors are in parentheses. We use the covariates *Sales Absolute (Log)*, *EBITDA Margin*, *Target Advisor*, and *Relative Deal Size*; we include the further deal-level controls *Deal Attitude* (friendly, neutral, hostile) and *Target Public Status* (public, private). We use fixed effects variables for the period (year), the industry of the M&A target, and the country of the target's headquarters. We analyze the causal effect of *Experience-Based Top Advisors* on relative deal pricing, premiums, announcement returns, and deal completion likelihood compared to the other three advisor types: *Rookies*, *Country Specialists*, and *Industry Specialists*. ***, **, and * denote significance at the 0.01, 0.05, and 0.1 levels, respectively.

We assess the validity of the matching estimators using the visual inspection procedure recommended by Caliendo and Kopeinig (2008). Figures 3.2. to 3.10. in Appendix 3B visualize the support of the propensity scores for treated and control observations (left panels) and the treated and the matched observations (right panels) for both the full and restricted samples. We see a full overlap of propensity scores for treated and controls in all cases and that all scores between zero and one are covered, although the

distribution of propensity scores is often quite different for treated and control observations. However, given our large data set and matching with replacement, we observe a nearly perfect overlap of the distributions; in fact, they are visually indistinguishable in most figures. There are no gaps in the supports. We conclude that the matching procedure has been executed efficiently. Sensitivity analysis following Becker and Caliendo (2007) shows that results are not sensitive to violations of the confoundedness assumption (i.e., unobserved joint influences on the advisor selection and outcomes).

Given the support for the validity of the propensity score matching approach presented here, we interpret the correlational results presented in Section 3.5. as causal effects of the different advisor types on relative deal prices, premiums, CARs, and the likelihood of deal completion. In Section 3.6.3., we further probe our interpretation.

5.3. Heckman Model Methodology

To further test our main results about the impact of different advisor types on *CARs*, we use the Heckman selection model as an additional approach to establish a causal interpretation of the associations of advisor engagement types with announcement returns, which allows us to correct bias from our sample by explicitly modeling the individual sampling probability of each observation (selection model) together with the conditional expectation of the dependent variable (outcome equation).

The Heckman methodology is implemented in the following procedure. The first step is to establish the selection equation, which is estimated using a probit estimator:

$$Prob(D = 1 \mid Z) = \Phi(Z\gamma) \quad (3),$$

where *D* indicates our binary outcome variable (*Acquirer Advisor Types*), *Z* is the vector of explanatory variables, which in our model are *Sales Absolute (Log)*, *EBITDA Margin*,

and *Relative Deal Size (EBITDA Multiple Log)*, γ is the vector of unknown parameters, and Φ is the cumulative distribution function of the standard normal distribution. Once the Heckman selection equation is estimated, the error term (residuals) from this equation is used to form a new variable, the Inverse Mills Ratio $\hat{\lambda}$ (IMR), where ϕ is the probability density function:

$$\hat{\lambda}(Z\gamma) = \frac{\phi(Z\hat{\gamma})}{\Phi(Z\hat{\gamma})} \quad (4)$$

The value of the IMR indicates the predicted probability of the acquirer advisor type. The IMR includes not only observed but also unobserved variables that are captured through the error term and included in the nonlinear function used to estimate the IMR. The next step in the Heckman method is to include the IMR variable in the initial regression model. We now estimate the expected value of our dependent variable, *CAR* (for each event window):

$$E(y|D = 1) = x'\beta + \rho\sigma\hat{\lambda}(Z\gamma) \quad (5),$$

where ρ is the correlation between unobserved determinants of propensity that an acquirer advisor is hired ε and unobserved determinants of CARs u. Further, σ is the standard deviation of u and $\hat{\lambda}$ is the IMR evaluated at $Z\gamma$.

5.4. Heckman Model Analysis

Implementing our Heckman selection model, we confirm the causal interpretation of our main results in Table 7. Compared to Experience-Based Top Advisors, Rookies negotiate deals in a way that leads to significantly negative announcement returns.

Table 7. Heckman Selection Model: Rookies, Country Specialists, and Industry Specialists Compared to Experience-Based Top Advisors in Terms of CARs

	CAR (-4/+4)	CAR (-3/+3)	CAR (-2/+2)	CAR (-1/+1)
Rookies	-0.002	-0.005*	-0.006**	-0.003**
	(0.003)	(0.003)	(0.003)	(0.001)
Country Specialists	-0.006	-0.007	-0.008	-0.003
	(0.006)	(0.006)	(0.005)	(0.003)
Industry Specialists	-0.003	0.002	-0.006	-0.000
	(0.017)	(0.016)	(0.014)	(0.007)
Experience-Based Top Advisors		(*excluded advisor category*)		
Sales Absolute (Log)	-0.001	-0.001	-0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)
EBITDA Margin	-0.028***	-0.029***	-0.031***	-0.004
	(0.010)	(0.009)	(0.008)	(0.004)
Relative Deal Size	-0.007***	-0.007***	-0.006***	-0.002**
	(0.002)	(0.002)	(0.002)	(0.001)
Target Advisor	-0.006	-0.005	-0.006	-0.000
	(0.006)	(0.005)	(0.005)	(0.002)
Further Deal-Level Controls	Yes	Yes	Yes	Yes
Time, Industry, and Country Fixed Effects	Yes	Yes	Yes	Yes
Constant	0.169*	0.133	0.128	0.013
	(0.100)	(0.094)	(0.084)	(0.043)
Selected				
Rookies	-0.140***	-0.140***	-0.140***	-0.140***
	(0.018)	(0.018)	(0.018)	(0.018)
Country Specialists	0.550***	0.550***	0.550***	0.550***
	(0.026)	(0.026)	(0.026)	(0.026)
Industry Specialists	-0.654***	-0.654***	-0.654***	-0.654***
	(0.090)	(0.090)	(0.090)	(0.090)
Experience-Based Top Advisors		(*excluded advisor category*)		
Sales Absolute (Log)	-0.048***	-0.048***	-0.048***	-0.048***
	(0.005)	(0.005)	(0.005)	(0.005)
EBITDA Margin	0.479***	0.479***	0.479***	0.479***
	(0.048)	(0.048)	(0.048)	(0.048)
Relative Deal Size	0.134***	0.134***	0.134***	0.134***
	(0.008)	(0.008)	(0.008)	(0.008)
Target Advisor	0.464***	0.464***	0.464***	0.464***
	(0.019)	(0.019)	(0.019)	(0.019)
Constant	-1.308***	-1.308***	-1.308***	-1.308***
	(0.033)	(0.033)	(0.033)	(0.033)
/Athrho	-0.042	-0.043	-0.035	-0.034
	(0.139)	(0.139)	(0.136)	(0.143)
/Lnsigma	-2.404***	-2.468***	-2.574***	-3.246***
	(0.009)	(0.009)	(0.009)	(0.009)
Observations	35,815	35,815	35,815	35,815

Notes: Entries report results from the Heckman selection model. The dependent variables are the *CARs* (*-1/+1*, *-2/+2*, *-3/+3*, *-4/+4*) of the acquirer. We use the covariates *Sales Absolute (Log)*, *EBITDA Margin*, *Target Advisor*, and *Relative Deal Size*. We replicate our analysis from section 3.5. to account for sample selection issues, analyzing the effect of *Experience-Based Top Advisors* on *CARs* compared to *Rookies*, *Country Specialists*, and *Industry Specialists*. ***, **, and * denote significance at the 0.01, 0.05, and 0.1 levels, respectively.

6. Discussion and Conclusion

While the literature suggests the widespread defining of top advisors by market share, the value creation of top advisors (Golubov et al., 2012; Hunter & Jagtiani, 2003; Ismail, 2010; Kale et al., 2003) defined in this manner remains unclear. Contributing to another branch of literature in this field that addresses the impact of advisors' industry experience in the context of value creation on the buy side (Chang et al., 2016a; Hayward, 2003; Song et al., 2013; Stock, 2015; Wang et al., 2021), we have introduced the novel experience-based advisor typology, segmenting advisors into four distinct types based on prior industry and country experience as the basis for our identification strategy. We investigated the difference between two definitions of top advisors, disentangling reputation (deal volume, deal value, league tables ranking) from experience (industry and country track record) to contribute new insights that help us understand *when* advisors create value for their clients' shareholders. We implemented our identification strategy with regression, fixed effects, propensity score matching, and Heckman selection models, finding that deal volume and value as a combined indicator is not sufficient to assess the quality of an advisor for an acquirer. By segmenting buy-side advisors based on experience rather than pure deal volume and value, we find that advisor track record in the industry or country in which a specific client operates matters significantly to achieving higher CARs for clients' shareholders on the buy side.

We find that *Reputation-Based Top Advisors* do not create significantly positive *CARs* for their clients when compared to lower-ranked advisors. Segmenting the sample of advisors based on experience in the industrial sector and country of headquarters leads to result that reveal a significantly different effect of *Experience-Based Top Advisors* on pricing, premiums, returns, and deal completion than *Country Specialists*, *Industry Specialists*, and *Rookies*. We find that *Experience-Based Top Advisors* not only negotiate prices down but also achieve significantly higher returns for acquirers. Further, we

disentangle the impact of advisor specialization on specific industries and countries. Neither specialization provides significantly positive returns for acquirers in comparison to *Experience-Based Top Advisors*. Finally, we tested whether the most inexperienced advisors destroy value for their clients, finding that they do destroy value for their clients in terms of CARs. With these results, we contribute a new and important perspective to help answer the complex question of whether top buy-side advisors create value for their clients and suggest redefining the typical understanding of a top advisor based on industry and country experience rather than simply deal volume and value.

These results are also relevant for practitioners aiming to improve decision-making around advisor engagement. Which type of advisor creates value in a buy-side acquisition? Our research suggests that top advisors create significant value but should be chosen based on extensive experience in the industry and country of the advised M&A target rather than on deal volume, deal value, and league table positions. Further, our results suggest that acquirers should refrain from hiring inexperienced advisors or those with only an industry or a country specialization, as we see that *Rookies* destroy value. The complexity of an M&A transaction appears to require understanding both the sector-related particularities of an M&A target and that firm's country-specific aspects.

Appendix A: Definition of Terms

Term	Definition
Target Advisor	Financial advisor(s) to the target company, its management, or board of directors on a transaction.
Acquirer Advisor	Financial advisor(s) to the acquirer's company, its management, or board of directors on a transaction.
Deal Size	Value of Transaction ($M): Total value of the consideration paid by the acquirer, excluding fees and expenses. The dollar value includes the amount paid for all common stock, common stock equivalents, preferred stock, debt, options, assets, warrants, and stake purchases made within six months of the announcement date of the transaction. Liabilities assumed are included in the value if they are publicly disclosed. Preferred stock is included only if it is being acquired as part of a 100% acquisition. If a portion of the consideration paid by the acquirer is common stock, the stock is valued using the closing price on the last full trading day prior to the announcement of the terms of the stock swap. If the exchange ratio of shares offered changes, the stock is valued based on its closing price on the last full trading date prior to the date of the exchange ratio change. For publicly listed targets in 100% acquisitions, the number of shares at the date of announcement is used.
EBITDA Multiple	A financial ratio that compares a company's enterprise value to its annual EBITDA, it is used to determine the value of a company and compare it to the value of similar businesses. A company's EBITDA multiple provides a normalized ratio for differences in capital structure, taxation, and fixed assets and enables comparing disparate operations in different companies. The ratio takes a company's enterprise value (which represents market capitalization plus net debt) and compares it to the EBITDA for a given period.
Premium 1 day	Premium of the offer price to target closing stock price one day prior to the original announcement date, expressed as a percentage.
Premium 1 Week	Premium of the offer price to target closing stock price one week prior to the original announcement date, expressed as a percentage.
Premium 1 Month	Premium of the offer price to target closing stock price four weeks prior to the original announcement date, expressed as a percentage
Cumulative Abnormal Return(-1/+1)	The sum of the differences between the expected return (S&P 500 Index) on the acquirer's stock (for U.S. publicly listed firms) and the actual return during the event windows of one day prior and one day after the announcement of the acquisition.
Cumulative Abnormal Return (-2/+2)	The sum of the differences between the expected return (S&P 500 Index) on the acquirer's stock (for U.S. publicly listed firms) and the actual return during the event windows of two days prior and two days after the announcement of the acquisition.
Cumulative Abnormal Return (-3/+3)	The sum of the differences between the expected return (S&P 500 Index) on the acquirer's stock (for U.S. publicly listed firms) and the actual return during the event windows of three days prior and three days after the announcement of the acquisition.
Cumulative Abnormal Return (-4/+4)	The sum of the differences between the expected return (S&P 500 Index) on the acquirer's stock (for U.S. publicly listed firms) and the actual return during the event windows of four days prior and four days after the announcement of the acquisition.
Sales Absolute	Net sales represent sales receipts for products and services, net cash discounts, trade discounts, excise tax, and sales returns and allowances. Revenues are recognized according to applicable accounting principles.
EBITDA Absolute	Earnings before the deduction of interest, taxes, depreciation, and amortization; this is a non-GAAP calculation based on data from a company's income statement used to measure a company's operating profitability. Because EBITDA adds back to net income the non-cash accounting charges of depreciation and amortization and disregards interest paid on debt financing and income taxes on earnings, it is useful for measuring a company's operating cash flow and for comparing the profitability of companies with different capital structures and in different tax brackets. However, EBITDA does not measure and should not be confused with the actual cash flow of a company, which does account for interest paid on debt financing, income taxes, and other cash charges.
EBITDA Margin	EBITDA Absolute as a percentage of Sales Absolute.
Target Industry	Industry in which the M&A target operates.
Target Country	Country where the target company has its headquarters.
Acquirer Industry	Industry in which the acquiring company operates.
Acquirer Country	Country where the acquiring company has its headquarters.

Deal Status	Status of the transaction: (1) deal completed, (2) deal pending, (3) deal intended, (4) deal withdrawn, or (5) other deal status.
Form of Transaction	Scope of the transaction (e.g., full acquisition vs. acquisition of shares).

Appendix B: Figures - Propensity Score Matching Balance

Figure 3.2. Propensity Score Matching: Experience-Based Top Advisors Engagement Common Support Assessment on EBITDA Multiple

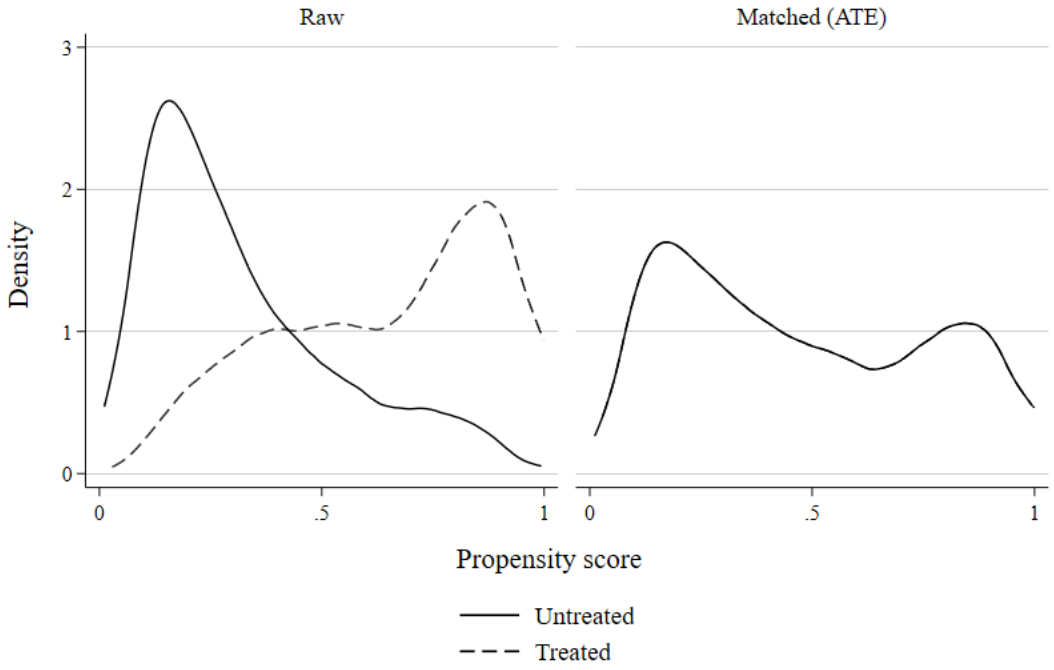


Figure 3. Propensity Score Matching: Experience-Based Top Advisor Engagement Common Support Assessment on Premium 1 Day

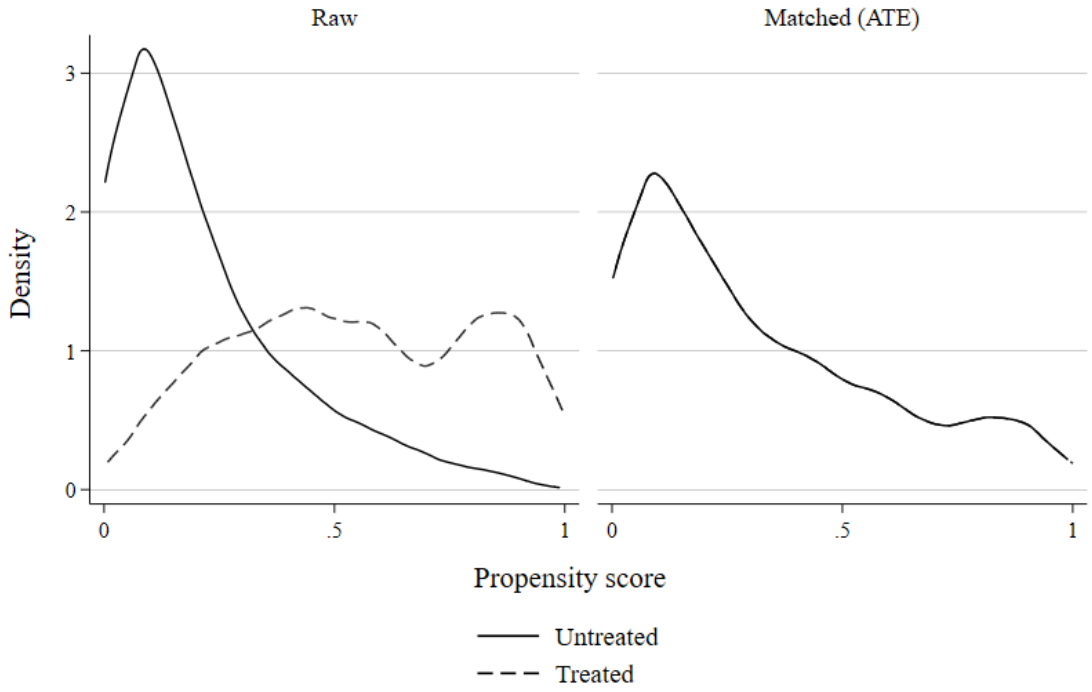


Figure 4. Propensity Score Matching: Experience-Based Top Advisor Engagement Common Support Assessment on Premium 1 Week

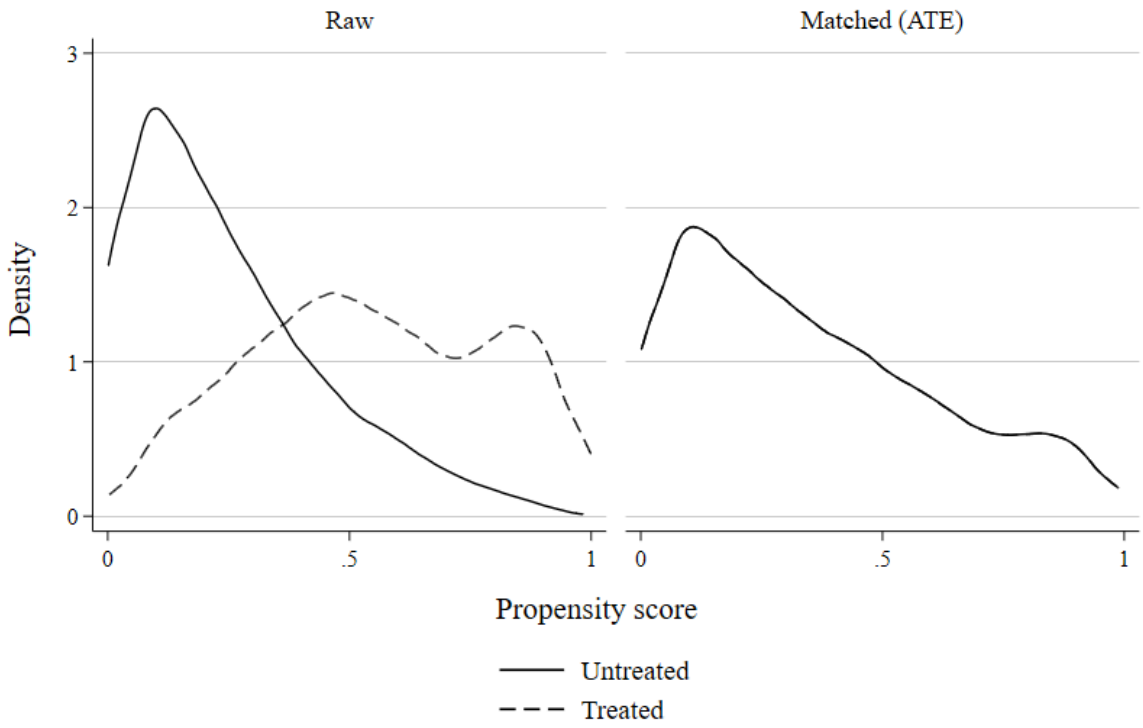


Figure 5. Propensity Score Matching: Experience-Based Top Advisor Engagement Common Support Assessment on Premium 1 Month

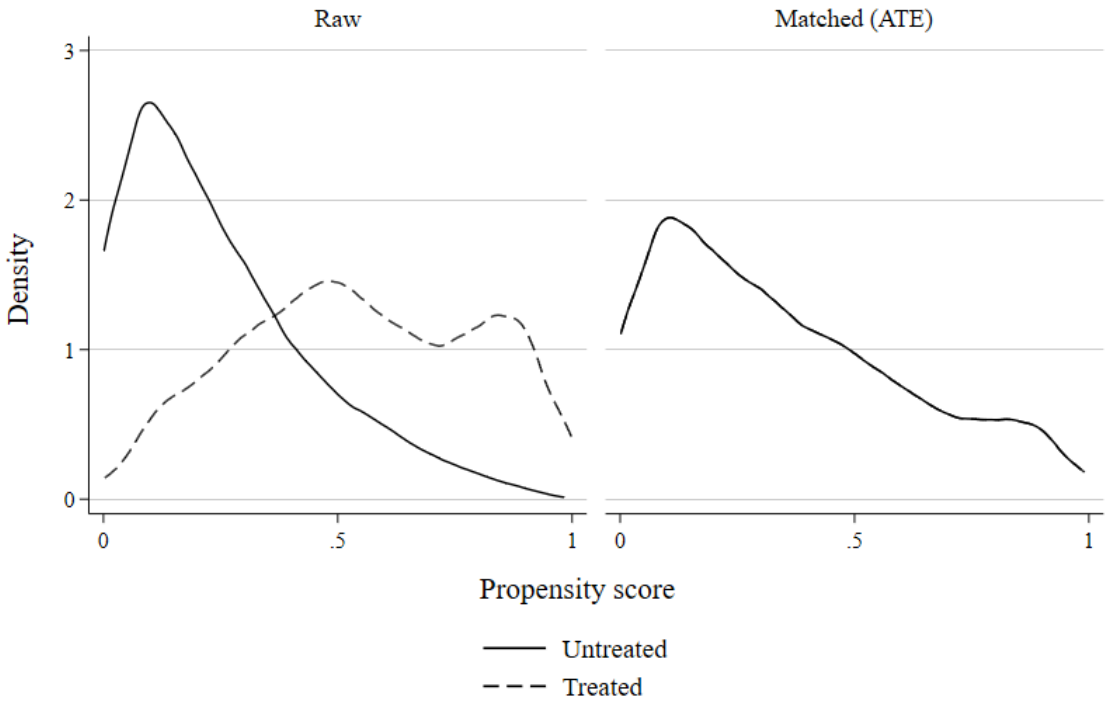


Figure 6. Propensity Score Matching: Experience-Based Top Advisor Engagement Common Support Assessment on CARs (+1/-1)

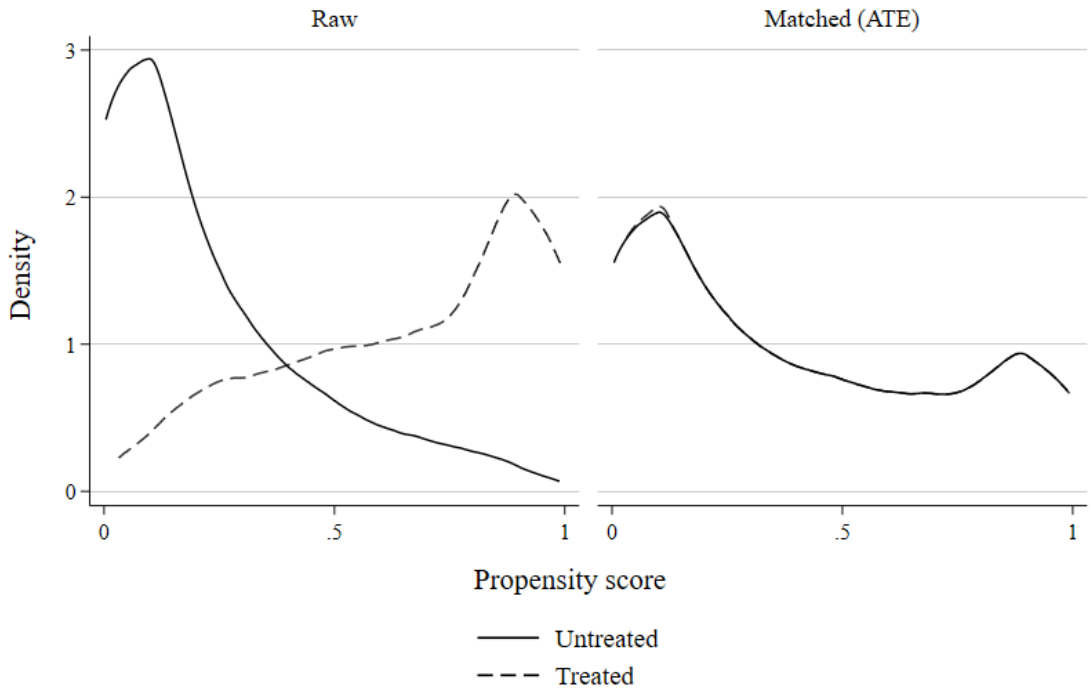


Figure 7. Propensity Score Matching: Experience-Based Top Advisor Engagement Common Support Assessment on CARs (+2/-2)

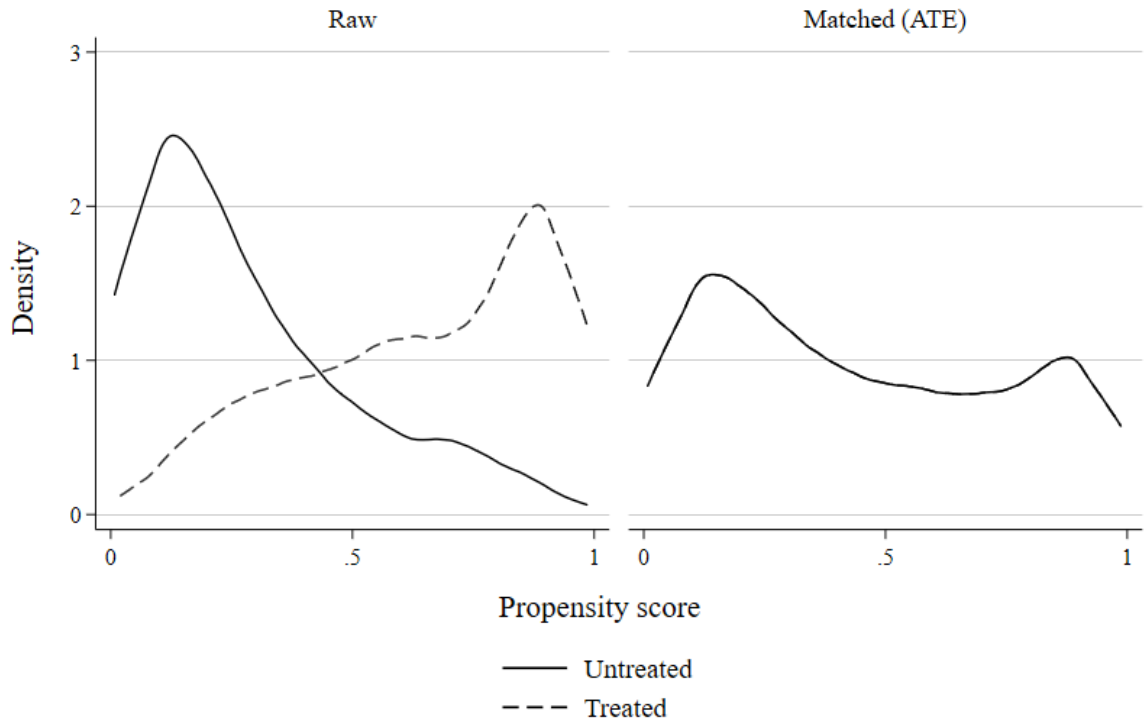


Figure 8. Propensity Score Matching: Experience-Based Top Advisor Engagement Common Support Assessment on CARs (+3/-3)

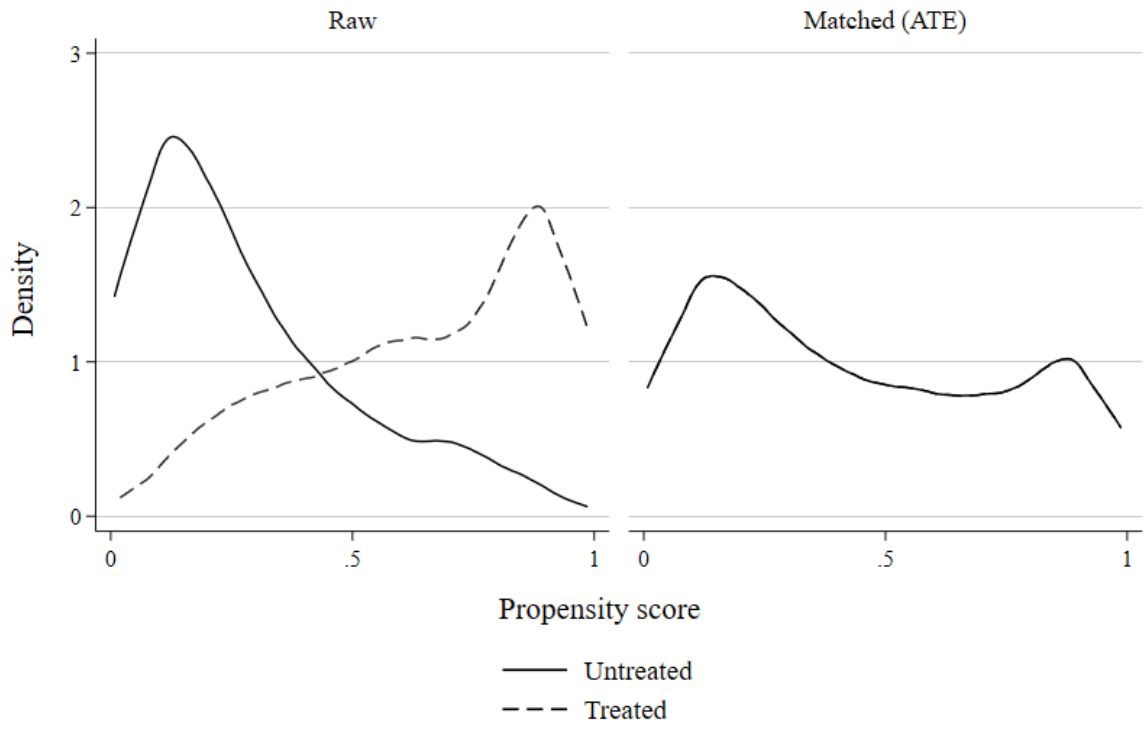


Figure 9. Propensity Score Matching: Experience-Based Top Advisor Engagement Common Support Assessment on CARs (+4/-4)

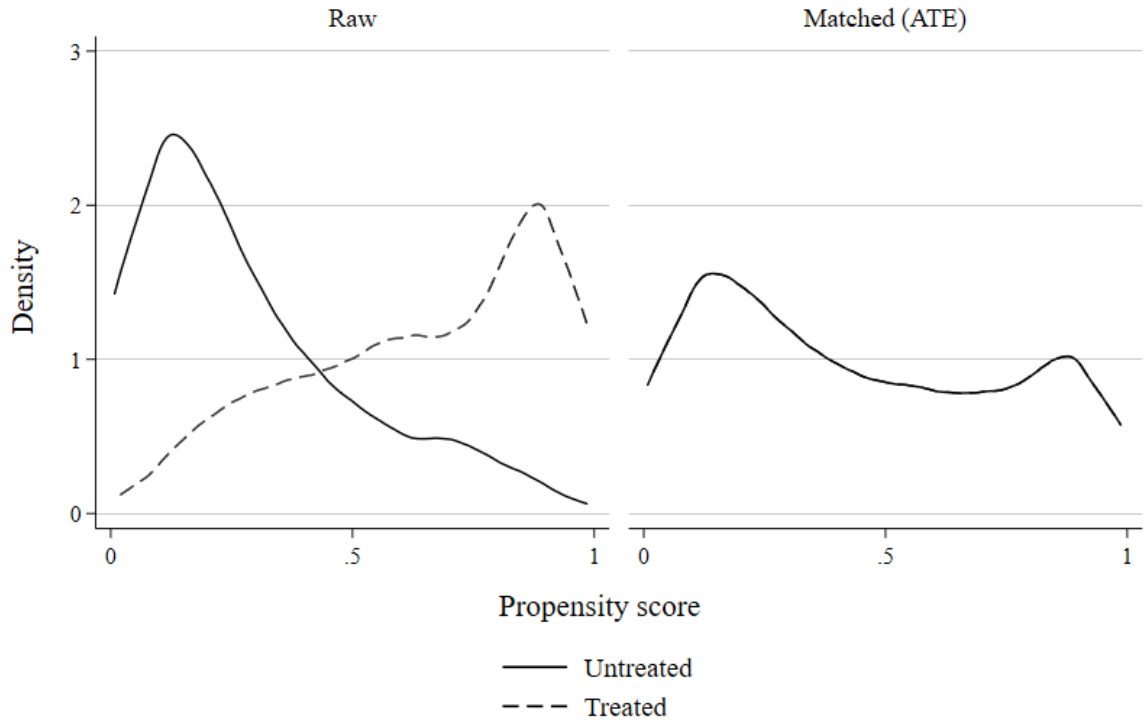
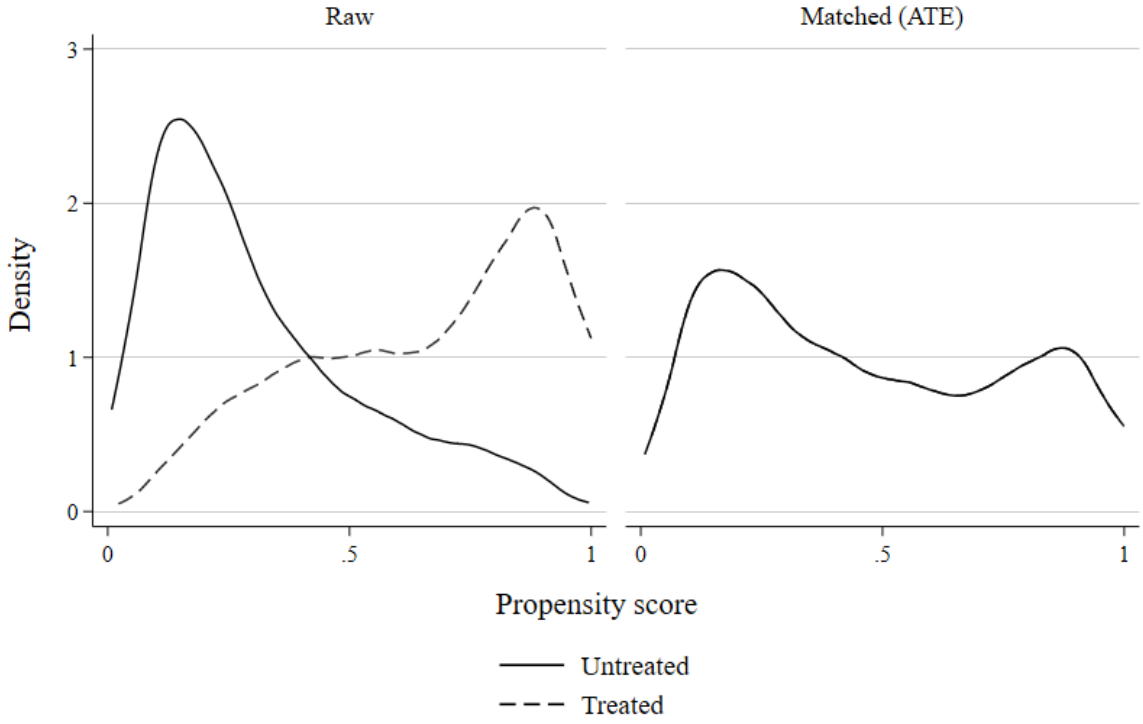


Figure 10. Propensity Score Matching: Experience-Based Top Advisor Engagement Common Support Assessment on Deal Completed



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