EXPLORING OPTIMISM IN RECOMMENDATIONS ACCOMPANYING ANALYST CONFLICT OF INTEREST RULES

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ABSTRACT

This study examines bias in recommendations following the enactment of the research analyst conflict of interest rules introduced around 2002. We label analyst recommendations as being seemingly unaffiliated when contributors are not underwriters but an acquirer or target firm of underwriters. We find that after the introduction of the rules, bias in affiliated recommendations diminishes, whereas seemingly unaffiliated recommendations reveal no signs of difference in their level of optimism. Moreover, both affiliated and seemingly unaffiliated analysts disproportionately issue unfavorable recommendations for unaffiliated firms immediately before the effective date of the rules. Our empirical evidence indicates that seemingly unaffiliated recommendations are subject to conflicts of interest. During the process of mergers and acquisitions, analysts from target firms appear to issue more optimistic recommendations than unaffiliated analysts do on their acquirer firms' clients. After the announcement date, recommendations issued by target analysts are more optimistic than those by unaffiliated analysts despite the fact that former recommendations are relatively pessimistic before the announcement date.

JEL: G24; G28; G34; M41

KEYWORDS: Analyst recommendation; Mergers and acquisitions; Conflicts of interest

INTRODUCTION

A series of changes has taken place over the past two decades among financial institutions. On one hand, a number of mergers and acquisitions (hereafter M&A) have remodeled the landscape of the industry greatly, creating an increasingly complex network. On the other hand, regulations were introduced to address the conflicts of interest and biases reflected in analyst recommendations. Analysts affiliated with an underwriter have received the most attention from both researchers and regulators. We find this description of analyst conflict of interest not a comprehensive picture without detailed analytical accounts of the recommendation behavior of those analysts whose affiliation relationships change along with M&A activities. Therefore, a new definition of analysts' *affiliation* status may benefit our understanding of analyst optimism since these analysts' identities and potential conflicts of interest cannot be fully accounted for by a simple affiliated and unaffiliated dichotomy.

This study closely examines those previously thought to be "unaffiliated" and thus "unbiased" analyst recommendations during the period from 1997 to 2007. For the contributors that are not the underwriters but the acquirer or target firm of the underwriters, we label their analyst recommendations as being *seemingly unaffiliated.* By focusing on this particular group of analysts in the M&A context, we hope to shed new light on the interactions and causality between analysts' affiliation status and recommendation optimism, thus expanding and consolidating our current knowledge of the mechanism of analyst bias. To further our understanding, we also examine the effectiveness of analyst conflict of interest rules in the hope of understanding how regulations may influence sell-side analysts' recommendations in what ways and to what extent.

Existing studies have documented analyst optimism. On one hand, analysts tend to cover the company for which they have truly positive future prospects; in so doing, these analysts' coverage increases the likelihood of their firms to be chosen as underwriters. And when their firms win the underwriting

mandates, the analysts' recommendations become affiliated. On the other hand, analysts may deliberately provide favorable investment recommendations to curry favor with management and/or provide support for previous client companies. In spite of the underlying motivational differences, both situations lead to optimism in the recommendations issued by analysts affiliated with an underwriter--the former is an example of selection bias while the latter is an example of strategic bias. To discern between selection and strategic bias is difficult because of their similar outcomes, but this distinction is beneficial for investors to discount strategic *buy* recommendations, and for regulators to measure the mitigation of conflicts of interest that accompany related rules.

The two types of biases discussed above lead to a similar result that affiliated recommendations are more optimistic than unaffiliated recommendations. In hopes of sorting out this confusing situation, we pose the following question, which forms the basis of this current research: Are these analysts' recommendations, issued by the analysts implicated in an ongoing M&A, affiliated or unaffiliated? Aiming to put a prism into the optimism puzzle, we focus on a number of M&A among financial institutions over the past two decades, examining the seemingly unaffiliated recommendations and comparing their optimism levels with unaffiliated recommendations sequential to the enactment of related rules. We also analyze the recommendation bias of target analysts covering the acquirer's clients and that of the acquirer analysts covering the target's clients.

We further explore recommendation bias in the stages during the M&A process. By treating a major M&A event as the epicenter and by mapping out its possible seismic effects—in the form of foreshocks and aftershocks—into four sample periods, we find that analysts provide the most optimistic recommendations on M&A counterpart's clients during the period between the announcement and effective date. However, after the M&A is complete, bias level diminishes over time. These results support the notion that the incentive for analysts' strategic bias still exists despite the fact that the financial press has cast doubt on analysts' credibility and regulators have enacted rules to improve information disclosure in analyst reports, such as the research analyst conflict of interest rules introduced around 2002. By examining the convergence of the enactment of the rules and the M&A events, we find that the gray zone of an M&A between its announcement and effective dates becomes a loophole in the Chinese Wall: the regulators have no say in overseeing affiliation that has not taken effect, and the investors are unaware of this newly-formed delicate relationship. Our research results show that conflicts of interest still contribute to the bias in analysts' recommendations following the regulations.

Our paper contributes to existing literature in several ways. First, we identify the seemingly unaffiliated analysts, a specific group of affiliation driven by M&A events. Second, we provide new evidence for the impact of the research analyst conflict of interest rules on analysts' optimism in recommendations and gauge their effectiveness on seemingly unaffiliated analysts. Third, we analyze the rating distribution immediately before the effective date of conflict of interest rules and find that analysts disproportionately issued more unfavorable recommendations for unaffiliated firms than affiliated firms. Fourth, we discuss alternative perspectives on selection bias and strategic bias.

The rest of the paper is organized as follows. Section 2 provides a brief institutional and regulatory background. Section 3 reviews the related literature and develops the hypotheses. Section 4 describes the sample selection and the affiliation network construction. We present the research design and results in Section 5 and conclude in Section 6.

INSTITUTIONAL AND REGULATORY BACKGROUND

The Securities and Exchange Commission (SEC) and the self-regulatory organizations (SROs) responded to the analyst scandals in the late 1990s and early 2000s. Extensive rules were imposed on the security research industry to diminish the conflicts of interest in analyst reports. These rules include the Regulation Fair Disclosure (hereafter Reg-FD), NASD Rule 2711 ("Research Analysts and Research Reports"), NYSE amended Rule 472 ("Communications with the Public"), and the Global Analyst Research Settlements (hereafter GS). To enforce the Reg-FD, the SEC prohibits publicly traded

companies and other issuers from making selective disclosures of nonpublic information by issuers to privileged individuals or entities, such as stock analysts, effective as of October 23, 2000. According to NASD Rule 2711 (h)(5) and NYSE amended Rule 472 (b)(3), SROs require disclosure in research reports of the distribution of *buy/hold/sell* ratings and the percentage of investment banking clients within the previous twelve months in each category, announced on May 10, 2002 and effective as of September 9, 2002. For instance, Lehman Brothers disclosed the distribution of ratings in the recommendation report covering JPMorgan Chase & Co on September 21, 2007 as follows:

> *Lehman Brothers Equity Research has 2,073 companies under coverage.*
> *39% have been assigned a 1-Overweight rating which, for purposes of mandatory regulatory disclosures, is classified as Buy rating, 29% of companies with this rating are investment banking clients of the Firm.*
> *44% have been assigned a 2-Equal weight rating which, for purposes of mandatory regulatory disclosures, is classified as Hold rating, 39% of companies with this rating are investment banking clients of the Firm.*
> *12% have been assigned a 3-Underweight rating which, for purposes of mandatory regulatory disclosures, is classified as Sell rating, 26% of companies with this rating are investment banking clients of the Firm.*

The Chinese Wall between research and banking divisions appear to be higher after the GS required ten of the largest banks to physically insulate their analyst and banking departments, an agreement reached on April 28, 2003. As another requirement, part of the settlement by these banks with regulators sanctioned them to spend $450 million to contract with no less than three independent research firms to provide research reports on the brokerage firm's clients. Unlike the disclosure of ratings distribution, this one had a five-year limit, ending in July 2009. This requirement may influence the recommendation ratings of unaffiliated analysts in the sample period 2004-2009. Jacob, Rock, and Weber (2008) argue that conflicts of interest for these independent research firms' analysts may arise since analysts' firms are paid for the research they provide. Because of these regulations, we investigate whether the recommendation ratings between *buy* and *sell* became more balanced, and whether the links between analysts' favorable views and their investment banks' underwriting business became weaker during the post-regulatory period.

Previous studies show that the percentage of *buy* recommendations decreased steadily subsequent to these regulations. Likewise, Barber, Lehavy, McNichols, and Trueman (2006) suggest that the sharp change cannot be explained by macroeconomic conditions but is an indicator of the effect of the implementation of NASD Rule 2711. Recent evidence (e.g., Kadan, Madureira, Wang, and Zach, 2009) reveals that the Chinese Wall regulations have diminished the bias of affiliated analysts documented in the pre-regulatory period.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

This paper is related to three strands of literature. First, selection bias and strategic bias contribute to optimism in analysts' recommendations. Second, lead and co-manager affiliated analysts provide favorable recommendations for clients in hopes of securing or garnering an underwriting business. Third, the enactment of analyst conflicts of interest rules influences security analysts' recommendations.

In the late 1990s, approximately 70% of analysts' recommendations were *buy* and *strong buy*. Most academic research and financial media claim that those optimistic recommendations are attributable to investment banking business. McNichols and O'Brien (1997) find that analysts tend to follow stocks for which they have favorable views, and drop coverage of stocks for which they have unfavorable views. They provide an alternative explanation, namely that the optimistic bias results from self-selection. In contrast to this view, a number of studies show the underlying links between analysts' optimistic recommendations and investment banks' equity underwriting business. Lin and McNichols (1998) study

earnings forecasts and recommendations for firms with seasoned equity offerings (SEO) and find that lead and co-underwriters' analysts have more optimistic recommendations and growth forecasts, but their short-term earnings forecasts are not as optimistic as those of unaffiliated analysts. Michaely and Womack (1999) examine the recommendations for firms with initial public offerings (IPO) and find that lead underwriters' analysts have more optimistic recommendations than unaffiliated analysts have. They also find that investors cannot recognize affiliated analysts' conflicts of interest and discount their biased opinions so that they underperform after following the recommendations by affiliated analysts compared to those by unaffiliated analysts.

In the same fashion, both lead and co-manager analysts provide overoptimistic recommendations following IPOs (James and Karceski, 2006; Bradley, Jordan, and Ritter, 2008). O'Brien, McNichols, and Lin (2005) find that affiliated analysts downgrade their recommendations more slowly. Cliff (2007) argues that selection bias cannot explain the abnormal returns generated in *sell* recommendations by lead underwriter-analysts. With a focus on changes of recommendation bias derived from the different status of affiliation, we introduce a specific group of affiliation driven by M&A events to observe the analysts' being unaffiliated, seemingly unaffiliated and affiliated throughout the different stages of an M&A process.

Krigman, Shaw, and Womack (2001) survey firms that conducted an SEO within three years of their IPO and switched lead underwriters in the period 1993-1995. They find that 88% of the survey responses by the chief financial officers (CFOs) claim coverage-related concerns as a major reason for switching. The CFOs conclude that the main reason for selecting new lead underwriters is that they can strategically buy additional and influential analyst coverage. Nevertheless, Mehran and Stulz (2007) reason that the results of such a survey should not be taken as evidence that CFOs look for biased coverage, but the results do show that they are more concerned with the frequency of coverage. Moreover, Ljungqvist, Marston, and Wilhelm (2006) investigate whether recommendations that are biased upward above consensus ratings help investment banks win underwriting business as lead manager in the period 1993-2002. They find no evidence that aggressive analyst behavior increases their firm's probability of being lead manager, but a prior lending relationship may increase its probability. Furthermore, they conclude that a prior underwriting relationship is also a main determinant for an issuer in choosing the firm's lead manager. On the other hand, Ljungqvist et al. (2009) find that more optimistic recommendations and even the mere coverage for the issuers increase their firm's probability of being co-manager. With the position of co-manager, though there is no prior lending relationship, the chances of serving as lead in the future are still strengthened. These empirical results indicate that the issuing companies consider analysts coverage to be part of the services of the lead manager, and the co-managers that provide positive analyst coverage also increase their probability of becoming the lead manager in the future. Since aggressive analyst behavior may have different influences and originate from varying degrees of motivations towards ingratiation, we present lead and co-managers in supplementary Panels.

We draw on the work of Kadan et al. (2009), who document that affiliated analysts are more likely to provide optimistic recommendations than unaffiliated analysts in the period between November 2000 and August 2002, but the impact of affiliation on optimistic recommendations is no longer significant in the period between September 2002 and December 2004. But there is also evidence that affiliated analysts are still reluctant to provide pessimistic recommendations. Similarly, Ertimur, Sunder, and Sunder (2007) document that the integrity of *buy* and *hold* recommendations improved after May 10, 2002 because the affiliated analysts who had accurate earnings forecasts performance were willing to use their superiority to provide more profitable recommendations. They conclude that analyst conflict of interest arising from underwriting business of their employer was mitigated subsequent to the regulatory reforms.

However, these studies design their analyses around separating the sample based on recommendation types (*buy/hold/sell*): they pay relatively little attention to investigating the rating level of affiliated recommendations, as unaffiliated recommendations are pessimistic on issuing firms. In contrast to those papers, we focus on the differences of recommendations rather than on separate optimism or pessimism ratings. Our study follows Lin and McNichols (1998) in investigating the differences between these two

groups. This approach helps determine whether affiliated analysts are unduly more optimistic than unaffiliated analysts in spite of the implementation of the rules. With a method different from previous studies, we first discern the seemingly unaffiliated analysts and examine the bias in their recommendations. Our research goal is to explore the strategic bias phenomenon that accompanies the research analyst conflict of interest rules. We conjecture that the affiliated analysts avoid providing more optimistic recommendations than unaffiliated analysts because both the media and the investors are aware of the underwriting ties. Moreover, affiliated analysts are also subject to the regulation that demands information disclosure. However, we conjecture that the seemingly unaffiliated analysts, because of the niche of their concealed conflicts of interest, on the contrary, tend to provide more optimistic recommendations than unaffiliated analysts. This may also be explained by the fact that their relations with underwriters are not as publicly known, thus attracting less attention. We capture this conjecture in Hypotheses 1a and 1b:

H1a: underwriter-analysts issue more optimistic recommendations than unaffiliated analysts subsequent to the analyst conflict of interest rules.

H1b: seemingly unaffiliated analysts issue more optimistic recommendations than unaffiliated analysts subsequent to the analyst conflict of interest rules.

Different from previous studies, which break their empirical sample on May or September, 2002 in examining the influence of regulation, we set the interim period from the announcement and effective date of the rules (May 10, 2002 to September 9, 2002). We investigate the rating levels of a large number of recommendations—4,269 provided only on September 8, 2002—which were issued immediately ahead of the effective date of rules. We conjecture that the affiliated analysts avoid providing pessimistic or neutral recommendations on their clients, even though related regulations have inspired analysts to provide more *sell* recommendations. We capture this conjecture in Hypothesis 2:

H2: immediately ahead of the effective date of conflict of interest rules, analysts disproportionately issued more unfavorable recommendations for unaffiliated firms than affiliated firms.

We further compare the recommendations issued by seemingly unaffiliated analysts with those issued by unaffiliated analysts in different stages of M&A process. We conjecture that the most biased recommendations are issued by the analysts implicated in an ongoing M&A, which results from their conflicts of interest and also their concern for job security. As some of the analysts become redundant employees at the newly merged company, they may have incentive to curry favor with their own management. We conjecture that the bias continues to emerge within one year following the effective date of an M&A, but the bias level gradually diminishes as the public begin to associate the seemingly unaffiliated analysts with affiliated analysts, thus canceling the privilege enjoyed by seemingly unaffiliated analysts. We capture this conjecture in Hypothesis 3:

H3a: seemingly unaffiliated analysts issue more optimistic recommendations on their acquirer firm's clients than on those by unaffiliated analysts during the M&A process stages.

H3b: seemingly unaffiliated analysts issue more optimistic recommendations on their target firm's clients than on those by unaffiliated analysts during the M&A process stages.

DATA AND METHODOLOGY

We retrieve analysts' recommendations and broker translation files from Institutional Brokers' Estimate System (I/B/E/S). In April 2009, I/B/E/S created a new version for its recommendation database, in which 10,241 and 2,462 observations under estimator LEHMAN and SCOTT are left out. The former represents 2.66% and the latter represents 0.64% of our total 385,026 records that constitute our sample period from November 1996 to February 2008. Since these deletions may influence our analysis, we adopt a previous version of I/B/E/S. To identify the roles of lead and co-managers in the IPO and SEO

issues during the period from January 1994 to December 2008, we adopt the Securities Data Corporation (SDC) database of the public offerings in US markets, with the elimination of offerings that are classified as investment funds. There are 5,164 IPOs and 7,542 SEOs.

There have been a significant number of mergers and acquisitions among financial institutions over the past two decades. Their significant influences on the relationship network among independent research firms, brokerages, and investment banks are especially obvious from 1997 to 2001. We use three databases and three supplementary sources to construct the relationship periods and types of each affiliated group. Descriptions of the procedure in detail are as follows:

We peruse the files of I/B/E/S BRANFILD and BRANFILI, and find that a broker's long name (BKNAME) changes within the sample period. From the SDC global new issue database, we obtain all managers' parent company variables from the SDC global new issue database, and group underwriters that are identified as being with the same parents. From the SDC Mergers & Acquisitions database, we collect the US and Non-US M&A completed events including not only merger and acquisition deals but also acquisition of assets, acquisition of certain assets, acquisition of majority interest, acquisition of partial interest, and acquisition of remaining interest in order to ensure that our data include brokerage division spin-offs.We further adopt three supplementary sources. We retrieve related information on Factiva, and refer to the footnotes extracted from Thomson One's "miscellaneous" item on US financial companies. We also hand collect the recognition on company websites. These procedures help us specify the affiliation periods and types of each group.

Based on our affiliated network construction, we refine the definition of affiliated recommendations. If a report contributor that employs financial analysts is an underwriter (i.e. an investment bank) or is an affiliated member of an underwriter throughout the history, we classify this as being an obvious broker-underwriter relationship. If a report contributor is affiliated with the underwriters following certain events, such as a merger or an acquisition of assets and/or stakes, we then classify this as being an unobvious broker-underwriter relationship. Recommendations on an IPO or SEO issuer firm with an obvious broker-underwriter relationship between the report contributor and the lead or co-managers are classified as affiliated recommendations. Recommendations on an IPO or SEO issuer firm with an unobvious broker-underwriter relationship between the report contributor and the lead or co-managers are classified as seemingly unaffiliated recommendations. Subsequently, we observe their relationship for one year prior to the event announcement date. Moreover, we verify the seemingly unaffiliated recommendations that are provided during each of the following periods: (1) one year prior to the M&A announcement date (2) between the announcement and the effective date (3) within one year after the effective date (4) over one year past the effective date. These relationship period categories help us identify patterns of change in the analysts' recommendation bias under the acquirer and target firms around the time of an M&A event. To test our Hypotheses 3a and 3b, we separate the seemingly unaffiliated analysts into acquirers and targets to investigate their difference in recommendation bias.

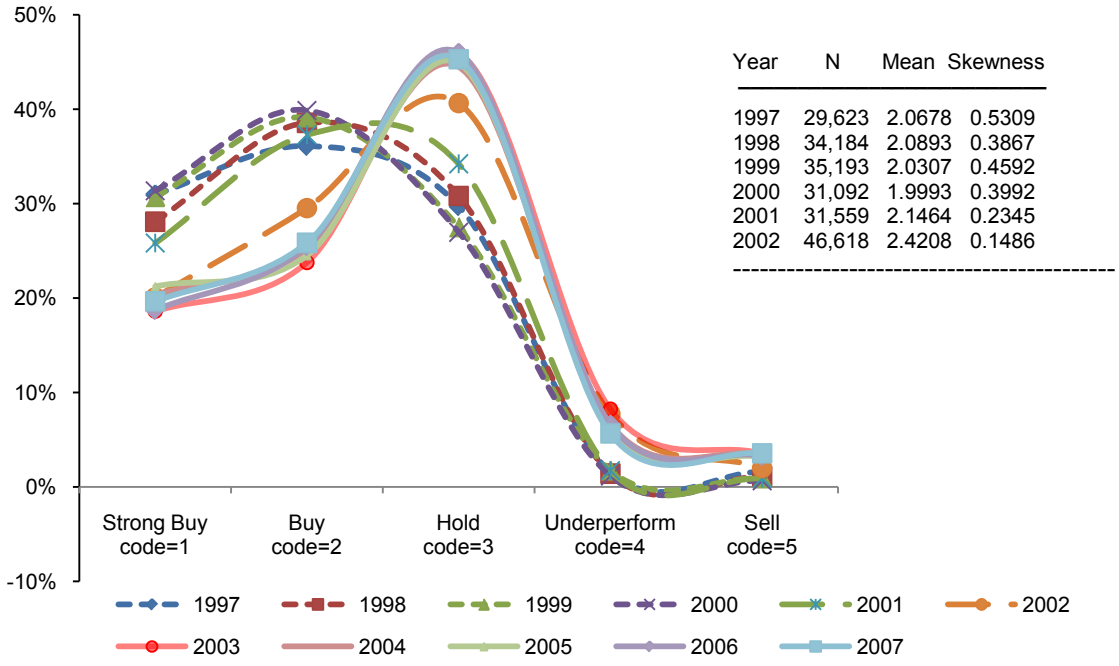
We further specify an unaffiliated recommendation with the following definition: First, recommendations on an IPO or SEO issuing firm neither with an obvious broker-underwriter relationship nor with an unobvious broker-underwriter relationship are classified as unaffiliated recommendations. Namely, the report contributor is a pure brokerage firm or an independent research firm in the U.S. financial market in the period 1994-2008. Second, recommendations on an IPO or SEO issuer firm either with an obvious broker-underwriter relationship or with an unobvious broker-underwriter relationship issued: (1) not subsequent to the offering's issue date within three years; (2) not subsequent to the offering's filing date within one year; (3) not prior to the offering's issue date within one year are classified as unaffiliated recommendations. This definition is adopted because at the time of recommendation issuance, there is no strong evidence for an affiliation relationship and therefore a lack of potential conflicts of interest. We rule out the possibility of remaining influences exerted by a long-gone relationship that has ended for over three years or a future relationship that is not yet foreseeable in one year's time.

In the next step, we collect the affiliated and seemingly unaffiliated recommendations for each security offering company, and match them with the unaffiliated recommendations. To test Hypotheses 1 and 3, we conduct a test for our paired-up sample with a design that meets the following three requirements: 1) all the analyst recommendations investigated are within one year of common stock offering, 2) two pairs of recommendation are established by using the offering issue date as a reference point; that is, a pre-offering pair and a post-offering pair, and 3) the recommendation dates of a matched pair are within sixty calendar days. When there are multiple observations for a security offering, the lead or co-managers affiliated recommendation provided on the date closest to the issue date is selected from the sample. Similarly, when there are multiple observations for a counterpart, an unaffiliated recommendation provided on the date immediately prior to or subsequent to the date of an affiliated recommendation is selected.

EMPIRICAL RESULTS

Figure 1 depicts by year the distribution of recommendation ratings across *strong buy, buy, hold, underperform*, and *sell*. The distribution consistently shows a positive skew, which indicates analysts' significantly greater optimism or higher tendency to withhold negative opinions prior to the implementation of FD-reg, and the degree of over-optimism was moderated subsequent to the implementation of ratings distribution disclosure requirement, effective as of September 9, 2002.

Figure 1: Distribution of Recommendation Ratings and Descriptive Statistics by Year



Year	N	Mean	Skewness
1997	29,623	2.0678	0.5309
1998	34,184	2.0893	0.3867
1999	35,193	2.0307	0.4592
2000	31,092	1.9993	0.3992
2001	31,559	2.1464	0.2345
2002	46,618	2.4208	0.1486

Figure 1 depicts by year the distribution of recommendation ratings from 1997-2007. The proportion of hold recommendations increases from 26.97% to 34.22% in 2001, and then rises to 40.65% in 2002. The solid lines represent the recommendations issued subsequent to the end of 2002; the thick solid line represents the recommendations issued in 2003. The largest proportion of underperform recommendations is 8.25% in 2003. With a skewness coefficient of 0.1 and the greatest mean of 2.54, the ratings distribution in 2003 appears to be more balanced. Two of the largest proportions of hold recommendations are around 46% in 2006 and 2003.

Five of the largest proportions of *hold* recommendations are from 44.85% to 45.96% during the period from 2003 to 2007. The largest proportion of *underperform* recommendations is 8.25% in 2003. The figure shows a more balanced ratings distribution with a skewness coefficient of 0.1 in 2003 accompanying the enactment of the rules. These results expand on those documented by Barber et al. (2006). The proportion of *hold* recommendations increased from 26.97% to 34.22% in 2001, and then

rose to 40.65% of total recommendations in 2002. We measure the average level of ratings by the I/B/E/S 5-tier rating system. Namely, I/B/E/S maps each contributor's naming convention to its own numeric coding system on a scale of 1 to 5 as follows: *strong buy* (code = 1), *buy* (code = 2), *hold* (code = 3), *underperform* (code = 4), and *sell* (code = 5). The highest mean recommendation rating is 2.54, indicating that analysts became less optimistic in 2003.

Our research design is in contrast to Kadan et al. (2009), who document that the coefficient of affiliation dummy is significantly positive on optimistic recommendations in the period between Post-FD reg and Pre-GS, but is not statistically different from zero in the Post-GS period. They also find evidence that the coefficient of affiliation dummy is significantly negative on pessimistic recommendations in both Pre-GS and Post-GS periods. Instead of separating the optimistic and pessimistic recommendations, we conduct our analysis to compare the rating levels between affiliated vs. unaffiliated and seemingly unaffiliated vs. unaffiliated pairs in our subsample to test Hypotheses 1 and 3.

Table 1: Differences of Means between Affiliated and Unaffiliated Recommendations

	N	Mean		Difference			P-Value	
		Affiliated	Unaffiliated	Difference	Std Dev	t-stat	t	Z
Panel A. Full Sample								
Pre-reg	3,256	1.7213	1.9270	-0.2057***	0.9601	-12.22	0.0000	0.0000
AnnEff	291	2.0805	2.2686	-0.1881***	1.1673	-2.75	0.0032	0.0024
Postreg	2,150	2.2889	2.3781	-0.0892***	1.1589	-3.57	0.0002	0.0008
Test for equality		Kruskal-Wallis			Median One-Way			
of distribution		Chi-Square	14.18		Chi-Square	9.32		
across three periods:		P-Value	0.0008		P-Value	0.0095		
Panel B. Lead manager								
Pre-reg	1,852	1.7181	1.9332	-0.2151***	0.9580	-9.66	0.0000	0.0000
AnnEff	199	2.0980	2.2797	-0.1817**	1.1455	-2.24	0.0132	0.0118
Postreg	1,318	2.3668	2.4310	-0.0642**	1.1523	-2.02	0.0217	0.0510
Test for equality		Kruskal-Wallis			Median One-Way			
of distribution		Chi-Square	14.19		Chi-Square	10.21		
across three periods:		P-Value	0.0008		P-Value	0.0061		
Panel C. Co-manager								
Pre-reg	1,404	1.7254	1.9187	-0.1933***	0.9631	-7.52	0.0000	0.0000
AnnEff	92	2.0426	2.2446	-0.2020*	1.2195	-1.59	0.0578	0.0470
Postreg	832	2.1654	2.2942	-0.1288***	1.1690	-3.18	0.0008	0.0015
Test for equality		Kruskal-Wallis			Median One-Way			
of distribution		Chi-Square	1.79		Chi-Square	0.81		
across three periods:		P-Value	0.4076		P-Value	0.6681		

*This table reports differences in means between affiliated and unaffiliated recommendation. The means of difference decreased following the rules. Pre-reg represents the recommendations before the announcement date of regulation (January 1, 1997 to May 8, 2002); AnnEff represents the recommendations during the interim period from announcement to effective dates (May 10, 2002 to September 9, 2002); Post- reg represents the recommendations after the effective date of regulation (September 10, 2002 to December 31, 2007). The symbols ***, **, * denote significance levels of 1%, 5% and 10%, respectively, for the one-tailed test in which the mean equals zero.*

In contrast to Barber et al. (2006), who separate their empirical sample on September 9, 2002 into the pre- and post-period, we take notice of the substantial number of *hold* and *sell* recommendations between the announcement and effective dates and then divide our sample into three subsamples: the pre-regulation period prior to the announcement date (May 10, 2002); the interim period from the announcement to the effective date of the rules; and the post-regulation period subsequent to the effective date (September 9, 2002).

Table 1 shows the differences between affiliated and unaffiliated recommendations. The means of difference decreased following the rules but were still significantly negative with *t*-statistic at the 1% significance level, with the exception of lead managers' difference in the post-regulation period in Panel B and two smaller sample groups in the interim period. The lead managers' difference shrank from -0.2151 to -0.0642, which shows that their optimism in affiliated recommendations was mitigated. We also perform a test to examine whether significant differences exist between the subsample periods. The evidence from Panel A and Panel B indicates that the full sample of underwriters and lead managers have significantly different distributions in three periods, but as indicated by the chi-square, the co-managers' difference has no significantly different distributions in these periods respective with a p-value of 0.41 and 0.67 in the Kruskal-Wallis and Median One-Way tests. In light of the significant difference in the behavior between co- *vis-a-vis* lead managers, we have thus identified a latent subgroup that is distinguishable but largely neglected—the seemingly unaffiliated.

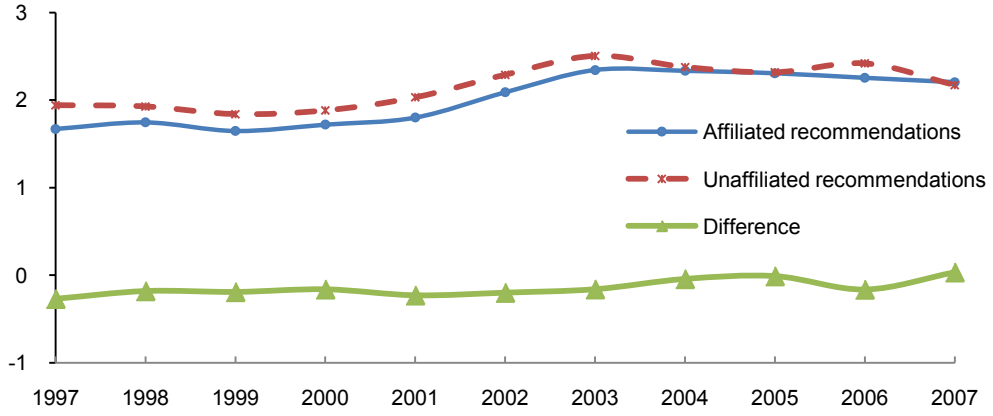
Table 2: Differences of Means between Seemingly Unaffiliated and Unaffiliated Recommendations

	N	Mean			Difference		P-Value	
		Seemingly unaffiliated	Unaffiliated	Difference	Std Dev	t-stat	t	Z
Panel A. Full Sample								
Pre-reg	1,774	1.7375	1.8867	-0.1493***	0.9459	-6.65	0.0000	0.0000
AnnEff	181	2.2136	2.2855	-0.0718	1.0306	-0.94	0.1749	0.1194
Postreg	1,367	2.2042	2.3492	-0.1450***	1.2564	-4.27	0.0000	0.0000
Test for equality		Kruskal-Wallis			Median One-Way			
of distribution		Chi-Square	1.28		Chi-Square	0.73		
across three periods:		P-Value	0.5281		P-Value	0.6946		
Panel B. Lead manager								
Pre-reg	720	1.7347	1.8719	-0.1372***	0.9147	-4.02	0.0000	0.0000
AnnEff	120	2.2250	2.3222	-0.0972	1.0777	-0.99	0.1625	0.1715
Postreg	826	2.2547	2.3669	-0.1121***	1.2582	-2.56	0.0053	0.0065
Test for equality		Kruskal-Wallis			Median One-Way			
of distribution		Chi-Square	0.36		Chi-Square	0.10		
across three periods:		P-Value	0.8361		P-Value	0.9497		
Panel C. Co-manager								
Pre-reg	1,054	1.7394	1.8969	-0.1575***	0.9669	-5.29	0.0000	0.0000
AnnEff	61	2.1913	2.2131	-0.0219	0.9376	-0.18	0.4281	0.2399
Postreg	541	2.1271	2.3222	-0.1952***	1.2530	-3.62	0.0002	0.0001
Test for equality		Kruskal-Wallis			Median One-Way			
of distribution		Chi-Square	2.29		Chi-Square	1.06		
across three periods:		P-Value	0.3186		P-Value	0.5892		

*This table reports the differences in means between the seemingly unaffiliated and unaffiliated recommendation. The means of difference do not see a significant decrease following the rules. Pre-reg represents the recommendations before the announcement date of regulation (January 1, 1997 to May 8, 2002); AnnEff represents the recommendations during the interim period from announcement to effective dates (May 10, 2002 to September 9, 2002); Post- reg represents the recommendations after the effective date of regulation (September 10, 2002 to December 31, 2007). The symbols ***, **, * denote significance levels of 1%, 5% and 10%, respectively, for the one-tailed test in which the mean equals zero.*

Figure 2: Analyst Recommendations by Year

(a) Affiliated vs. unaffiliated



(b) Seemingly unaffiliated vs. unaffiliated

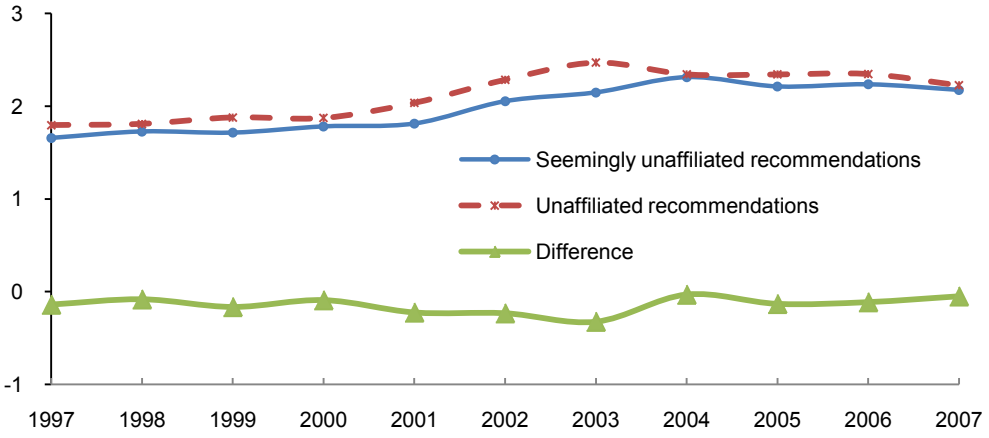


Figure 2 depicts by year the means of recommendation ratings and differences between two groups: (a) affiliated and unaffiliated; (b) seemingly unaffiliated and unaffiliated. The differences are converged in Figure 2(a) and the yearly mean of difference between affiliated and unaffiliated recommendations is positive in 2007 for the first time. The differential degree of optimism in either Figure 2(a) or (b) does not seem to be observable in year 2004, but we can clearly observe in (b) that in 2003 seemingly unaffiliated analysts were significantly more optimistic than unaffiliated analysts.

Thus, evidence supports our alternative Hypothesis 1a that underwriter-affiliated recommendations are more favorable than unaffiliated recommendations in the post-regulation period. This result is inconsistent with Kadan et al. (2009). It may be because their data only cover the period before the end of 2004. In addition, an even more explanatory reason we can find is that they have only considered an underwriting relationship that exists two years prior to the time of the issuance of recommendation. In contrast to their research, our research design has taken into consideration the many facets of a more dynamic, complex, and intricate network of affiliated relationships. In other words, we use a well-defined control group to serve as a comparison to the unaffiliated.

Although a differential degree of optimism in either Figure 2(a) or (b) does not seem to be observable in the year 2004, we can see clearly in (b) that in 2003, seemingly unaffiliated analysts were significantly more optimistic than unaffiliated analysts. Accordingly, Table 2 gives strong evidence for this observation and supports our alternative Hypothesis 1b that seemingly unaffiliated recommendations are still more favorable than unaffiliated recommendations in the post-regulation period. We conjecture that the seemingly unaffiliated are susceptible to conflicts of interest.

In both Table 1 and Table 2, abnormal patterns in the acts of recommendation issuance can be seen during the interim period between the announcement and effective dates. What is shown in Figure 3 is an extraordinary number of 4,269 recommendations issued on a single day right before the regulations took effect. This is in stark contrast to an average number of 115 recommendations per day during our sample period of 3,228 days. In Table 3, we analyze such an abnormal pattern in detail.

Figure 3: Daily Total Number of Recommendations

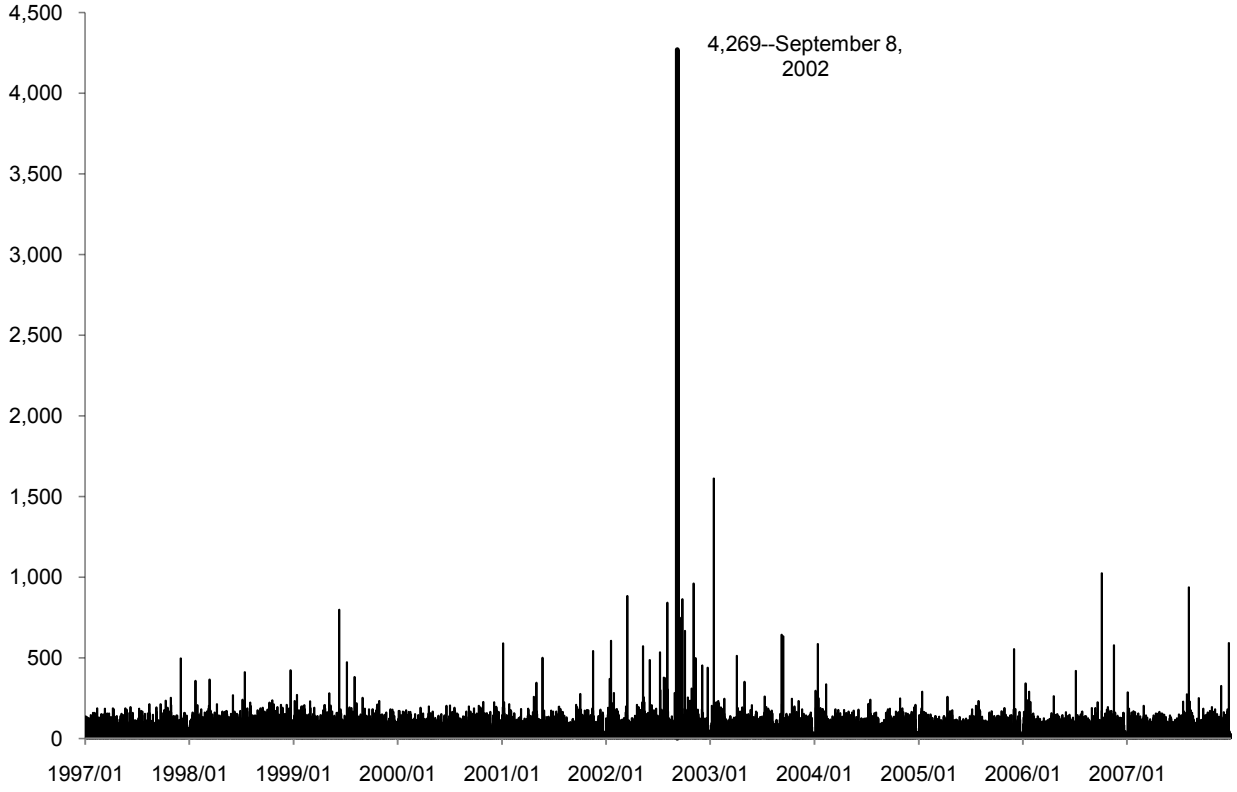


Figure 4 shows a large number of 4,269 recommendations issued on September 8, 2002 immediately before the effective date of rules. However, the average daily number of recommendations is only 115 during this 11-year sample period. These firms changed their rating systems as a response to the requirement of the buy/hold/sell distribution disclosure. The respective numbers of recommendations by their report contributors are as follow: 739 by BEAR; 1,080 by FBOSTON; 13 by GARANTIA; 1,393 by MERRILL; and 1,040 by SMITH, where FBOSTON and GARANTIA are both affiliated members of Credit Suisse.

Table 2 shows that the seemingly unaffiliated analysts provide significantly optimistic recommendations in both Pre- and Post-reg periods, but are not significantly optimistic during the interim period. In Panel A of Table 3, we classify the affiliated and seemingly unaffiliated recommendations under the affiliation category, and compare their optimism with clearly unaffiliated recommendations under the non-affiliation category. The percentages of *buy/hold/sell* in Table 3 show that 42% were issued *hold* on this special day to meet the requirement of the ratings distribution disclosure. However, only 29.7% offered relatively neutral recommendations on their clients, while the majority, 62.7%, still recommended *buy*. In contrast, only 38.5% of the unaffiliated recommendations said *buy*. On the other hand, only 7.6% of the affiliation recommendations said *sell* on their clients, whereas 17.7% of the unaffiliated analysts recommended *sell*. In Panels B and C, we observe the affiliated and seemingly unaffiliated recommendations separately. The evidence shows the disproportion of *buy* rating: 66.1% of affiliated analysts recommended their direct clients and 54.7% of seemingly unaffiliated analysts recommended their counterparts' clients. The seemingly unaffiliated recommendations are not as disproportionate as the affiliated ones, but are still more optimistic than unaffiliated ones on this day. Overall, the ratings reveal significant inequality between affiliation and non-affiliation groups in the Wilcoxon Rank Sums

and Kolmogorov-Smirnov two sample tests.

This analysis is consistent with our conjecture that the affiliated analysts avoid providing pessimistic or neutral recommendations on their clients, and disproportionately issued more unfavorable recommendations for unaffiliated firms than affiliated firms even on this special day. These recommendations were issued by six brokerage firms, with both FBOSTON and GARANTIA being affiliated members of Credit Suisse. They collectively picked this *special* Sunday for carrying out the adjustment of rating system. This strategic move is also what particularly propels us to consider a seemingly unaffiliated relationship. In Table 4, it is shown that the average ratings of recommendations issued by seemingly unaffiliated analysts are more pessimistic than those by unaffiliated analysts without significance prior to the announcement date of M&A events in Panel A. Accompanying the M&A's announcement, the average ratings are biased towards optimism, especially seen in target analysts providing recommendations on the acquirer's clients in Panel C. The average value is equal to 1.5 in the interim period on those seemingly unaffiliated recommendations provided by target firms' analysts.

Table 3: Analyst Recommendations Issued on September 8, 2002

Recommendation			Affiliation (a)		Non-affiliation (b)		Ratio	Difference in
Type	N	%	N	%	N	%	(a) / (b)	%
Panel A. Full Sample								
Strong Buy and Buy	1,777	41.6%	347	62.7%	1,430	38.5%	1.63	24%
Hold	1,794	42.0%	164	29.7%	1,630	43.9%	0.68	-14%
Underperform and Sell	698	16.4%	42	7.6%	656	17.7%	0.43	-10%
Subtotal	4,269	100.0%	553	100.0%	3,716	100.0%		
Test for equality		Wilcoxon (Rank Sums)			Kolmogorov-Smirnov			
of ratings			Z	-10.79	KS	0.0815	D	0.2427
between two samples:			P-Value	0.0000	KSa	5.3241	P-Value	0.0000
Panel B. Affiliated vs. unaffiliated								
Strong Buy and Buy	1,689	41.1%	259	66.1%	1,430	38.5%	1.72	28%
Hold	1,743	42.4%	113	28.8%	1,630	43.9%	0.66	-15%
Underperform and Sell	676	16.5%	20	5.1%	656	17.7%	0.29	-13%
Subtotal	4,108	100.0%	392	100.0%	3,716	100.0%		
Test for equality		Wilcoxon (Rank Sums)			Kolmogorov-Smirnov			
of ratings			Z	-10.77	KS	0.0811	D	0.2759
between two samples:			P-Value	0.0000	KSa	5.1952	P-Value	0.0000
Panel C. Seemingly unaffiliated vs. unaffiliated								
Strong Buy and Buy	1,518	39.2%	88	54.7%	1,430	38.5%	1.42	16%
Hold	1,681	43.4%	51	31.7%	1,630	43.9%	0.72	-12%
Underperform and Sell	678	17.5%	22	13.7%	656	17.7%	0.77	-4%
Subtotal	3,877	100.0%	161	100.0%	3,716	100.0%		
Test for equality		Wilcoxon (Rank Sums)			Kolmogorov-Smirnov			
of ratings			Z	-3.67	KS	0.0323	D	0.1618
between two samples:			P-Value	0.0001	KSa	2.0095	P-Value	0.0006

This table shows relatively neutral ratings on September 8, 2002. Affiliated and seemingly unaffiliated analysts issue a higher percentage of optimistic ratings, and unaffiliated recommendations have a higher percentage of pessimistic ratings.

On the other hand, the mean is 1.89 on recommendations provided by acquirer analysts on their target's clients in the interim period, and there is no difference in comparison with unaffiliated recommendations at a 10% significance level. The sample size of the acquirer recommendation is smaller than that of the target recommendation because target firms may have less underwriting business or because they are originally just pure brokerage firms. Another explanation is that during this period, the firms have not yet influenced their own analysts to favorably recommend their target firms clients. During these two later periods, the average value of recommendations provided by acquirer analysts on the target's clients is significantly more favorable than that of unaffiliated recommendations in Panel C. The optimism in

seemingly unaffiliated analysts appears to gradually decrease following the M&A's effective date but is still more optimistic than unaffiliated recommendations at 1% significance level in the three Panels. These results support Hypotheses 3a and 3b; seemingly unaffiliated analysts issue more optimistic recommendations on their counterparts' clients than on those by unaffiliated analysts during the M&A process stages. Interestingly, as an M&A starts to take effect over a longer period, this over-optimism is gradually checked. It may be because this affiliation relationship is then a well-known fact. We conclude that in the last stage, their behavior pattern is almost identical to that of the obviously affiliated, and conflicts of interest are seen to have the greatest influences at the time between the announcement and effective dates of M&A. It is arguably a loophole in the enactment of the regulations.

Table 4: Seemingly unaffiliated Analysts: acquirer and target recommendations for counterpart's clients

Variable	N	Mean					P-Value	
		Seemingly unaffiliated	Unaffiliated	Difference	Std Dev	t-stat	t	Z
Panel A. Full Sample								
Pre-M&A Announcement	412	1.9175	1.8932	0.0243	0.9887	0.50	0.3093	0.3936
AnnEff	152	1.5921	1.8487	-0.2566***	0.9314	-3.40	0.0004	0.0005
Post-M&A Eff within 1 yr	491	1.7251	1.8860	-0.1609***	0.9458	-3.77	0.0001	0.0001
Post-M&A Eff > 1 yr	2,592	2.0436	2.2238	-0.1802***	1.1464	-8.00	0.0000	0.0000
Panel B. Acquirer								
Pre-M&A Announcement	154	1.8312	1.9805	-0.1494**	1.0212	-1.81	0.0358	0.0303
AnnEff	36	1.8889	1.9167	-0.0278	0.9706	-0.17	0.4323	0.4360
Post-M&A Eff within 1 yr	80	1.6875	1.8750	-0.1875**	0.9820	-1.71	0.0458	0.0605
Post-M&A Eff > 1 yr	549	2.2240	2.3607	-0.1366***	1.2178	-2.63	0.0044	0.0025
Panel C. Target								
Pre-M&A Announcement	258	1.9690	1.8411	0.1279**	0.9558	2.15	0.0163	0.0240
AnnEff	116	1.5000	1.8276	-0.3276***	0.9115	-3.87	0.0001	0.0001
Post-M&A Eff within 1 yr	411	1.7324	1.8881	-0.1557***	0.9397	-3.36	0.0004	0.0004
Post-M&A Eff > 1 yr	2,043	1.9951	2.1870	-0.1919***	1.1264	-7.70	0.0000	0.0000

*In this table, Pre-M&A Announcement indicates the recommendations are made before the M&A announcement on their counterpart's clients; AnnEff indicates the recommendations are made during the interim period from announcement to effective dates; Post-M&A Eff within 1 yr indicates the recommendations are made after the effective dates within one year. Post-M&A Eff > 1 yr indicates the recommendations are made after the effective dates over one year. This table shows the average ratings of recommendations issued by seemingly unaffiliated analysts are pessimistic prior to the announcement date of M&A events in Panel A and Panel C. The optimism of target firms' analysts appears in the interim period from announcement to effective dates and gradually decreases as the M&A goes into effect. The symbols ***, **, * denote significance levels of 1%, 5% and 10%, respectively, for the one-tailed test in which the mean equals zero.*

CONCLUSION

This paper identifies a group of seemingly unaffiliated recommendations for which the contributors are not the underwriters but the acquirer or target firms of the underwriters. After investigating these relationships and refining the definition of affiliated recommendations, we examine the average rating difference between seemingly unaffiliated and unaffiliated recommendations as well as that between affiliated and unaffiliated recommendations. We find the average level increases toward a *hold* rating following the implementation of research analyst conflict of interest rules, but the seemingly unaffiliated analysts linked with either a lead or co-manager underwriting relationship provide significantly more optimistic recommendations than unaffiliated analysts. This stands true even in the post-regulation period, which shows that the rules do not effectively control this type of latent conflict of interest. The bias was especially blatant in year 2003. Turning to the affiliated analysts, we document the near disappearance of this type of over-optimism in 2004, and in 2007, affiliated analysts were even more pessimistic than unaffiliated analysts were. However, as we extend our empirical sample to cover the five years following the enactment of the rules, they appear to be significantly more optimistic than the unaffiliated analysts at 1% significance level. This result is inconsistent with Kadan et al. (2009), who conclude that the impact of affiliation on optimistic recommendations is no longer significant in the

post-regulation period. The contrast in our results may be accounted for due to our differences in research design, or simply due to the fact that their empirical period only extends to 2004. Moreover, our results show that the over-optimism of the lead affiliated analysts is more effectively under control than that of the co-manager affiliated analysts.

Through analyzing the rating distribution immediately before the effective date of the rules, we find that analysts disproportionately provide more unfavorable recommendations for unaffiliated firms than affiliated firms. On this single day, the *hold* rating had a total 42% share, but for the affiliated recommendations, the *hold* rating was merely 29.7% and the optimistic rating was 62.7%. The evidence shows the disproportion of buy rating: 66.1% of affiliated analysts recommended their clients and 54.7% of seemingly unaffiliated analysts recommended their counterparts' clients. The seemingly unaffiliated recommendations are not as disproportionate as affiliated ones, but are still more optimistic than unaffiliated ones on this day.

By designating a seemingly unaffiliated group, we attempt to shed light on the dynamics of strategic bias in different stages during the process of M&A. The evidence shows that: (a) before the announcement date there is no significant level of optimism; (b) the smallest average value among the four sample groups is seen during the interim period in the seemingly unaffiliated recommendations, provided by target firms' analysts who cover the clients of their acquirers, while during the same period the acquirer firms' analysts do not show a significant level of optimism in covering their target clients compared to the unaffiliated; (c) this degree of optimism turns slightly moderate following the effective date, but is still significant.

This seemingly unaffiliated relationship becomes clearly transparent after the effective date of an M&A, and during the last stage, the behavior of the seemingly unaffiliated analysts is almost identical to that of the obviously affiliated. Further, we observe the pinnacle of the influences brought by conflicts of interests in the interim period between the announcement and effective dates of M&A. This is understood as a reflection of strategic bias since there are no significantly positive biases before the announcement.

We conclude that strategic bias may be under the control of the rules, but is not thoroughly rooted out, and it rises to prominence especially when its existence is not known and its maneuver or orchestration does not spur or attract due attention. In sum, the strategic bias that compromises research neutrality and objectivity still taints analyst recommendations with unduly optimism and distortions when their affiliation status and conflicts of interest are less exposed.

Our research design combines both IPO and SEO offerings while also including both pre- and post-offering recommendations. To consolidate our research results, one area of future work is to include in our research framework the variables of the proceeds amount and gross spreads in these equity offerings and calculate the revenue from underwriting. Moreover, we can analyze levels of bias in different types of acquisitions for our future research, such as in an acquisition of majority interest and/or an acquisition of partial interest.

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