Do IPO Analysts Issue Unfavorable Recommendations on Non-IPO Firms?

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Abstract

An analysis of 3,569 recommendations made by 1,601 IPO analysts from January 1997 through June 1999 indicates that analysts downgrade comparable non-IPO firms before they initiate research coverage on IPOs. For these non-IPO firms, receiving the rating before the IPO initiation results in a five-day abnormal return of –0.7%. Yet, IPO stocks on five days surrounding the last recommendation on non-IPOs report a significant abnormal return of +1.1%. Adjusting for other factors, downgrades of non-IPO stocks by analysts affiliated with the lead manager are negatively associated with the price performance of IPOs after the initial offering day. The evidence suggests that analysts are downgrading non-IPO stocks to support cold issues placed by the underwriters they are affiliated with.

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On January 12, 2004, a French court found Morgan Stanley guilty of issuing research biased against LVMH Moët Hennessy Louis Vuitton SA. It ordered the Wall Street securities firm to pay $38 million in damages. LVMH had accused Morgan Stanley analyst, Claire Kent, of casting the luxury goods firm in a bad light in order to support her own investment banking client, the rival Gucci Group NV and its parent, Pinault-Printemps-Redoute SA. The 2004 verdict was issued nine months after ten investment banks, including Morgan Stanley, had agreed to pay $1.4 billion to settle U.S. regulators' charges that their stock ratings were upward biased in order to win lucrative investment banking business.

There is prior literature on conflicts of interest for sell-side equity analysts. The pressure on analysts to produce favorable reports on initial public offering (IPO) firms, both before and after the initial offering, is well documented and has attracted considerable regulatory attention. The LVMH-Morgan Stanley case suggests another way in which analysts might support investment banking business. Unlike the U.S. regulatory actions involving analysts who issued

overly rosy research on the stocks of investment bank clients, the French suit concerns "talking down" a competitor's stock.

Do favorable analyst recommendations on IPOs imply a relative unfavorable disposition toward comparable non-IPO firms? I explore this question by investigating recommendations on non-IPO firms before analysts cover IPOs (a non-IPO is a listed firm already covered by analysts). The evidence collected for a sample of 3,569 recommendations issued by 1,601 IPO analysts from January 1997 through June 1999 indicates analysts favor IPOs over non-IPOs. The last recommendation analysts issue on comparable non-IPOs, before initiation of coverage on IPOs, is significantly poorer than the first rating assigned to the issuing firm. The favorable disposition toward IPOs at the expense of non-IPOs is common to all analysts, although there is a greater difference in the ratings for analysts affiliated with the IPO lead manager.

Analysis of the last two recommendations of the same analyst on the same non-IPO firm indicates that analysts on average significantly downgrade non-IPO stocks before they initiate coverage on IPOs. The average downgrading practice is also common across analysts categorized by investment banking affiliation. Yet, analysts affiliated with the lead underwriter issue a better next-to-last recommendation on non-IPOs than unaffiliated analysts, preceding a more favorable first rating for IPOs.

Analyst reputation as well as affiliation with an underwriter affects downgrading practices. All-star analysts working for brokerage houses affiliated with the lead manager significantly downgrade comparable non-IPOs before they issue a less favorable recommendation on IPOs. Since recommendations by all-stars attract high attention, downgrading comparable non-IPOs is likely to be used as a less evident practice than issuing strongly favorable reports to support investment banker's clients.

Analysts' unfavorable attitude toward non-IPO stocks is costly. For non-IPO firms, receiving the rating before the IPO initiation results in a five-day cumulative abnormal return of –0.7%. Yet, IPO stocks on five days surrounding the last recommendation on non-IPOs report a

significant positive abnormal return of +1.1% (+0.5% for a three-day window). Similar market-adjusted returns for both non-IPOs and IPOs result when the last recommendation occurs during the quiet period.[1] Event study results suggest that the average unfavorable recommendation on non-IPO stocks benefits IPOs. In other words, unfavorable disposition toward non-IPOs and favorable disposition toward IPOs are two sides of the same coin.

There are two hypotheses that explain the evidence, information content and conflict of interest. Test results support a combination of the two stories. Analysts do not downgrade non-IPO stocks arbitrarily. Analyzing the actual earnings-price ratios, comparable non-IPO firms report low mean growth prospects when they receive the downgraded rating. Adjusting for other factors, downgrades by analysts affiliated with the lead underwriter are associated with the initiation of coverage on IPOs experiencing cold prices after the initial offering day. This suggests that analysts attempt to support cold issues placed by their own investment banks (a cold issue is defined as a newly listed stock reporting a negative cumulative abnormal return since the first trading day). Before they initiate coverage on IPOs, analysts affiliated with the lead manager may have more incentive than unaffiliated analysts to issue a recommendation on non-IPOs with poor prospects in order to support IPOs reporting modest price performance.

Finally, it is interesting to note that the evidence on analyst dependence that has been collected by regulatory authorities and also documented by prior literature mostly relates to the so-called bubble period. In this study, the results relate to the prior period, and do not negate the hypothesis of conflict of interest in the recommendations issued on non-IPO stocks by IPO analysts from 1997 through the first half of 1999.

The remainder of the paper is organized as follows. Section I discusses the related literature. Section II describes sampling procedures and reports the average ratings for non-IPO

[1] About 17% of the sample last ratings on non-IPOs are issued during the IPO "quiet period," the 25-calendar day period following completion of an IPO, when firms and their underwriters are prohibited from publishing opinions concerning valuation and from making forward-looking statements regarding earnings, revenues, and similar items. The U.S. Securities and Exchange Commission regulation has recently extended the quiet period to 40 days.

firms issued by analysts before initiating coverage on IPOs. Section III tests the possible explanations of the unfavorable analyst disposition toward non-IPOs. Section IV formally tests the information content and the conflict of interest hypotheses using a multiple regression format. The final section summarizes the results.

I. Related Literature

Despite the independence principle, analyst coverage is clearly an important service that investment bankers provide for a new equity issue, along with pricing and distribution. Researchers have analyzed the incentive of issuing firms to select an investment bank whose analysts are more favorable. For a sample of 360 recommendations issued from 1990 through 1991 period, Michaely and Womack (1999) document that analysts affiliated with the lead underwriters are favorably biased in their first recommendation on IPO firms. In the month after the quiet period, lead underwriter analysts issue half again as many buy recommendations on the IPO as analysts from other brokerage firms. Investors expect affiliated analysts to look favorably on issuing firms. In fact, the market responds differently to the announcement of buy recommendations by lead underwriter analysts and unaffiliated analysts. Average IPO size-adjusted excess returns at the event date are 2.7% for underwriter analyst recommendations versus 4.4% for unaffiliated recommendations.

Lin and McNichols (1998) report that three-day returns upon the announcement of lead underwriter analyst hold recommendations are significantly more negative than returns upon unaffiliated analyst hold recommendations in the seasoned equity offering (SEO) market. This suggests investors expect lead analysts are more likely to recommend a hold when they really mean sell. Cliff (2004) finds that independent analyst recommendations are as favorable as affiliated analysts.

Issuers may also want to select a lead underwriter with influential analysts. Dunbar (2000) reports that market share changes of established IPO underwriters are correlated with analyst reputation. Mola and Loughran (2004) find analyst reputation also significantly affects the subsequent SEO market share of underwriters. The higher an analyst ranking in the *Institutional Investor* All-America Research Team, the greater the subsequent change in market share. Corwin and Schultz (2004) find that presence of a top-ranked analyst in the issuer's industry significantly enhances the likelihood that an underwriter will be included in a syndicate. Krigman, Shaw, and Womack (2001) indicate that the perceived quality of the affiliated analyst team is a key factor affecting underwriter selection. In the mid-1990s, 30% of firms completing an SEO within three years of their IPO switched lead manager in order to secure additional (and influential) analyst coverage from a new underwriter. Despite a strong relationship between analyst reputation and underwriter reputation, Bradley, Jordan, and Ritter (2003) find that, after expiration of the quiet period for IPOs, abnormal returns are much higher when multiple analysts initiate coverage. It does not matter whether a recommendation comes from the lead underwriter or not.

Other studies focus on the compensation issuers pay the lead manager providing favorable and influential research coverage. Rajan and Servaes (1997) first find that higher underpricing leads to more analyst forecasts per reporting period during the first year after the IPO. Loughran and Ritter (2002) argue that in the 1990s the documented increase in IPO underpricing is mainly driven by the increasing importance of analyst coverage for issuers. Cliff and Denis (2004) confirm for an IPO sample over 1993-2000 that IPO underpricing is positively related to analyst coverage provided by the lead underwriter and to the presence of an all-star analyst on the research team.

Relative to prior literature, this study first focuses on analyst recommendations on non-IPOs. Our analysis of recommendations on non-IPO comparables contributes to better

understand the favorable disposition of influential analysts affiliated with lead investment banks toward IPO companies.

II. Data, Sampling Procedures, and Main Facts

A. Data and Sampling Procedures

For data I look at all common stock initial public offerings by U.S. operating companies from January 1997 through June 1999 as identified by the Securities Data Company (SDC). I eliminate from the data closed-end investment funds, real estate investment trusts, unit investment trusts, beneficial interests, limited partnerships, American Depository Receipts, and rights and unit issues. For inclusion in the analysis, the issuing stock must be traded on the New York Stock Exchange (NYSE), the American Exchange (Amex), or Nasdaq as the primary listed exchange. Application of these criteria leaves 838 IPOs.

For each issuing company, I searched IBES for all the first analyst recommendations (also called coverage initiations) within one year of the IPO date. These data identify initiating analyst (last name and first initial, IBES analyst code, and firm), recommendation date, and rating assigned. *Nelson's Directory of Investment Research* identifies initiating analysts by full name and corporate affiliation. Bradley, Jordan, and Ritter (2003) note that rating schemes analysts use are not standardized, but can vary from one brokerage house to another, so we use the standard IBES recommendations. The format is 1 = "strong buy," 2 = "buy," 3 = "hold," 4 = "underperform," and 5 = "sell." Each analyst recommendation is mapped to one of the five standard values.

In the one year since their IPO dates, 44 issuing firms report no recommendation. These are minor offerings raising, on average, about $18 million of proceeds. When I eliminate these uncovered issuing firms, the final sample consists of 3,569 initiations issued by 1,601 analysts on 794 firms going public over the 1997-June 1999 period. Table I summarizes the main descriptive

statistics for the sample. The 794 issuing firms initially covered by the analysts raised on average $144 million as total proceeds during the public offering. Most firms operate in non-technical industries as defined by Loughran and Ritter (2002), and their common stock is traded more on Nasdaq than on the NYSE or Amex. A significant portion of the sample IPOs (44%) are venture capital-backed.

Among the 1,601 analysts initiating coverage on the issuing firms, 198 are all-stars selected by *Institutional Investor* in the prior calendar year. Each October the magazine announces its All-America Research Team, which includes, for each industry, the three sell-side equity analysts and one runner-up who provided the highest research quality according to money managers and institutions.

On average, any analyst initiated coverage on about two IPO stocks over the analyzed period; initiations by the same analyst range from 1 to 24. About 20% of the overall 3,569 initiations are issued by analysts affiliated with the IPO lead manager (otherwise known as the book manager or the underwriter); and about 34% by analysts affiliated with co-lead managers. The remaining initiations come from unaffiliated analysts who are not associated with any member of the managing syndicate. In a typical syndicate, unaffiliated analysts may work for other underwriters different from lead and co-lead managers or, they may be fully independent from any member of the syndicate (Chen and Ritter, 2000). The unaffiliated analysts in this case become a control group, as the research shows that just managers play a significant role in the due diligence process, in building the book, in setting the price, and in aftermarket support. The business relationship between the issuer and other members of the syndicate is less operable or even not present (Michaely and Womack, 1999; Ellis, Michaely, and O'Hara, 2000; Corwin and Schultz, 2004).[2]

[2] The affiliation between analyst brokerage house and IPO investment banker has been controlled to properly take into account consolidations in the underwriting industry; see the appendix in Corwin and Schultz (2004).

Sample analysts initiate coverage on IPO stocks, on average, within 134 calendar days of the initial public offering date. The initiation time is different depending on analyst affiliation. For analysts affiliated with the managing syndicate, the average initiation occurs about two months after the IPO date. Unaffiliated analysts generally take about seven months to issue their first IPO recommendations. This confirms that the group of unaffiliated analysts is different from the other two categories of affiliated analysts.

At the time they initiate coverage on IPOs, most analysts are already providing recommendations on other stocks. Analyst research is generally industry-specialized, and the IPO analysts cover a portfolio of stocks that are comparable to the issuing firm. I call the firms analysts already cover before their IPO initiation *non-IPO firms*. *Nelson's Directory of Investment Research* reports names and industry for these non-IPO firms covered by analysts. Generally, non-IPO firms operate at least in the two-digit SIC code industry of the IPOs.

B. Main Facts

Each calendar quarter the sample analysts issue more than 700 recommendations on non-IPO firms. Figure 1 graphs the average rating issued by sample analysts on non-IPO firms over time, categorized by analyst affiliation. The average recommendations on non-IPO firms are determined for the IPO calendar quarter (Q_{ipo}), for each four calendar quarters prior to the IPO (Q_{-4}, Q_{-3}, Q_{-2}, and Q_{-1}), and for each four calendar quarters following the offering (Q_{+1}, Q_{+2}, Q_{+3}, and Q_{+4}).

After quarter Q_{-3} the average recommendation issued by analysts affiliated with the lead manager rises from less than 1.92 to 2.02 in Q_{ipo}. On a five-point scale where 1 is the best rating and 5 the worst, an increase means an average downgrading for non-IPO stocks. In the quarter after the initial issue, Q_{+1}, we see the highest average recommendation by analysts affiliated with the lead manager (over 2.06). (We have noted that the average coverage initiation on IPO stocks occurs in either quarters Q_{ipo} or Q_{+1} for analysts affiliated with the lead underwriter.) In the next two quarters, the average rating declines for non-IPO stocks.

The pattern of recommendations is different for unaffiliated analysts. There is a smoother up-and-down trend around the rating of 2.00. There is also no specific change in ratings for non-IPO firms in the quarter of the average initiation on IPOs, Q_{+2}.

To analyze the change in non-IPO ratings by analyst affiliation, I manually collect from IBES the last recommendations analysts issued on non-IPO firms just before they initiated coverage on IPO stocks. For 747 initiations of 3,569, the same analyst issues more than one recommendation on non-IPO firms on the same day. In this case, the average of the ratings is included in the sample. The timeline below shows that the average non-IPO last recommendation occurs 38 calendar days before the coverage initiation day on IPO stocks. The quiet period, which expires 25 calendar days after the IPO date, is included as a reference point.

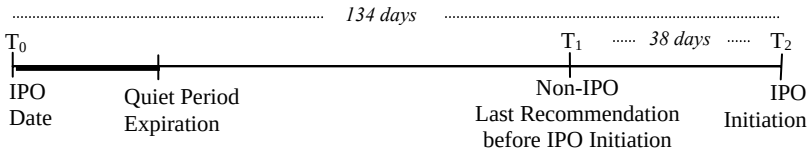


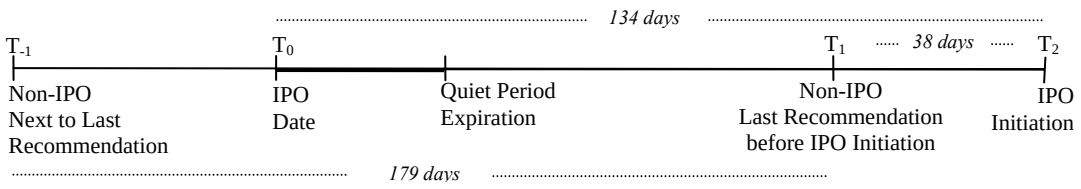
Table II compares the last recommendation on non-IPOs with the first recommendation on comparable IPOs. The average initial rating for IPOs is 1.64, lower than the average initiation rating documented elsewhere. Bradley, Jordan, and Ritter (2003) report an average rating of 1.72 for their 1996-2000 IPO sample. It is consistent with earlier evidence that the average IPO initiation recommendation becomes more favorable as we look at unaffiliated analysts (1.73), analysts affiliated with co-leads (1.59), and analysts affiliated with the lead manager (1.51). The worst rating affiliated analysts issue is "3 = hold." Unaffiliated analysts use all five ratings for IPO stocks, although the total proportion of "underperforms" and "sells" is below 0.31%.

The average last recommendation on non-IPO firms is 1.95 for the sample, significantly higher (i.e., worse) than the IPO initiation. The last recommendation is (insignificantly) higher for analysts affiliated with the lead manager. The differences in last ratings across analyst categories are greater as the time from the last recommendation to the IPO initiation is shorter.

When the last recommendation is issued just 5 working days before initiating coverage (30% of the sample), analysts affiliated with the lead manager issue an average rating of 2.10 on non-IPOs, compared to 1.94 for unaffiliated analysts (significant at the 2% level according to a standard *t*-test for differences between means). Similar evidence is reported for 591 last ratings occurring during the 25-day quiet period. The average last recommendation is slightly higher than the sample average (2.02), while the IPO initiation is slightly lower (1.61).

This evidence is consistent with empirical findings that suggest analysts are generally overoptimistic or favorable toward IPO firms, especially when they are affiliated with the main underwriters in the IPO syndicate. It may also suggest, though, that affiliated analysts look unfavorably on comparable non-IPO firms, especially when the coverage initiation on IPOs approaches. If analysts are actually unfavorably disposed toward non-IPO firms, we would expect the last recommendation issued by individual analysts on a given non-IPO firm to be higher (i.e., worse) than the next-to-last recommendation issued by the same analyst on the same company. In other words, an actual downgrade in ratings for non-IPO stocks might provide additional insights about analyst disposition before initiating coverage on IPOs.

I thus collect manually from IBES the next-to-last recommendation issued by the same analyst on the same company. Matching for analyst and company reduces the sample size to 1,547 non-IPO firms with both penultimate and last ratings. On average, the next-to-last recommendation is issued 179 calendar days before the last recommendation, or a month and a half before the IPO date.



45% (702 last ratings) of the 1,547 are poorer than the next-to-last recommendations. 38% of the entire subsample represents better last ratings and 17% unchanged ratings. Table III

reports the average ratings for the next-to-last recommendation and the last recommendation on non-IPO companies by analyst affiliation. All categories of analysts significantly downgrade non-IPO stocks before they initiate coverage on IPO firms. The average next-to-last rating is 1.93, compared to 2.08 for the last recommendation. Analysts affiliated with the lead manager issued on average more favorable next-to-last recommendations than unaffiliated analysts, 1.87 compared to 1.96 for unaffiliated analysts.

A comparison of the two distributions indicates that analysts affiliated with lead managers use a higher proportion of "1 = strong buy" ratings than unaffiliated analysts in their next-to-last reports. In the last recommendation, unaffiliated analysts increase their use of "3 = hold," "4 = underperform," and "5 = sell." Analysts affiliated with lead managers reduce the proportion of both "strong buys" and "buys" and considerably increase the "holds" assigned. The average last rating for the analysts affiliated with the lead manager is 2.06 compared to 2.11 for unaffiliated analysts (difference not statistically significant). Since affiliated analysts are more favorable toward non-IPO stocks at the time of the next-to-last recommendation, affiliated analysts downgrade slightly more than unaffiliated analysts.

On average, all categories of analysts significantly downgrade non-IPO stocks before they initiate coverage on IPOs. An unfavorable attitude toward non-IPO firms is more evident when the analyst is an all-star affiliated with syndicate members, analysts whose recommendations are likely to attract more attention from investors. Stickel (1992) finds all-stars do provide more accurate and more frequent earnings forecasts than other analysts. In my sample period, the analysts selected yearly as all-stars did not much change.

Figure 2 graphs on a five-point scale the distributions of the last two recommendations on non-IPOs for all-stars unaffiliated or affiliated with the IPO lead manager. All-star unaffiliated analysts, on average, upgrade non-IPO stocks before initiating coverage. The average rating goes from 2.13 in the next-to-last report to 1.82 in the last report. All-stars affiliated with the lead underwriter, however, on average downgrade non-IPO stocks from 1.92 to 1.95. Although the

result is not reported in Figure 2, all-star analysts affiliated with co-leads also reveal similar downgrading practices (from 2.08 to 2.16).

What is the effect of these analyst practices on stock prices for non-IPO firms? Table IV addresses the question by reporting event study results for (-1,+1) and (-2,+2) trading-day windows where day 0 is the last recommendation date. The mean market-adjusted returns are taken as the CRSP value-weighted index on NYSE, Amex, and Nasdaq.

At the time of the last recommendation, receiving the analyst recommendation means a three-day cumulative market-adjusted return of -1.05% for non-IPO firms. There is a greater negative effect on stock prices as the recommending analysts are involved in the IPO underwriting syndicate. When analysts issuing the last recommendation are affiliated with the IPO syndicate members, three-day market-adjusted return is -1.04% when the analyst is affiliated with co-leads and -1.72% when the analyst is affiliated with the lead manager. When an unaffiliated analyst issues the last recommendation, non-IPO stocks report a three-day abnormal return of -0.69%. For a five-day window, the cumulative abnormal returns are still negative, although lower.

IPOs experience significant but positive abnormal returns surrounding the day of the last recommendation on non-IPOs, a three-day market-adjusted return of 0.45%. For a five-day window, the abnormal return is 1.06%.[3] An event study of last recommendations issued during the quiet period reports similar cumulative abnormal returns. Bradley, Jordan, and Ritter (2003) find abnormal returns for IPOs are highly concentrated in the days just before the quiet period expires, but volume is greatest in the days following expiration. They argue that the abnormal returns-volume pattern is consistent with a conclusion that investors are following the conventional Wall Street wisdom of "buy on the rumor, sell on the news." Event study results

[3] For the event study, I removed from the sample 27 last recommendations that were issued on the IPO day. The mean cumulative abnormal returns are statistically different from zero in a one-sample test. Results are similar for the market model. To control for dependence of returns, a 100-trading day estimation period ending 20 days before the event date is used. All abnormal returns are independent at least at the 5% level according to a generalized sign *z*-test.

provide some evidence for this suggestion.

Downgrading non-IPO firms just before initiating coverage on newly listed companies has a significant negative impact on non-IPO stock prices, while comparable IPO stocks benefit in positive abnormal returns surrounding the last recommendation date. Why do analysts issue unfavorable ratings on non-IPO stocks before initiating their IPO coverage?

The first hypothesis to explain the practice is that analysts tend to downgrade non-IPO firms because of their poorer growth prospects. In other words, non-IPO stocks "deserve" to be downgraded. There is information content in that last non-IPO recommendation, and analysts make a good suggestion by pointing at better investment opportunities in the same industry. Analysts affiliated with an IPO syndicate respond more unfavorably toward non-IPOs than unaffiliated analysts merely because they are covering poorer stocks. The hypothesis would be:

> *Hypothesis 1 – Information Content / No Conflict of Interest*
> *Non-IPO firms receiving a downgraded recommendation before the IPO initiation actually have poor growth prospects. Poorer growth prospects for non-IPO firms covered by analysts affiliated with an IPO syndicate explain analysts' unfavorable (favorable) disposition toward non-IPO (IPO) stocks.*

The evidence could support a second hypothesis that analysts, especially when affiliated with the managing syndicate, are unfairly biased toward IPO stocks. They arbitrarily downgrade comparable non-IPOs to support the equity issue placed by their investment banks. The recommendations they issue before initiating coverage on IPOs do not reflect the actual prospects for non-IPO firms. Following this line of reasoning, conflicts of interest make analysts affiliated with underwriters favorably biased toward IPOs. An alternative hypothesis is thus:

> *Hypothesis 2 – No Information Content / Conflict of Interest*
> *Non-IPO firms receiving a downgraded recommendation before the IPO initiation actually have good growth prospects. Conflicts of interest explain the unfavorable (favorable) disposition of analysts affiliated with an IPO syndicate toward non-IPO (IPO) stocks.*

A third argument lies between these two extreme hypotheses. Non-IPO stocks actually do have poor growth prospects that are correctly reported by analysts. At the time of the last recommendation, however, before they initiate coverage on IPOs, analysts affiliated with the lead

manager may have greater incentive than unaffiliated analysts to issue a recommendation on non-IPOs with poor prospects in order to support IPOs reporting a low price performance. The combination of an unfavorable disposition toward non-IPO stocks with a favorable recommendation on IPOs may benefit client investors of the affiliated investment banks. This hypothesis would be:

> *Hypothesis 3 – Information Content / Conflict of Interest*
> *Non-IPO stocks with poor growth prospects are recommended before initiating coverage by analysts affiliated with an IPO syndicate in order to support the IPO stock price. A combination of poorer growth prospects for non-IPO stocks and a conflict of interest explains the unfavorable (favorable) disposition of analysts affiliated with the IPO syndicate toward non-IPO (IPO) stocks.*

The following section tests the three hypotheses, starting with a verification of the information content in the last non-IPO recommendations.

III. Possible Explanations for Downgrading Non-IPO Stocks

A. Information Content

The first test analyzes the information content of the last analyst recommendations on non-IPO firms before initiating coverage on IPOs. This lets us distinguish between hypotheses 1 and 2. If analysts fairly provide informative recommendations, the change in ratings from the next-to-last report to the last report would be expected to reflect the actual economic and financial performance of non-IPO firms. More specifically, last recommendations that are downgrades from the penultimate analyst reports should suggest poorer growth prospects for non-IPO firms.

Although the idea of the test is straightforward, it is a major problem to choose the right measure of economic performance that financial analysts would use in valuing common stock. A number of options are available (enterprise value, earnings before interest and taxation, earnings before interest, taxation and depreciation, return on assets, or return on equity), but no single measure can be seen as the most accurate in every case. Following Stickel (1992) and Cooper,

Day, and Lewis (2001), earnings per share (EPS) are selected as a key variable for stock valuation. In particular, I look at the actual EPS, instead of those that are directly forecast by analysts, because the ratings on non-IPOs are expected to be a mere result of the estimated EPS.

I collect actual EPS reported by the 1,547 non-IPO firms at the end of quarter Q_0, when analysts issued the last rating before initiating coverage on IPO stocks. To capture the change in growth prospects over time, EPS reported at the end of the two previous quarters (Q_{-2} and Q_{-1}) and at the end of the next two quarters (Q_{+1} and Q_{+2}) are also included in the analysis. Finally, I divide the quarterly EPS by the stock price in the third month of any quarter to adjust for stock splits and reverse stock splits. Unfortunately, there are 419 missing data points in CRSP/Compustat Merged database. The available data for 1,128 non-IPO firms are partitioned into two subsamples according to whether non-IPO stocks are downgraded or not in the last recommendation from the next-to-last report.

Table V reports the mean quarterly earnings-price ratios (EPS/P) for the two subsamples categorized by analyst affiliation. Ratios have been multiplied by 100 to avoid reporting at least four decimal digits. The results show a direct relation between analyst recommendations and non-IPO economic performance. Around the quarter of the last recommendation, Q_0, non-IPO stocks receiving an upgraded or an unchanged rating report increased mean EPS/P from Q_{-2} to Q_0, regardless of analyst affiliation. The decreasing movement of mean quarterly earnings-price ratios is more apparent for the non-IPO firms that received a last downgraded recommendation by unaffiliated analysts or analysts affiliated with co-leads. Downgrading by analysts affiliated with the lead manager is also justified. That is, mean EPS/P of downgraded stocks not only drop but also become negative in the quarter of the last recommendation.

This evidence indicates analysts do not arbitrarily downgrade non-IPO stocks. There is a direct relationship between analyst recommendations and the economic performance of the firms. To support these general results, I also looked for the next recommendations issued by the same analyst on the same non-IPO firms after the IPO initiation. For about 43% of the subsample of

1,547 non-IPO stocks, there is no next recommendation reported on IBES for the period. For these stocks, the last recommendation before the IPO initiation is actually the last rating assigned before the analyst ceased research coverage. This is consistent with a conclusion that stocks analysts stop covering tend to have lower ratings than those whose coverage continues (McNichols and O'Brien, 1997).

When analysts made subsequent recommendations, they generally maintained the same ratings on non-IPO stocks. After initiating coverage on IPOs, the average next rating is 2.07 by all IPO analysts, essentially the same as the last recommendation as reported in Table III. Matching non-IPO company and analyst, downgrading a stock is not a temporary practice surrounding an IPO initiation. The finding provides additional support for the information content hypothesis.

B. Conflict of Interest

The positive results for the information content test eliminate hypothesis 2. To distinguish between hypotheses 1 and 3, I use a second test to analyze whether downgrading non-IPOs is associated with modest IPO performance since the initial offering date.

From the day of the initial offering to initiation of coverage, the performance of IPO stocks is specified as consisting of two components. The first component is the initial return as a percentage of change from the offer price to the closing price on the first trading day, $[\frac{(P_1\text{-}OP)}{OP}\times 100]$. The initial return is adjusted for the market return on the IPO day using the CRSP value-weighted index on the NYSE, Amex, and Nasdaq. The second component is the compounded abnormal annualized return (using daily closing prices from the first trading day to the coverage initiation date and adjusting for the CRSP value-weighted index, $[\prod(1+R)^{\frac{253}{\#\,Days}}]$-1).

Distributions for both initial and aftermarket returns are highly skewed, especially on the right. Mean annualized values are so high because of the euphoric momentum as not to be

meaningful. Over the sample period, IPOs report a median initial return of 16.94% and a median aftermarket return of 4.31%.

Table VI reports the median initial and aftermarket returns for the subsample of 1,546 IPOs.[4] First, IPOs are categorized by downgrading on non-IPO stocks. The first set of columns analyzes IPOs whose coverage is initiated by analysts who did not previously downgrade non-IPOs that is, analysts who upgraded or maintained their ratings on comparable non-IPOs before initiating coverage on IPOs. The second set of columns reports the stock price performance of IPOs whose coverage is initiated by analysts who previously downgraded non-IPO firms. Sample IPOs are also categorized by analyst affiliation.

Authors have regarded an initial offering as cold when the initial return is zero or negative (i.e., the issue was overpriced), or when the annualized aftermarket return is equal to or less than zero. In the sample period, 15% of IPOs are initially overpriced, and 49% report negative aftermarket returns. Generally, there is a close relation between the two conditions. Krigman, Shaw, and Womack (1999) show that first-day return can predict future price performance. First-day hot issues continue to be winners over the first year, and first-day cold issues continue to be relative losers. Exceptions are "extra-hot" IPOs, which report the worst price performance.

On the first trading day, median offerings covered by sample analysts cannot be regarded as cold. When analysts affiliated with the lead underwriter did not downgrade non-IPO stocks, the comparable IPOs they initially cover report a median underpricing of 14.93%, compared to 21.60% for unaffiliated analysts. IPOs covered by analysts who had issued a downgrade on non-IPO stocks report similar median initial returns. In this case, median IPOs initially covered by analysts affiliated with the lead manager report a 14.36% underpricing, compared to 21.93% for unaffiliated analysts. A median one-day market-adjusted return of about 14% is definitely not a

[4] One observation is missing because there are not enough trading days to determine the aftermarket return; IBES reports that an independent analyst initiated research coverage on Pepsi Bottling Group just one day after the initial offering date.

modest yield.

Aftermarket returns follow a different pattern. Analysts affiliated with the lead underwriter downgraded non-IPO stocks before initiating coverage on cold issues. When these affiliated analysts had not downgraded non-IPOs, the median annualized IPO aftermarket return is 8.60%, compared to 24.08% for unaffiliated analysts. However, when analysts affiliated with the lead manager downgraded non-IPO stocks to later initiate coverage on IPOs, these latter issues report a median aftermarket return of -21.68%, compared to 16.99% for unaffiliated analysts. (Average ratings on the IPO initiations are reported in parentheses.)

As McNichols and O'Brien (1996) would argue, results in Table VI suggest that unaffiliated analysts usually initiate coverage on hot IPOs. In other words, when unaffiliated analysts decide to cover an IPO stock, they may want to select a winner, in terms of both first trading-day return and aftermarket return. Consequently, there is little incentive to take a relatively unfavorable attitude toward non-IPO stocks for unaffiliated analysts. The negative correlation between proportion of downgraded ratings on non-IPOs and number of analysts initiating coverage on IPOs provides additional support for this suggestion. In fact, the more analysts there are, the more IPO initiations by unaffiliated analysts, and the lower the proportion of downgraded non-IPO firms.

Another suggestion from Table VI is that analysts affiliated with lead underwriters downgrade comparable non-IPO firms before initiating coverage on IPOs that report modest aftermarket performance since the initial offering day. The connection between downgrading non-IPO stocks and initiating coverage on cold IPOs provides an insight into the conflict of interest explanation. In other words, who is it affiliated analysts want to benefit?

I conjecture that analysts may want to benefit clients of affiliated investment bankers. The beneficiaries may be principal IPO shareholders such as venture capitalists who already held

shares before the offering, and retain significant ownership after the IPO date.[5] Other beneficiaries might be institutional investors who bought shares at the offer price during the initial offering from the affiliated investment banks and are holding them on the IPO initiation date.

If such a conjecture is true, affiliated analysts are expected to downgrade non-IPO stocks and thus support cold issues when underwriter clients modestly flipped or did not flip at all. If underwriter clients had already flipped their holdings almost completely, downgrading non-IPOs would not be necessary anymore.

Table VII tests this possibility. As documented by Hanley and Wilhelm (1995), post-offer institutional holdings reported in 13f filings with the Securities and Exchange Commission (SEC) represent a good proxy for initial holdings. The SEC requires that domestic institutions controlling more than $100 million in equity report their holdings on a quarterly basis. For each IPO issuing firm in the sample, I collect the number of shares reported by the top five institutional investors, including venture capitalists, as of the end of the calendar quarter in which the IPO took place. The top-five institutions can be regarded as the best underwriter clients, whom analysts might want to benefit (Benveniste and Spindt, 1989).

In the total sample, the top-five investors hold, on average, 48.67% of the overall offered shares (i.e., the IPO float). The first institution holds more than double the percentage of shares than the second one (21.53% versus 9.87%). The ownership data are significantly high due to the representation of venture capital-backed IPOs in the sample.

Aggarwal (2003) reports that hot IPOs are flipped much more than cold IPOs. I control for IPO "temperature" by analyzing just the subsample of the cold IPOs, those with aftermarket returns equal to or less than zero that are covered by analysts affiliated with the lead manager.

[5] At the time of the IPO initiation, principal shareholders and other insiders are likely to be subject to a lock-up agreement that generally prevents them from selling their shares in the period immediately after the IPO (typically 180 days). Field and Hanka (2001) report that when lockups expire, venture capitalists sell more aggressively than executives and other shareholders.

The subsample is further categorized by downgrading non-IPOs.

To measure flipping activity, I determine the difference in number of shares held by the same institution from the IPO quarter to the IPO initiation quarter as a percentage of the overall shares offered, $(\frac{S_{Qinitiation} - S_{Qipo}}{S_{offered}}) \times 100$. A negative percentage indicates flipping activity. When analysts affiliated with the lead manager upgraded a rating for non-IPOs or maintained it, the top-five institutions flip, on average, by -5.98%. The first institution reduces its average percent of ownership by -1.28%. When analysts affiliated with the lead manager downgraded non-IPOs to later initiate coverage on cold IPOs, the top-five institutions flip significantly less, -2.76%. The first institution does not reduce its ownership, but actually increases it by 0.37%.

The best client investors of the lead underwriters turn out to be the right candidates to receive analyst favors. If one considers the adverse conditions surrounding this test, the results seem quite remarkable. First, data from 13f filings are available only at the end of any calendar quarter. I use the quarter of the coverage initiation, instead of the quarter of the last recommendation when actually downgrading occurred. Second, when the initial offering and the IPO initiation occur in the same quarter (i.e., the event involves primarily affiliated analysts), I use the institutional holdings reported at the end of the following quarter. Even though all conditions would tend to overestimate flipping activity by the top-five institutions after the IPO date, downgrading non-IPOs before initiating coverage on cold IPOs is associated with less flipping activity for analysts affiliated with the lead manager.

The tests so far provide support for hypothesis 3, a combination of information content and conflict of interest, as possible explanations of the unfavorable analyst disposition toward non-IPO stocks before initiating coverage on IPOs. The next section intends to test the hypothesis in a multivariate setting.

IV. Multiple Regression Tests

To test hypothesis 3 while controlling for other factors, I use a regression model whose dependent variable is the difference in rating for the last non-IPO recommendation and the first IPO recommendation for the sample of 3,569 initiations for 1997 through June 1999:

$$\textit{DIFFERENCE IN RATINGS} = \beta_1 \textit{ANALYSTS AFFILIATED WITH LEAD MANAGER Dummy}_i + \beta_2 \textit{ANALYSTS AFFILIATED WITH CO-LEADS Dummy}_i + \beta_3 \textit{ALL-STARS AFFILIATED WITH LEAD MANAGER Dummy}_i + \beta_4 \textit{ALL-STARS AFFILIATED WITH CO-LEADS Dummy}_i + \beta_5 \textit{UNAFFILIATED ALL-STARS Dummy}_i + \beta_6 \textit{NO. OF ANALYSTS INITIATING}_i + \beta_7 \textit{NON-IPO EPS/P}_{Q0i} + \beta_8 \textit{IPO INITIAL RETURN}_i + \beta_9 \textit{IPO AFTERMARKET RETURN}_i + \beta_{10} \textit{DAYS FROM LAST RECOMMENDATION TO IPO INITIATION}_i + \beta_{11} \textit{LN(PROCEEDS)}_i + \beta_{12} \textit{TECH Dummy}_i + \beta_{13} \textit{VC-BACKED Dummy}_i + \beta_{14} \textit{NASDAQ Dummy}_i + \varepsilon_i$$

The dependent variable is intended to capture combined analyst disposition toward non-IPOs and IPOs at the time coverage is initiated on IPOs. It can assume integer values from –4 to 4, where 0 denotes equivalent ratings for non-IPO and IPO firms. Higher positive values indicate a more unfavorable attitude toward non-IPO stocks and a more favorable attitude toward IPOs.

The first five regressors relate to main analyst characteristics like affiliation and reputation. ANALYSTS AFFILIATED WITH LEAD MANAGER is a dummy variable equal to one when the analyst is affiliated with the IPO lead manager. ANALYSTS AFFILIATED WITH CO-LEADS is a dummy equal to one when the analyst is affiliated with any other member of the IPO managing syndicate. ALL-STARS AFFILIATED WITH LEAD MANAGER and ALL-STARS AFFILIATED WITH CO-LEADS are interaction variables between affiliation and an ALL-STARS dummy that is equal to one when the analyst is an *Institutional Investor* All-America Research Team member as of October of the last calendar year. UNAFFILIATED ALL-STARS is a dummy equal to one when an all-star analyst is also unaffiliated with the managing syndicate, and zero otherwise.

The sixth explanatory variable, NO. OF ANALYSTS INITIATING, tests whether amount of coverage affects unfavorable (favorable) analyst disposition toward non-IPO (IPO) stocks. More analysts providing coverage on IPO firms within one year of the IPO date may serve to monitor

any tendency toward bias. I expect that the greater the coverage, the less of a difference in ratings.

To test the information content and the conflict of interest stories simultaneously, I include three independent variables. First, NON-IPO EPS/P_{Q0} are earnings-price ratios reported by comparable non-IPO firms at the end of the quarter of the last recommendation, Q_0. The information content explanation predicts a negative coefficient for NON-IPO EPS/$P_{Q0.}$ Second, IPO INITIAL RETURN is determined as the change from the offer price to the closing price on the first trading day, adjusted for the market return on the IPO day using the CRSP value-weighted NYSE/Amex/Nasdaq index. Third, IPO AFTERMARKET RETURN is the compounded abnormal return determined by closing prices from the IPO date to the coverage initiation day, adjusted for the CRSP value-weighted NYSE/Amex/Nasdaq index. IPO INITIAL RETURN and IPO AFTERMARKET RETURN are winsorized at the 5% and 95% levels to avoid distortion effects due to outliers in the distributions.

The rest of the regressors are control variables. DAYS FROM LAST RECOMMENDATION TO IPO INITIATION are calendar days from the last recommendation on non-IPO stocks to the initiation of coverage on IPOs. LN(PROCEEDS) is the natural logarithm of domestic and global issue proceeds. TECH is a dummy variable equal to one if the issuer operates in the four-digit SIC codes specified in Loughran and Ritter (2002). VC-BACKED is a dummy equal to one when the issue is a venture capital-backed IPO. NASDAQ is a variable equal to one if the issuing firm is listed on Nasdaq, and zero if it is listed on NYSE or Amex.

Table VIII reports the coefficients and White's heteroscedasticity-adjusted *z*-statistics for the ordered logistic regression model. The first multivariate regression includes just analyst characteristics. The signs of ANALYSTS AFFILIATED WITH LEAD MANAGER and ANALYSTS AFFILIATED WITH CO-LEADS are significantly positive as expected. Analyst affiliation serves to explain the difference in ratings between comparable non-IPOs and IPOs. All-star analysts affiliated with lead investment banks are more favorably disposed toward non-IPOs than IPOs.

The second univariate regression model tests the association of monitoring with amount of coverage in terms of number of analysts. As predicted, the coefficient is significantly negative. The more analysts who initiate coverage on IPOs, the less unfavorable analyst disposition toward non-IPOs. This result may be driven by the fact that analysts not in the underwriting syndicate are likely to initiate coverage as the number of analysts increases. Unaffiliated analysts may have less of an incentive to look unfavorably on non-IPO firms and favorably on IPOs.

Regressions 3, 4, and 5 test the information content and the conflict of interest theories separately. Actual EPS/P reported by non-IPO firms at the end of the last recommendation quarter are significant in explaining the difference in ratings. The coefficients for IPO initial return and aftermarket return, however, are both negative and significant. The higher the underpricing, the lower the difference in ratings between non-IPOs and IPOs. The sign of the relationship supports the hypothesis that analysts aim to benefit initial investors through their ratings. A higher initial return means investors who initially subscribed the offering pay a lower offer price. If investors can benefit from high underpricing on the first trading day by flipping, there is less of an incentive for analysts to look unfavorably toward non-IPOs. The negative coefficient of the aftermarket return can be explained as analyst attitude toward non-IPOs is directed to support cold issues.

Regression 6 includes all regressors previously analyzed and other control variables with the exception of NON-IPO EPS/P_{Q0}. All variable coefficients maintain their signs and statistical significance, except for NO. OF ANALYSTS INITIATING and IPO AFTERMARKET RETURN.

The last regression tests both information content and conflict of interest stories directly. Adjusting for other factors, NON-IPO EPS/P_{Q0} and IPO INITIAL RETURN explain analyst disposition toward comparable non-IPO and IPO firms. As the information content theory suggests, the higher the earnings-price ratios reported by non-IPO firms, the better the last recommendation and thus the less of a difference in ratings. The first trading-day return for IPOs can predict analyst attitude on the initiation day better than the aftermarket return. Two analyst

characteristics remain relevant: affiliation with lead underwriters and analyst reputation as all-stars. Analysts affiliated with lead investment banks generally demonstrate an unfavorable disposition toward non-IPO firms, with the exception of all-stars.

The multivariate analysis suggests that the information content of a recommendation is a partial explanation of the evidence we have documented. Multiple regression tests of the difference in ratings do also provide some support for the conflict of interest explanation.

Yet, the unfavorable analyst attitude toward non-IPOs (and the favorable attitude toward IPOs) on the initiation day that we see in the difference in ratings is just one aspect of analyst practices. The other aspect is the downgrading of non-IPOs in the last recommendation from the penultimate report.

The second regression model explains the probability of downgrading non-IPO stocks on the last recommendation day. The univariate analysis has indicated that downgrading practices are considerably different for unaffiliated and affiliated analysts. To analyze the specific downgrading practices, we define the dependent variable as an interaction variable between NON-IPO DOWNGRADING dummy and each analyst affiliation dummy. NON-IPO DOWNGRADING is equal to one when the last recommendation is higher (i.e., worse) than the next-to-last recommendation, and zero otherwise.

$$\textit{NON-IPO DOWNGRADING Dummy} * \textit{ANALYST AFFILIATION Dummy} = \gamma_0 + \gamma_1 \textit{ALL-STAR ANALYST Dummy}_i + \gamma_2 \textit{NO. OF MANAGERS}_i + \gamma_3 \textit{NON-IPO EPS/P}_{Q\text{-}2i} + \gamma_4 \textit{NON-IPO EPS/P}_{Q\text{-}1i} + \gamma_5 \textit{NON-IPO EPS/P}_{Q0i} + \gamma_6 \textit{IPO INITIAL RETURN}_i + \gamma_7 \textit{IPO AFTERMARKET RETURN}_i + \gamma_8 \textit{TOP-5 INSTITUTIONAL HOLDINGS}_i + \gamma_9 \textit{TOP-5 INSTITUTIONAL FLIPPING}_i + \varepsilon_i$$

ALL-STAR ANALYST is a dummy equal to one when the analyst is an *Institutional Investor* All-America Research Team selection as of October of the last calendar year. On the last recommendation day, NO. OF MANAGERS (the number of co-leads including the lead manager in the underwriting syndicate) is taken to indicate the number of future initiations (see Bradley, Jordan, and Ritter, 2003). Unsurprisingly, the number of managers is positively correlated with the IPO proceeds (the correlation coefficient is 0.73). As well as the number of analysts

initiating, a negative relationship is expected between downgrading and the potential coverage size.

NON-IPO EPS/P_{Q0}, NON-IPO EPS/$P_{Q-1,}$ and NON-IPO EPS/P_{Q-2} are, respectively, earnings-price ratios reported by comparable non-IPO firms at the end of the last recommendation quarter and in the previous two quarters. Three quarterly EPS/P figures allow adjustment for the next-to-last recommendations issued much earlier than the last recommendation quarter. IPO INITIAL RETURN and IPO AFTERMARKET RETURN are the same variables as before. Both variables are winsorized at the 5% and 95% levels.

The last two variables intend to further test the conflict of interest story. TOP-5 INSTITUTIONAL HOLDINGS is equal to the number of shares (of the overall shares offered) held by the top-five institutions as reported at the end of the IPO quarter. TOP-5 INSTITUTIONAL FLIPPING is the number of shares flipped (of the overall shares offered) by the top-five institutions from the IPO quarter to the quarter of IPO initiation.

Coefficients for the three logistic regression models and White's heteroscedasticity-adjusted *z*-statistics are reported in Table IX. Once again, the regression results are very different in downgrading patterns according to analyst affiliation. Analyst reputation and IPO aftermarket return explain the probability that unaffiliated analysts will downgrade non-IPOs. Consistent with the evidence in Figure 2, position as an unaffiliated all-star reduces the probability of downgrading. The higher the price performance reported by IPOs on the aftermarket, the greater the likelihood to downgrade comparable non-IPO firms before initiating coverage on IPOs. No other regressor is significant.

The results are quite different for affiliated analysts. Number of managers significantly explains the probability of downgrading non-IPOs by analysts affiliated with co-leads; the coefficient is unexpectedly positive. Corwin and Schultz (2004) argue that co-managers compete with the lead underwriter during pricing negotiation by "whispering [upward revisions] in the issuer's ear." They are likely interested in being selected as lead manager in follow-on offerings.

Downgrading non-IPO stocks may be one way they solicit new deals with issuing firms. Co-lead analysts may have a greater incentive to downgrade non-IPO firms, especially in the case of large and well established client issuers. The positive and significant coefficient of TOP-5 INSTITUTIONAL HOLDINGS can be explained in a similar fashion. Both information content and conflict of interest theories receive some confirmation, since NON-IPO EPS/P_{Q0} and IPO INITIAL RETURN have significantly negative coefficients.

The probability of downgrading by analysts affiliated with the lead underwriter is positively correlated with analyst reputation as an all-star, and negatively explained by number of managers and aftermarket returns. Consistent with the pattern in Figure 2, all-star analysts affiliated with the lead investment banks generally downgrade non-IPO stocks on the last recommendation before initiating coverage on IPOs. Unlike the analysts affiliated with co-leads, lead manager analysts downgrade less as there are more managers. At the time of the last recommendation, the number of managers can be seen as a proxy for the total number of analysts actually initiating coverage on the issuing firm. The potential number of initiating analysts may serve as a less incentive of downgrading non-IPOs.

Results of the multivariate analysis do not provide definitive evidence, but rather hints as to conflicts of interest between IPO investment banks and affiliated analysts. An additional test to analyze the long-run performance of IPOs compared to non-IPOs is regarded in Figure 3. It graphs the mean cumulative market-adjusted returns for the 1,653 stock pairs that were still regularly traded two years after the initiation date. Two years since the IPO initiation seem to be long enough to compare stock returns for pairs of IPOs and non-IPOs covered by the same analyst without losing observations due to a survivorship bias.

Starting from the month of the IPO initiation (date 0), the cumulative abnormal monthly returns show that IPOs initially perform better than non-IPO stocks. After nine months the abnormal return for non-IPOs and IPOs is almost the same, about 5%; then mean returns decline

for IPOs. At the end of the first year, the abnormal return is zero. It is negative for the entire second year, while non-IPOs report a positive and increasing cumulative return.

Michaely and Womack (1999) show that stocks underwriter analysts recommend perform more poorly than buy recommendations by unaffiliated brokers after the recommendation date. Figure 4 graphs the mean cumulative abnormal returns (by analyst affiliation and downgrading non-IPOs) for the non-IPO stocks that were downgraded by analysts before initiation of coverage of IPOs with favorable recommendation. In other words, the graphs compare non-IPO stocks out of analyst favor with IPO stocks in greater favor. IPOs initially receive a favorable recommendation when the first rating assigned to the issuing firm is lower (better) than the last recommendation assigned to the non-IPO firm.

Date 0 marks the month of the IPO initiation. Panel A shows the cumulative abnormal returns for 83 pairs of non-IPO and IPO stocks covered by unaffiliated analysts. IPOs perform better than non-IPOs up to a year and a half after the IPO initiation. On average, non-IPO stocks look as if they deserve their downgraded ratings. At the end of the second year, the cumulative abnormal returns for both non-IPOs and IPOs are positive at 4.30% and 1.10%, respectively.

In the long run, analysts affiliated with the lead manager had no reason to fault non-IPOs in favor of IPOs. Panel B shows the cumulative abnormal returns for 83 pairs of non-IPO and IPO stocks covered by analysts affiliated with the lead underwriter. IPOs perform better than non-IPOs right after the initiation of coverage. Trend of returns is persistently downward over two years. The non-IPO stocks record negative abnormal returns in the first 17 months after the IPO initiation, which might justify their downgrades by affiliated analysts, but their returns later become positive and significantly different from the IPO returns. At the end of the second year, the cumulative abnormal returns for non-IPOs are 7.16% and for IPOs -29.87%.

When we compare the two-year price performance of these favored IPOs with the average cumulative abnormal returns reported in Figure 3, we might well ask whether analysts affiliated with the lead investment bank could do a poorer job.

VI. Conclusion

Analysis of 3,569 recommendations issued by 1,601 IPO analysts from January 1997 through June 1999 reveals that analysts downgrade comparable non-IPO firms before initiation of research coverage on IPOs. In particular, affiliated analysts downgrade non-IPOs before they issue the first favorable recommendation on IPOs. Yet, all-stars who are affiliated with the lead manager significantly downgrade non-IPOs before they issue a less favorable recommendation on IPOs.

For non-IPO firms, receiving the rating before the IPO initiation results in a five-day abnormal return of -0.7%. Yet, IPO stocks on five days surrounding the last recommendation on non-IPOs report a significant positive abnormal return of +1.1%. Adjusting for other factors, downgrades of non-IPO stocks by analysts affiliated with the lead manager are negatively associated with the IPO price performance after the initial offering day. This suggests that analysts downgrade non-IPO stocks in favor of supporting cold issues placed by affiliated underwriters.

For affiliated analysts, additional tests consistently fail to write off the conflict of interest hypothesis. First, top client investors of the lead investment bankers look as if they are the candidates who would best benefit from these particular analyst practices. IPO firms initially covered by analysts affiliated with the lead manager report less flipping activity by the top-five principal shareholders, when analysts previously downgraded non-IPOs. Second, IPO stocks favorably recommended by analysts affiliated with the lead manager perform more poorly than the downgraded non-IPO stocks over the two years following the coverage initiation.

However, all categories of analysts significantly downgrade non-IPO stocks before initiating coverage on IPOs. So, why do unaffiliated analysts downgrade non-IPOs? Multivariate results suggest that analysts downgrade for different reasons depending on affiliation. Analysts affiliated with the lead manager downgrade comparable non-IPOs to support cold issues and consequently recover from the negative effect on underwriter reputation. Analysts affiliated with

co-leads use the practice of downgrading to please the newly listed companies and eventually get other deals in the future. Since the market expects a favorable recommendation on IPOs by affiliated analysts more than an unfavorable rating on non-IPOs, downgrading results in more help for the investment banking business. Finally, unaffiliated analysts may downgrade non-IPOs just due to resource-constraints. Independent research teams are, generally, small. Covering one IPO stock may require stopping the research on another non-IPO stock that is not worth covering anymore due to poor growth prospects.

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Table I

Descriptive Statistics

Number of IPOs Covered by Analysts	794
Average IPO Proceeds (million)	$144
Proportion of Tech IPOs	27%
Proportion of Venture Capital-Backed IPOs	44%
Proportion of Nasdaq IPOs	77%
Number of Analysts	1,601
Number of All-Star Analysts	198
Number of Initiations on IPO Firms	3,569
- by Analysts Affiliated with IPO Lead Manager	734
- by Analysts Affiliated with IPO Co-Leads	1,203
- by Unaffiliated Analysts	1,632
Coverage Initiation Time as Average Number of Days since the IPO Date	134
- by Analysts Affiliated with IPO Lead Manager	65
- by Analysts Affiliated with IPO Co-Leads	72
- by Unaffiliated Analysts	211

The sample consists of 3,569 coverage initiations issued by 1,601 analysts on 794 issuing firms going public from January 1997 through June 1999 on the New York Stock Exchange (NYSE), the Amex, or Nasdaq. To be included in the analysis, any analyst is required to initiate research coverage within one year of the initial public offering (IPO) date. IPO proceeds are the overall amount raised in all markets and expressed in millions of dollars. Tech offerings are defined as those in four-digit SIC codes as reported in Loughran and Ritter (2002). An all-star analyst belongs to the All-America Research Team as selected by *Institutional Investor* each October of the previous calendar year. An analyst whose research team is not affiliated with any member of the IPO managing syndicate is defined as unaffiliated. Data are from *Nelson's Directory of Investment Research*, IBES, and the SDC New Issue Database.

Table II

Average Last Recommendation on Non-IPO Firms Issued before the IPO Initiation Categorized by Analyst Affiliation

	All IPO Analysts	Unaffiliated Analysts (a)	Analysts Affiliated with Co-Leads (b)	Analysts Affiliated with Lead Manager (c)	*p*-value (a)–(c)
Complete Sample					
Last Recommendation on Non-IPO Firms before IPO Initiation	1.95	1.94	1.95	1.98	0.2702
IPO Initiation	1.64	1.73	1.59	1.51	0.0000
p-value on difference	0.0000	0.0000	0.0000	0.0000	-
N	3,569	1,632	1,203	734	-
Number of Days from Last Recommendation to the IPO Initiation ≤ 5					
Last Recommendation on Non-IPO Firms before IPO Initiation	1.95	1.94	1.90	2.10	0.0144
IPO Initiation	1.70	1.79	1.56	1.57	0.0006
p-value on difference	0.0000	0.0000	0.0000	0.0000	-
N	1,077	655	279	143	-
Number of Days from IPO Date to Last Recommendation ≤ 25					
Last Recommendation on Non-IPO Firms before IPO Initiation	2.02	1.92	2.03	2.04	0.2730
IPO Initiation	1.61	1.61	1.65	1.54	0.3706
p-value on difference	0.0000	0.0100	0.0000	0.0000	-
N	591	82	302	207	-

The table reports the average rating on non-IPO stocks issued by IPO analysts just before initiating coverage on IPO firms. Matched non-IPO companies operate in the same two-digit SIC code industry as the IPO firms. In 747 observations of 3,569, the same analyst issues more than one recommendation on non-IPO firms on the same day. In this case, the average of the ratings is included in the sample. Analysts are defined as IPO analysts when they issue at least one recommendation within one year of the IPO date. An analyst whose research team is not affiliated with any member of the IPO managing syndicate is defined as unaffiliated. The recommendation scale used by analysts goes from 1 (i.e., strong buy) to 5 (i.e., sell). The sample is also categorized by number of days from the last recommendation on non-IPO firms to the IPO initiation, and by number of days since the IPO date. The *p*-values for difference within subsample means are from standard *t*-tests.

Table III

Average Last Two Recommendations on the Same Non-IPO Firm Categorized by Analyst Affiliation

	All IPO Analysts	Unaffiliated Analysts (a)	Analysts Affiliated with Co-Leads (b)	Analysts Affiliated with Lead Manager (c)	*p*-value (a)–(c)
Next-to-Last Recommendation	1.93	1.96	1.94	1.87	0.0702
Last Recommendation Before IPO Initiation	2.08	2.11	2.07	2.06	0.3949
p-value	0.0000	0.0058	0.0138	0.0021	-
N	1,547	573	582	392	

The table reports the average two last ratings issued by the same analysts on the same non-IPO companies before initiating research coverage on IPO stocks. The recommendation scale goes from 1 (i.e., strong buy) to 5 (i.e., sell). An analyst whose research team is not affiliated with any member of the IPO managing syndicate is defined as unaffiliated. The *p*-values for difference within subsample means are from standard *t*-tests.

Table IV

Mean Cumulative Abnormal Returns for IPO Stocks and Non-IPO Stocks Surrounding the Last Recommendation Day

	Non-IPO Stocks				IPO Stocks
Window	All IPO Analysts	Unaffiliated Analysts	Analysts Affiliated with Co-Leads	Analysts Affiliated with Lead Manager	All IPO Analysts
(-1,+1)	-1.05% (-6.33)	-0.69% (-2.82)	-1.04% (-3.76)	-1.72% (-5.76)	0.45% (2.47)
(-2,+2)	-0.69% (-3.22)	-0.11% (-0.35)	-0.86% (-2.43)	-1.48% (-3.83)	1.06% (4.42)
N	2,713	1,130	967	616	2,717

The table provides event study results for the sample of 3,569 non-IPO firms and IPO firms. Day 0 marks the last recommendation date. The market-adjusted returns are determined by using the CRSP value-weighted NYSE/Amex/Nasdaq index. To control for dependence of non-IPO returns, a 100-trading day estimation period ending 20 days before the event date is used. The options adopted for the estimation period produce 856 missing event results. To control for dependence of IPO returns, a 100-trading day estimation period ending 20 days after the event date is used. The options adopted for the estimation period produce 852 missing event results. All abnormal returns are independent at least at the 5% level according to the generalized sign *z*-test. *T*-statistics for the one-sample test of mean cumulative abnormal returns different from zero are reported in parentheses. Event study results are calculated using *Eventus® Software*.

Table V

Mean Quarterly Earnings-Price Ratios for Non-IPO Firms

	Non-IPO Firms Not Downgraded by			Non-IPO Firms Downgraded by		
Earnings-Price Ratio	Unaffiliated Analysts	Analysts Affiliated with Co-Leads	Analysts Affiliated with Lead Manager	Unaffiliated Analysts	Analysts Affiliated with Co-Leads	Analysts Affiliated with Lead Manager
EPS/P_{Q-2}	-0.37	0.27	-2.14	0.09	-0.58	0.56
EPS/P_{Q-1}	0.18	0.64	-0.60	-0.13	-0.20	0.36
EPS/P_{Q0}	0.25	0.40	0.65	-0.32	-0.75	-0.16
EPS/P_{Q+1}	-0.39	1.17	2.27	-1.04	-0.04	0.28
EPS/P_{Q+2}	-0.87	0.91	4.46	-0.20	-0.74	-0.67
N	231	232	160	176	201	128

For the subsample of 1,547 non-IPO firms, the table reports the mean earnings-price ratio, $\frac{EPS}{P}$. EPS are actual earnings per share reported by non-IPO firms at the end of the same quarter, Q_0, when the last rating was issued by the IPO analysts, at the end of the two prior quarters (Q_{-1} and Q_{-2}) and the two following quarters (Q_{+1} and Q_{+2}). P is the stock price in the third month of any quarter. Ratios are multiplied by 100 to avoid reporting at least four decimal digits. 419 observations are missing. Data are from the CRSP/COMPUSTAT Merged database.

Table VI

Median Initial and Aftermarket Returns for IPO Stocks
Categorized by Analyst Affiliation and Downgrading Non-IPO Stocks

	No Prior Downgrading for Non-IPO Stocks				Prior Downgrading for Non-IPO Stocks			
	Unaffiliated Analysts (a)	Analysts Affiliated with Co-Leads (b)	Analysts Affiliated with Lead Manager (c)	*p*-value (a)-(c)	Unaffiliated Analysts (d)	Analysts Affiliated with Co-Leads (e)	Analysts Affiliated with Lead Manager (f)	*p*-value (d)-(f)
IPO Initial Return	21.60%	16.76%	14.93%	0.0078	21.93%	11.48%	14.36%	0.0008
IPO Aftermarket Return	24.08%	-7.13%	8.60%	0.1680	16.99%	-2.84%	-21.68%	0.0234
	(1.72)	*(1.66)*	*(1.54)*		*(1.66)*	*(1.56)*	*(1.46)*	
N	315	318	212		257	264	180	

IPO initial return is determined as the percent change from offer price to closing price on the first trading day, adjusted for the market return on the IPO day by using the CRSP value-weighted NYSE/Amex/Nasdaq index. IPO annualized aftermarket return is the compounded abnormal return as determined in terms of closing prices from the first trading day to the coverage initiation date adjusted for the CRSP value-weighted NYSE/Amex/Nasdaq index. The average rating of the IPO initiation is reported in parentheses. The *p*-values are for two-sample Wilcoxon rank-sum (Mann-Whitney) test. Data are from the CRSP database.

Table VII

Average Institutional Holdings in Cold IPOs
Covered by Analysts Affiliated with the Lead Manager

	No Prior Downgrading for Non-IPO Stocks		Prior Downgrading for Non-IPO Stocks		
Institutions	Shares Held at the End of the IPO Quarter (a)	Shares Flipped at the End of the IPO Initiation Quarter (b)	Shares Held at the End of the IPO Quarter (c)	Shares Flipped at the End of the IPO Initiation Quarter (d)	*P*-value (b)-(d)
Institution # 1	18.78% (N=103)	-1.28%	17.73% (N=100)	0.37%	0.0600
Institution # 2	9.63% (N=100)	-1.32%	10.12% (N=99)	-0.72%	0.3913
Institution # 3	6.87% (N=98)	-0.75%	6.37% (N=97)	-0.79%	0.9350
Institution # 4	5.38% (N=97)	-1.17%	5.15% (N=94)	-1.01%	0.7527
Institution # 5	4.37% (N=97)	-1.31%	4.17% (N=91)	-0.56%	0.0784
Top-5 Institutions	46.28% (N=97)	-5.98%	45.48% (N=91)	-2.76%	0.0495

The table reports the average percent number of shares (out of the overall offered shares) held by institutional investors in cold IPOs covered by analysts affiliated with the lead manager. An IPO is regarded as cold when the compounded abnormal return from the first trading day to the coverage initiation date is equal to or lower than zero. Flipped shares are determined as percent difference in the number of shares from the IPO quarter to the quarter of the IPO initiation, divided by the overall offered shares, $(\frac{S_{Qinitiation} - S_{Qipo}}{S_{offered}}) \times 100$. A negative percentage indicates flipping activity. When the initial offering and the initiation of the research coverage occur on the same quarter, 13f reports on the quarter following are consulted to determine the difference. The *p*-values for differences within subsample means are from standard *t*-tests. Data come from *13f Institutional Stock Holdings* database.

Table VIII

Ordered Logit Model of Difference in Analyst Ratings Received by Non-IPO Firms and IPO Firms

Variables	1	2	3	4	5	6	7
ANALYSTS AFFILIATED WITH LEAD MANAGER Dummy	0.61 (6.90)					0.48 (5.05)	0.44 (3.52)
ANALYSTS AFFILIATED WITH CO-LEADS Dummy	0.29 (3.88)					0.21 (2.59)	0.15 (1.37)
ALL-STARS AFFILIATED WITH LEAD MANAGER Dummy	-0.36 (-2.21)					-0.27 (-1.71)	-0.43 (-2.20)
ALL-STARS AFFILIATED WITH CO-LEADS Dummy	0.03 (0.24)					0.03 (0.21)	-0.06 (-0.32)
UNAFFILIATED ALL-STARS Dummy	0.01 (0.05)					0.01 (0.06)	-0.06 (-0.27)
NO. OF ANALYSTS INITIATING		-0.04 (-6.29)				0.00 (0.08)	-0.00 (-0.16)
NON-IPO EPS/P_{Q0}			-3.26 (-3.43)			-	-3.75 (-4.09)
IPO INITIAL RETURN				-0.53 (-9.10)		-0.41 (-5.75)	-0.43 (-4.47)
IPO AFTERMARKET RETURN					-0.14 (-2.57)	0.01 (0.11)	0.04 (0.48)
DAYS FROM LAST RECOMMENDATION TO IPO INITIATION						-0.00 (-0.73)	-0.00 (-0.49)
LN(PROCEEDS)						-0.06 (-1.37)	-0.05 (-0.81)
TECH Dummy						-0.03 (-0.39)	-0.16 (-1.53)
VC-BACKED Dummy						-0.08 (-1.09)	-0.02 (-0.20)
NASDAQ Dummy						-0.11 (-1.20)	-0.02 (-0.11)
No. of Observations	3,569	3,569	2,007	3,569	3,568	3,568	2,007
Wald Chi-Squared	52.98	39.55	11.79	82.86	6.60	118.83	80.44
Prob < Chi-Squared	0.0000	0.0000	0.0006	0.0000	0.0102	0.0000	0.0000
Pseudo R-squared	0.0039	0.0030	0.0025	0.0067	0.0005	0.0095	0.0149

The dependent variable, DIFFERENCE IN RATINGS, is the difference between the last rating on non-IPO firms and the first rating given to the IPO firm by the same analyst. The model is:

$$\textit{DIFFERENCE IN RATINGS} = \beta_1 \textit{ ANALYSTS AFFILIATED WITH LEAD MANAGER Dummy}_i + \beta_2 \textit{ ANALYSTS AFFILIATED WITH CO-LEADS Dummy}_i + \beta_3 \textit{ ALL-STARS AFFILIATED WITH LEAD MANAGER Dummy}_i + \beta_4 \textit{ ALL-STARS AFFILIATED WITH CO-LEADS Dummy}_i + \beta_5 \textit{ UNAFFILIATED ALL-STARS Dummy}_i + \beta_6 \textit{ NO. OF ANALYSTS INITIATING}_i + \beta_7 \textit{ NON-IPO EPS/P}_{Q0i} + \beta_8 \textit{ IPO INITIAL RETURN}_i + \beta_9 \textit{ IPO}$$

$$\textit{AFTERMARKET RETURN}_i + \beta_{10}\,\textit{DAYS FROM LAST RECOMMENDATION TO IPO INITIATION}_i + \beta_{11}\,\textit{LN(PROCEEDS)}_i + \beta_{12}\,\textit{TECH Dummy}_i + \beta_{13}\,\textit{VC-BACKED Dummy}_i + \beta_{14}\,\textit{NASDAQ Dummy}_i + \varepsilon_i$$

ANALYSTS AFFILIATED WITH LEAD MANAGER is a variable equal to 1 when the analyst is affiliated to the IPO lead manager. ANALYSTS AFFILIATED WITH CO-LEADS is a dummy equal to 1 when the analyst is affiliated with any other member of the IPO managing syndicate. ALL-STARS AFFILIATED WITH LEAD MANAGER is the product of the two dummies, ANALYSTS AFFILIATED WITH LEAD MANAGER and ALL-STARS dummy, which is equal to one when the analyst belongs to the All-America Research Team as selected by *Institutional Investor* each October of the prior calendar year. ALL-STARS AFFILIATED WITH CO-LEADS is a product of the two dummies, ANALYSTS AFFILIATED WITH CO-LEADS and ALL-STARS. UNAFFILIATED ALL-STARS is a product variable between two dummies, UNAFFILIATED ANALYSTS and ALL-STARS. NO. OF ANALYSTS INITIATING is the number of analysts providing coverage on IPO firms within one year of the IPO date. NON-IPO EPS/P_{Q0} are the earnings-price ratios reported by comparable non-IPO firms at the end of the quarter of the last recommendation. IPO INITIAL RETURN is determined as the change from the offer price to the closing price on the first trading day and adjusted for the market return on the IPO day by using the CRSP value-weighted NYSE/Amex/Nasdaq index. IPO AFTERMARKET RETURN is the compounded abnormal return as determined by using the closing prices from the IPO date to the coverage initiation day and adjusting for the CRSP value-weighted NYSE/Amex/Nasdaq index. IPO INITIAL RETURN and IPO AFTER-MARKET RETURN are winsorized at 5% and 95% levels. DAYS FROM LAST RECOMMENDATION TO INITIATION are the calendar days from the last recommendation on non-IPO stocks issued by analysts before initiating coverage on IPO stocks. LN(PROCEEDS) is a natural logarithm of domestic and global issue proceeds. TECH is a dummy equal to one if the issuer operates in the four-digit SIC codes specified in Loughran and Ritter (2002). VC-BACKED is a dummy variable equal to one when the issue is a venture capital-backed IPO. NASDAQ is a dummy variable equal to one if the issuing firm is listed on Nasdaq, zero if the issuing firm is listed on NYSE or Amex. White's heteroscedasticity-adjusted *z*-statistics are in parentheses.

Table IX

Logit Model of Downgrading Non-IPO Stocks before IPO Initiation by Analyst Affiliation

Variables	Unaffiliated Analysts	Analysts Affiliated with Co-Leads	Analysts Affiliated with Lead Manager
ALL-STAR ANALYST Dummy	-1.19 (-3.65)	-0.05 (-0.23)	0.94 (3.91)
NO. OF MANAGERS	-0.03 (-0.65)	0.15 (2.94)	-0.41 (-3.72)
NON-IPO EPS/P_{Q-2}	2.64 (1.09)	0.11 (0.17)	2.61 (1.26)
NON-IPO EPS/P_{Q-1}	-1.28 (-0.35)	-1.32 (-0.88)	0.49 (0.25)
NON-IPO EPS/P_{Q0}	-1.36 (-0.80)	-2.85 (-2.03)	-1.60 (-1.06)
IPO INITIAL RETURN	0.25 (1.76)	-0.59 (-3.16)	-0.32 (-1.41)
IPO AFTERMARKET RETURN	0.35 (2.30)	-0.28 (-1.59)	-0.55 (-2.36)
TOP-5 INSTITUTIONAL HOLDINGS	-0.09 (-0.39)	0.55 (3.07)	0.05 (0.17)
TOP-5 INSTITUTIONAL FLIPPING	0.12 (0.27)	-0.41 (-0.91)	-0.07 (-0.12)
Constant	-1.52 (-6.99)	-2.07 (-9.38)	-0.91 (-2.58)
No. of Observations	1,070	1,070	1,070
Wald Chi-Squared	25.43	33.70	40.49
Prob < Chi-Squared	0.0025	0.0001	0.0000
Pseudo R-squared	0.0326	0.0398	0.0567

The dependent variable is the interaction dummy, (NON-IPO DOWNGRADING Dummy x ANALYST AFFILIATION Dummy). NON-IPO DOWNGRADING is a dummy equal to one when the last rating on non-IPO stock is higher (i.e., worse) than the next-to-last rating on the same stock issued by the same IPO analyst, and zero otherwise.

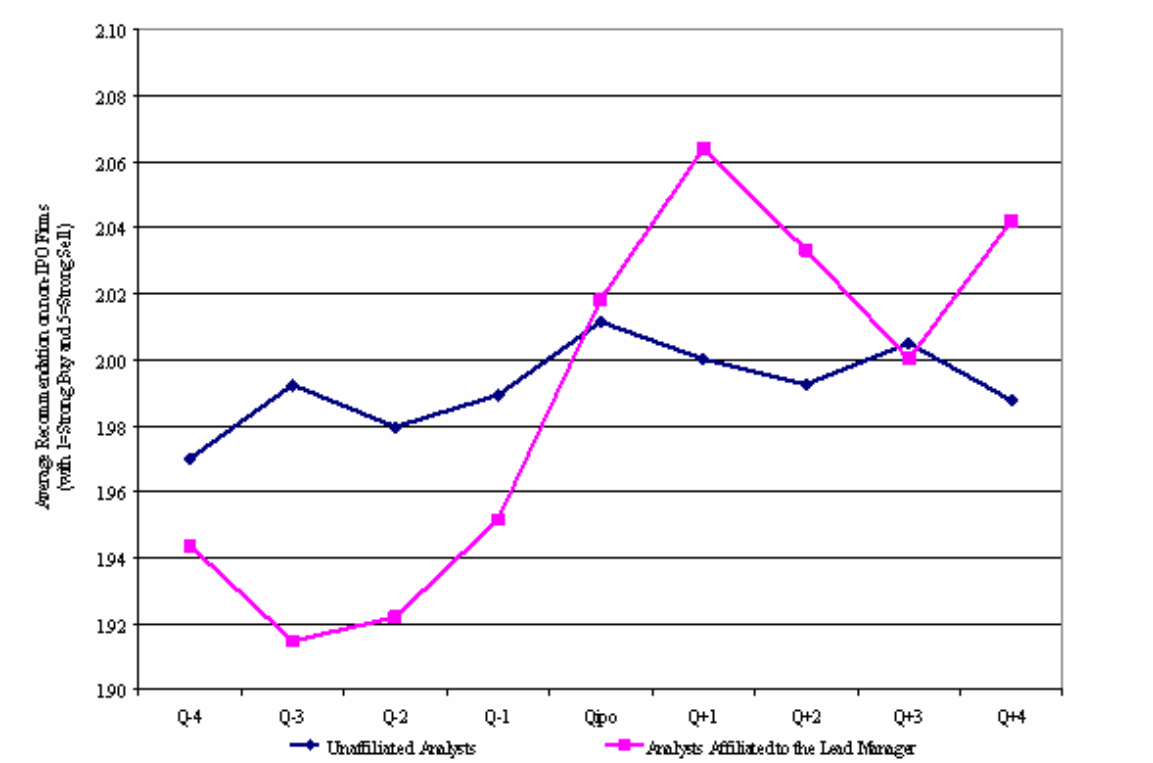
$$\textit{NON-IPO DOWNGRADING Dummy} * \textit{ANALYST AFFILIATION Dummy} = \gamma_0 + \gamma_1 \textit{ ALL-STAR ANALYST Dummy}_i + \gamma_2 \textit{ NO. OF MANAGERS}_i + \gamma_3 \textit{ NON-IPO EPS/}P_{Q-2i} + \gamma_4 \textit{ NON-IPO EPS/}P_{Q-1i} + \gamma_5 \textit{ NON-IPO EPS/}P_{Q0i} + \gamma_6 \textit{ IPO INITIAL RETURN}_i + \gamma_7 \textit{ IPO AFTERMARKET RETURN}_i + \gamma_8 \textit{ TOP-5 INSTITUTIONAL HOLDINGS}_i + \gamma_9 \textit{ TOP-5 INSTITUTIONAL FLIPPING}_i + \varepsilon_i$$

ALL-STAR ANALYST is a dummy equal to one when the analyst belongs to the All-America Research Team as selected by *Institutional Investor* each October of the prior calendar year. NO.

OF MANAGERS is the number of co-leads, including the lead manager, in the syndicate. NON-IPO EPS/$P_{Q0,}$ NON-IPO EPS/P_{Q-1} and NON-IPO EPS/P_{Q-2} are, respectively, the earnings-price ratios reported by comparable non-IPO firms at the end of the quarter of the last recommendation, and in the prior two quarters. IPO INITIAL RETURN is determined as the change from the offer price to the closing price on the first trading day and adjusted for the market return on the IPO day by using the CRSP value-weighted NYSE/Amex/Nasdaq index. IPO AFTERMARKET RETURN is the compounded abnormal return as determined by using the closing prices from the IPO date to the coverage initiation day and adjusting for the CRSP value-weighted NYSE/Amex/Nasdaq index. IPO INITIAL RETURN and IPO AFTERMARKET RETURN are winsorized at the 5% and 95% levels. TOP-5 INSTITUTIONAL HOLDINGS is the percent number of shares (out of the offered shares) held by the top-five institutions at the end of the IPO quarter. TOP-5 INSTITUTIONAL FLIPPING is the difference in number of shares held by the top-five institutions from the IPO quarter to the quarter of the IPO initiation. White's heteroscedasticity-adjusted *z*-statistics are in parentheses.

Figure 1

Average Analyst Recommendation on Non-IPO Firms over Time
Categorized by Analyst Affiliation

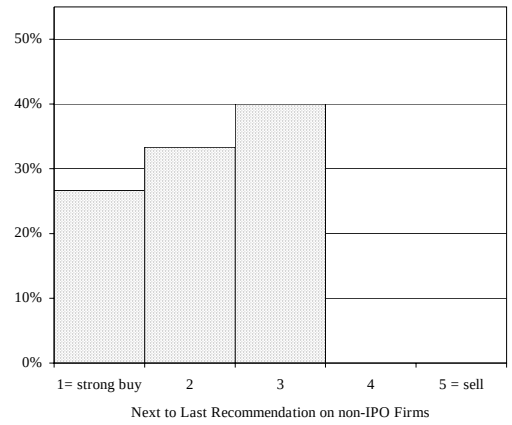


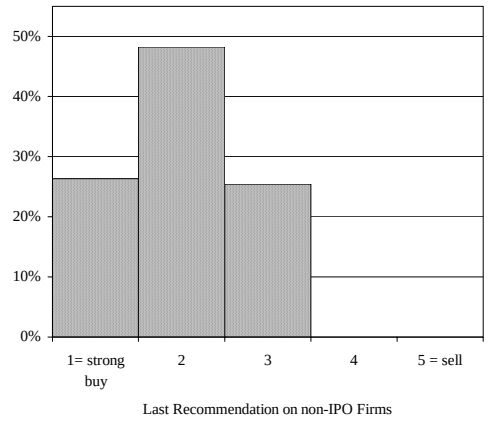
The figure reports the average recommendation issued by IPO analysts on comparable non-IPO companies during the IPO quarter, in each of the four quarters prior to the IPO and in each of the four quarters following the IPO. Generally, non-IPO companies operate in the same two-digit SIC code industry of the IPO firms. Averages are determined on more than 7,000 quarterly recommendations on non-IPO firms issued by the IPO analysts. The recommendation scale goes from 1 (strong buy) to 5 (sell). To be included in the analysis, any analyst is required to initiate research coverage within one year of the IPO date. An analyst whose research team is not affiliated with any member of the IPO managing syndicate is defined as unaffiliated. Data are from *Nelson's Directory of Investment Research*, IBES, and the SDC New Issue Database.

Figure 2

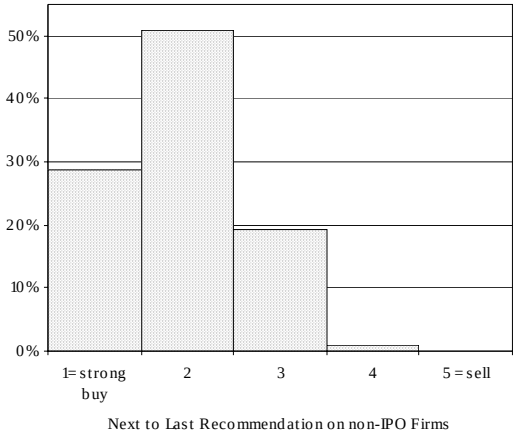
Last Two Recommendations on the Same Non-IPO Firms by All-Star Analysts

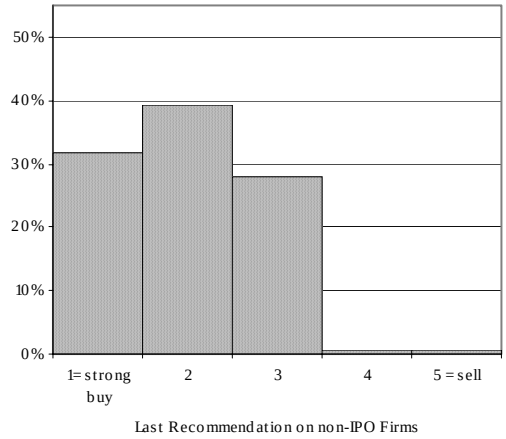
Panel A: All-Star Unaffiliated Analysts





Panel B: All-Star Analysts Affiliated with IPO Lead Manager

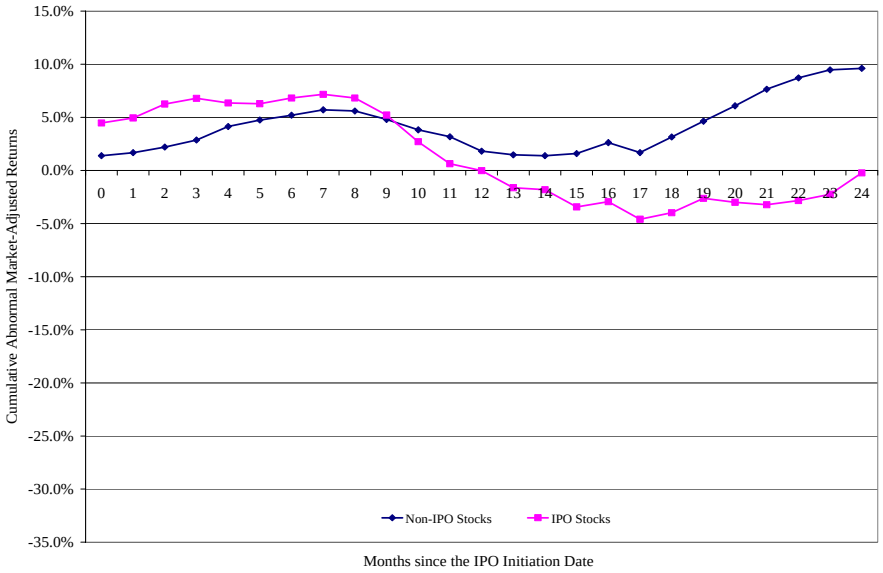




The graphs report the distribution of the last two recommendations issued by all-star analysts on the same non-IPO companies before initiation of research coverage on IPO stocks. An all-star analyst belongs to the All-America Research Team as selected by *Institutional Investor* each October of the prior calendar year. The recommendation scale goes from 1 (strong buy) to 5 (sell). An analyst whose research team is not affiliated with any member of the IPO managing syndicate is regarded as unaffiliated.

Figure 3

Mean Cumulative Abnormal Returns for IPO and Non-IPO Stocks In Two Years since IPO Initiation

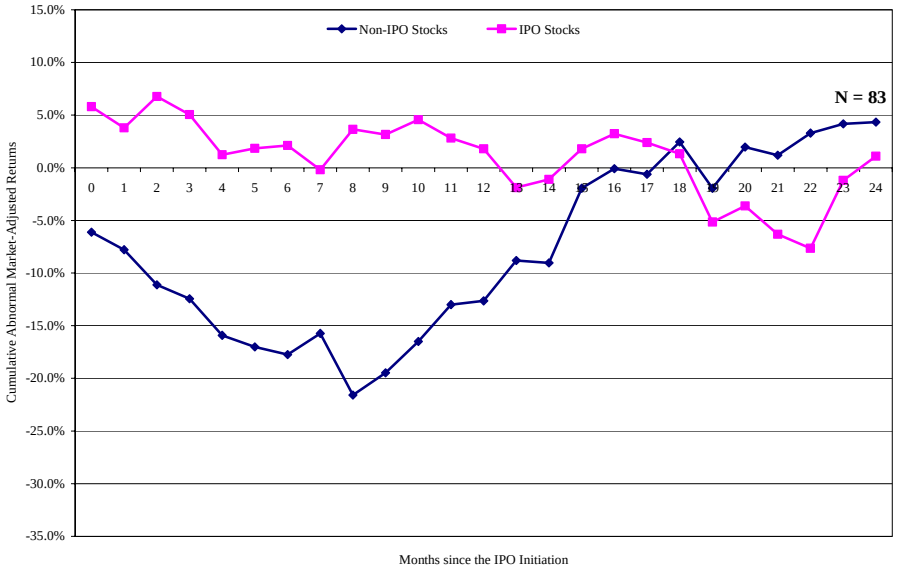


The figure reports the cumulative abnormal monthly returns for 1,653 pairs of IPO and non-IPO stocks covered by the same analysts and regularly traded in the two years since the coverage initiation date. Date 0 marks the month of the coverage initiation. The market-adjusted returns are determined by using the CRSP value-weighted NYSE/Amex/Nasdaq index. Cumulative abnormal returns are calculated using *Eventus® Software*.

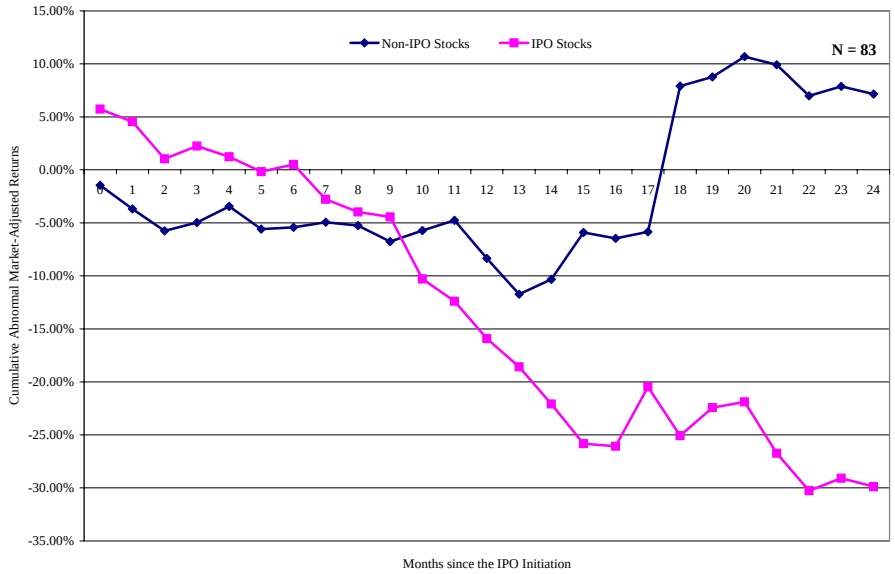
Figure 4

Mean Cumulative Abnormal Returns for Downgraded Non-IPO Stocks by Analysts before Initiation of Coverage on IPOs with a Favorable Recommendation

Panel A: Unaffiliated Analysts



Panel B: Analysts Affiliated with Lead Manager



The figure reports the cumulative abnormal monthly returns for those non-IPO stocks that received a downgraded rating by analysts before initiating coverage on IPOs with a favorable recommendation. Date 0 marks the month of the coverage initiation. The market-adjusted returns are determined by using the CRSP value-weighted NYSE/Amex/Nasdaq index. Cumulative abnormal returns are calculated using *Eventus® Software*.