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Look who is talking now: analyst recommendations and internet IPOs

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Look Who is Talking Now

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Look Who is Talking Now

Abstract

This paper examines analyst recommendations on internet firms that went public during 1997-2000. The motivation for the paper is that analyst recommendations during the internet bubble and its subsequent burst were the cause of the Global Settlement from April 2003. In addition, by using a single branch of industry cross-sectional industry effects do not play a role in the analyses.

Key for this paper is whether the affiliation of the analyst (lead manager, co-lead manager or unaffiliated brokerage firm) plays a role in the recommendation. Also, we have examined the relation between the analyst recommendation and the prestige of the investment bank. Furthermore, we have run regressions to analyze the relation between the analyst recommendations and both firm-specific and equity market characteristics. Finally, we examine to which extent the analyst recommendations for the same firm around a specific date are qualitatively similar.

Our findings provide evidence that the type of investment bank does matter. In general, regardless the periods of time examined the recommendations of the unaffiliated brokerage firms have significantly lower ratings compared to those of each of the other two types of investment banks.

The outcome from the regressions shows that analyst recommendations are a decreasing function of the number of shares offered as a percentage of total shares after IPO: the higher this percentage, the better the recommendation. Also, the higher the percentage changes of the NASDAQ index, the better the analyst recommendations.

Using a matched pairs approach we find that the average recommendation for the same firm around the same date of a co-lead manager is significantly lower than that of the lead manager or unaffiliated investment bank. The outcome holds under different model specifications.

Keywords: analyst recommendations, internet firms, initial public offerings

JEL codes: G14, M40

Look Who is Talking Now

1. Introduction

There is an increasing attention by academic as well as non-academic media for the credibility and independence of financial analysts. They are alleged to be subject to conflicting interests: providing objective recommendations on stocks for their clients, on the one hand, and pursuing future investment banking business, on the other. First, the so-called Chinese Wall between the analysts and other employees of a financial institution was subject to hefty discussions. Then came the burst of the internet bubble in mid-2000 and the alleged overly optimistic recommendations that played a role. As a consequence, the New York Stock Exchange (NYSE) has changed Rule 472. In a similar way, NASDAQ Rule 2711 has been changed. In addition, the New York Attorney General reached a Global Settlement in April 2003 between ten of the most prestigious investment banks and regulators in the amount of \$ 1.4 billion. Among other things, parties involved agreed to separate research from investment banking to ensure that their research will be independent. See www.wikipedia.org for further details.

This study examines the recommendations of financial analysts with respect to internet IPOs during the years 1997-2000. The motivation for the paper is that analyst recommendations during the internet

bubble and its subsequent burst were the cause of the Global Settlement from April 2003. Internet firms have remarkably short lives: our sample of 328 internet IPOs contains 122 non-surviving firms (Botman *et al.*, 2007). Key for this paper is whether the affiliation of the analyst (lead manager, co-lead manager or unaffiliated brokerage firm) has played a role in the recommendation. Second, we have examined the relation between the analyst recommendation and the prestige of the investment bank based on the Carter and Manaster study (1990). Also, we examine to which extent the analyst recommendations for the same firm around a specific date are qualitatively similar. Finally, firm-specific characteristics and their relevance for the recommendations have been analyzed.

Because of the availability of appropriate data since a number of years research on analyst recommendations has rapidly grown. Recently, there have been published a number of papers on analyst recommendations and their effects on stock returns. This paper contributes to the literature on the extent to which analyst recommendations can be explained by firm-specific characteristics, such as type of investment bank, and its prestige. By using a single branch of industry cross-sectional industry effects do not play a role in the analyses. In the setting of analyst recommendations, we take into account both accounting and non-accounting characteristics of the IPO firms examined. In addition, we include in our model IPO-specific variables, such as retained ownership of the single largest shareholder and shares offered in the IPO. In this way, our study contributes to the IPO literature as well as to studies on recommendations of financial analysts.

The remainder of the paper is organized as follows. Section two presents prior literature on financial analyst recommendations. Section three describes our data sample and their descriptive statistics. The fourth section presents the empirical results and robustness checks. The final section summarizes and concludes the paper.

2. Prior Literature

Intuitively, one assumes that financial analysts affiliated with an IPO firm are subject to conflicts of interests. Not surprisingly, a number of studies on analyst recommendations have examined this research question and compared the ratings of affiliated analysts to those of unaffiliated analysts. Michaely and Womack (1999) and Chen (2004) present empirical results that stock returns following lead analyst *Buy* recommendations are significantly lower than those following non-lead analyst *Buy* recommendations. Michaely and Womack investigate two categories of affiliation, lead underwriters and non-lead underwriters. For a sample of 391 IPO firms gone public in 1990 and 1991 the authors examine 241 *Buy* recommendations. However, neither study controls for the timing of the recommendations. Bradley, Jordan, and Ritter (2003) provide evidence that after controlling for the timing and number of analysts initiating, the presence or absence of the lead underwriter makes no difference. It is one of the first papers to investigate the stock market reaction to analyst initiations at the end of the quiet period, which begins on or before a firm files its preliminary registration with the SEC, and ends 25 calendar days after the IPO. In July 2002, the SEC changed this to 40 calendar days. Bradley, Jordan, and Ritter (2003) find that market reactions will be stronger when multiple banks simultaneously initiate coverage; abnormal returns are much larger when more than one analyst initiates. In addition, the authors find that the abnormal returns experienced by firms with coverage initiated are concentrated in the days before the quiet period expires. The pre-event run-up is more pronounced for firms that ultimately receive multiple initiations. The empirical results of Bradley *et al.* (2003) provide evidence that both affiliated and unaffiliated analysts are competing for future investment banking business. Bradley, Jordan, and Ritter (2007) report that recommendations at the end of the quiet period are fundamentally different from those during the subsequent eleven months from the standpoint of market price and volume reactions. Second, affiliated underwriter upgrades and downgrades are associated with a greater market reaction than those from unaffiliated analysts, which is inconsistent with the market discounting recommendations from affiliated underwriters. Finally, Bradley *et al.* (2007) provide evidence that having more deal managers does result in more analyst

coverage immediately following the end of the quiet period. Furthermore, their findings suggest that firms going public may be under the illusion that they are paying for research at the time of the IPO, but within a short period of time after the quiet period other factors appear the more important determinants of analyst coverage. McNichols, O'Brien, and Pamukcu (2007) provide empirical results that investors tend to discount *Buy* recommendations of affiliated analysts. Their findings are consistent with Michaely and Womack (1999), but inconsistent with several contemporaneous studies mentioned before. In contrast to Michaely and Womack, McNichols *et al.* (2007) do not see affiliated analyst recommendations earning lower abnormal buy-and-hold returns than unaffiliated at intervals of three, six or twelve months after the recommendations. The last three authors find that co-underwriters are similar to lead underwriters and different from unaffiliated analysts. McNichols *et al.* (2007) provide evidence that investment banks that are neither lead nor co-underwriters initiate coverage later, and issue less optimistic recommendations, than either underwriters or analysts employed at non-investment-bank firms. Furthermore, their year-by-year breakdown reveals no time trend in the results, and most years show no statistically significant difference between affiliated and unaffiliated analysts' abnormal returns. Prior to 1998 by comparing internet stocks with other IPO firm stocks, O'Brien and Tan (2007) find little evidence of differential analyst optimism by sector, and no evidence of internet stocks earning superior returns. Beginning in 1998, O'Brien and Tan (2007) show that analysts made higher recommendations for internet stocks than for other new issues. Bradley, Clarke, and Cooney (2007) show that in the early years of the 1990s affiliated underwriters provided more optimistic recommendations than unaffiliated analysts and their recommendations were discounted by the market. However, in the late 1990s, as research coverage became increasingly more important to issuing firms, both affiliated and unaffiliated analysts were equally optimistic and market reactions to recommendations were the same for these two groups. Bradley, Clarke, and Cooney (2007) also find the number of unaffiliated analysts following a stock is positively related to subsequent equity deals. Finally, the latter authors provide evidence that affiliated analysts reduce their coverage when they lose their underwriting mandate, or are otherwise demoted to a lower

position in a follow-on offering. The empirical results are consistent with analysts, affiliated or unaffiliated, using their research services for investment banking purposes.

Demers and Joos (2007) develop an IPO failure prediction model that includes accounting and non-accounting information. The latter refers to variables, such as underwriter prestige, IPO proceeds, and IPO offer price. The authors report significant differences in failure models for non tech and high tech IPO firms. Botman, Van Giersbergen, and Van der Goot (2007) have used a Cox hazard model to examine the survival of internet IPOs. Botman *et al.* (2007) include in their model not only offering and IPO market characteristics, but also accounting information. Given both the specific characteristics of internet firms and the relevance of accounting as well as non-accounting information we have used part of their findings in this paper on analyst recommendations.

3. Sample Selection and Descriptive Statistics

Our data of internet IPOs comes from two sources: first, a sample of 527 internet-related offerings used by Loughran and Ritter (2003), who obtained their data by merging and amending internet identifications of *Thomson Financial Securities Data*, *Dealogic* and *IPOmonitor.com*. Next, we matched this list against the firms marked as internet-related by our second source, www.edgar-online.com. IPOs documented by both sources are included in our initial sample, which contains 382 firms.

In order to be included in the final sample, firms have to meet two additional criteria. First, firms must be listed at the NASDAQ stock exchange. Second, the final prospectus must be available at www.sec.gov, including annual accounts covering a full fiscal year. Furthermore, unit offerings and financial institutions are excluded from the sample as the characteristics of these IPOs differ significantly from other offerings.

From our initial sample, 13 firms were excluded because they were issued at an exchange other than the NASDAQ. Two firms are left out, as their final prospectuses were not available. For 31 firms the

annual accounts accompanying the prospectus do not cover a full year. Finally, eight firms that were financial institutions are omitted. After the exclusion of those 54 firms, our final sample consists of 328 internet offerings.

The analyst recommendations of the internet IPOs come from both Briefing.com and I/B/E/S of Thomson Financial. We have omitted the recommendations that appeared twice in our final sample by dropping the ratings from the same investment bank that were published around the same date.

Many variables used in our analysis (for instance, the names of the lead and co-lead manager, the number of risk factors, underwriter reputation, and the financial ratios) have been hand-collected from the final offering prospectuses of the issuing firms. The date of the first trading day has been obtained from www.edgar-online.com.

Table 1 presents descriptive statistics of the five types of recommendations. In line with other papers (for instance, Bradley, Jordan, and Ritter, 2003, and 2007) we use the categories (in parentheses the corresponding recommendation number) *Strong Buy (1)*, *Sub-Buy (2)*, *Attractive (3)*, *Hold-Neutral (4)* and *Sell (5)*. As can be seen in table 1, a majority of the recommendations, namely 89.55 percent, consists of *Strong Buy* and *Sub-Buy* ratings. On a total of 3,954 recommendations within one year of IPO there are only eight *Sell* recommendations.

The number of ratings is not evenly distributed among the three types of investment bankers. Co-lead managers with 1,299 ratings issue about twice as much recommendations as lead managers with 670 ratings. However, most recommendations (1,985 out of a total of 3,954) come from unaffiliated brokerage firms. Recommendations issued by high (low) prestigious investment banks are 60.4 (39.6) percent of the sample. The measure we use for investment bank reputation is based on the relative placement of underwriters in tombstone advertisements, as originally developed by Carter and Manaster (1990) and Carter, Dark and Singh (1998) and later updated by Loughran and Ritter (2003) for the period 1980 through 2000.

<Insert Table 1 about here>

Descriptive statistics of analyst recommendations by type of investment bank are in table 2. Because a chi-square can only be calculated for relatively large numbers of observations we have the *Hold-Neutral* and *Sell* ratings taken together indicated by “4+5”.

As can be seen in table 2, only for the period of time of 12 months after IPO the number of recommendations is increasing with the type of investment bank: lead manager, co-lead manager, and unaffiliated brokers, respectively. Analysts from unaffiliated brokers appear to issue their recommendations after six months mainly. The recommendations are independent of the type of investment bank. This can be derived from the value of the chi-square, which for each period is significant at the one percent level. Furthermore, it appears that a great majority of recommendations are *Strong Buy* and *Sub-Buy* recommendations regardless of the type of investment bank. However, table 2 shows that for each period of time the ratings of unaffiliated investment banks are lower (smaller than expected number of *Strong Buy* and *Sub-Buy* recommendations) than those of the lead manager and co-lead manager.

<Insert Table 2 about here>

When looking at table 3, we observe that the distribution of the recommendations is not evenly distributed across the years of IPO: 1999, 2000 or 2001. Because of the small number of observations the year 1998 is omitted. Except for 1999 the unaffiliated investment banks issue less *Strong Buy* and *Sub-Buy* recommendations than the other two types of investment banks. The number of recommendations in 2000 is almost twice the number of recommendations from the two other years. As can be seen in table 3, for 2001 the chi-square is not significant. This indicates that the recommendations cannot be considered independently of the type of investment bank.

<Insert Table 3 about here>

As can be seen in table 4, the IPO prospectuses mention 31 (31) risk factors on average (median). The average number of risk factors is much higher than the 14 reported in Beatty and Welch (1996). The number of shares offered without the green shoe is 19.2 (18.0) percent of the shares outstanding without the green shoe. The green shoe is on average 3.7 percent (3.3) of the shares outstanding after IPO. The non-logged average (median) net sales is \$18.311 (\$6.901) million. Largest single ownership retention is on average (median) 28.5 (21.9) percent. The average (mean) of shares offered as percentage of total shares without the green shoe is 19.2 (18.0). The sum of the underwriter fees paid by the internet firms of our samples is \$1.886 billion. Regardless of other IPOs conducted by investment banks during the second half of the 90s the amount of \$1.4 billion paid in the Global Settlement of April 2003 is about 74% of the sum of the underwriter fees paid by the internet firms in our sample.

<Insert Table 4 about here>

Table 5 presents t-tests of the recommendations comparing the means of ratings by two types of investment banks at the time. All t-test were undertaken for the three periods of time used earlier: twelve months, six months, and three months after IPO, respectively. As can be seen in panel A of table 5, except for twelve months after IPO the recommendations of the co-lead manager are significantly different from those of the lead manager, having lower values, and thus being better. Furthermore, when we compare the recommendations of the lead manager and the co-lead manager, on the one hand, with those of the unaffiliated investment banks one can observe a similar pattern. For almost all periods of time the ratings of the unaffiliated brokerage firms are significantly lower (have higher means and thus lower ratings) compared to those of each of the other two types of investment banks. For each period of time after IPO unaffiliated investment banks rate firms between 1.764 and 1.880, on average, compared with lead managers and co-lead managers who rate firms between 1.606 and 1.673.

<Insert Table 5 about here>

As can be seen in table 5 panel B, the pattern described in the last paragraph repeats itself for the t-tests regarding the differences in means during 1999-2001. The differences of ratings between lead managers and co-lead managers are never significant. Except for 2001 the analyst recommendations from the lead manager and the co-lead manager, on the one hand, and the unaffiliated investment banks are significantly different: unaffiliated investment banks have lower ratings (higher means) compared with the two other types of banks.

Panel A of table 6 presents recommendations of high and low prestigious investment banks. As can be seen, except for three months after IPO the recommendations of the co-lead managers are never significant. However, high and low prestigious lead managers and unaffiliated investment banks do issue significantly different recommendations. As can be seen in panel B of table 6, all differences in means from 1999 are significant. Except for the differences in means of the lead managers in 2000 the means of the recommendations across the different types of investment managers are not significant. Because of the small number of observations we have omitted the t-tests of the analyst recommendations from 1998.

In sum, the findings presented in tables 5 and 6 provide evidence that when looking at analyst recommendations the type of investment bank affiliation does matter. In general, the recommendations from high and low prestige investment banks are different for lead managers and unaffiliated brokers, not for high and low prestigious co-lead managers.

<Insert Table 6 about here>

4. Empirical Results

The dependent variable in the regressions of table 7 is the analyst recommendation. As aforementioned, the recommendations are numbered one (highest rating) to five (lowest rating). The lower this figure, the better the recommendation. The regressions are ordinary least squares regressions. However, because the dependent variable is ordinal and discrete we have also run ordered multi-logit regressions. The results of both types of regressions are qualitatively similar (not reported). The analyst recommendations are regressed against the following key variables: dummies for both the co-lead manager and the unaffiliated investment bank. The other variables included in the model of table 7 can be seen as control variables. The variable Largest Single Shareholder is a measure for the concentration of ownership. The Number of Risk Factors stands for *ex ante* firm-specific risk. Net Sales per Employee indicates the productivity of a firm's employees. Financial risk is measured by operational cash flow scaled by current liabilities. The regressions in table 7 are for three periods of time after IPO: twelve, six, and three months. Because we use dummies for both the co-lead manager and the unaffiliated investment bank, the coefficients of both types of investment banks indicate the direction of the relation with the third type of investment bank, the lead manager.

As can be seen in table 7, the analyst recommendation is a decreasing function of the number of shares offered as a percentage of total shares after IPO: the higher this percentage, the better the recommendation.

Furthermore, the recommendations of the co-lead manager for 3 and 6 months after IPO, respectively, are significant and better than those of the lead manager. Except for the recommendation of 3 months after IPO the unaffiliated investment bank's recommendations are significant. Because of the direction of the coefficient which is opposite to the recommendations of the co-lead manager the unaffiliated recommendations have lower ratings than those of the lead manager. Included in our model we have the percentage change of the NASDAQ index. As can be seen in table 7, there is a strong relation between analyst recommendations and market changes: high recommendations are related to positive market changes for each of the three periods of time examined.

The regression analyses reported in the preceding paragraph is one way to correct for the difference in various characteristics of the internet firm. To prevent that differences in recommendations are caused by differences of the firms analyzed we have used a matched pairs approach. By examining paired recommendations where the recommendations dates of the same internet firm are matched, all the characteristics (observed but also unobserved) will be the same. Since restricting the dates to be exactly the same would result in too little observations, we have analyzed recommendations within 3, 10 or 20 (calendar) days. When comparing the recommendation of a lead manager to that of a co-lead manager for a particular IPO, we take the difference between the lead recommendation and the matched co-lead's recommendations within a specific time period (e.g. 3 days). If more than one recommendation for each type of analyst is observed, then we take the average recommendation. Table 8 reports the matched pairs analysis with respect to the type of manager. Furthermore, we also compare the average recommendations for another classification, namely high reputation investment banks versus low reputation investment banks.

From table 8, we conclude that the average co-lead bank's recommendation is significantly lower than the average lead manager's and unaffiliated bank's recommendations. This holds irrespective whether the matching range is 3, 10 or 20 days around the recommendation date, and the number of days after the IPO date, respectively. Looking at the recommendations given within 6 months from the IPO date, we see in addition that the average lead manager's recommendation is significantly lower (meaning a better recommendation) than the average unaffiliated recommendation.

5. Conclusions

Because of the availability of appropriate data since a number of years research on analyst recommendations has rapidly grown. Recently, there have been published a number of papers on analyst recommendations and their effects on stock returns. The motivation for the paper is that analyst recommendations during the internet bubble and its subsequent burst were the cause of the

Global Settlement from April 2003. In addition, by using a single branch of industry cross-sectional industry effects do not play a role in the analyses. For instance, internet firms have remarkably short lives: on average 2.4 years (Botman *et al.*, 2007). This paper contributes to the literature by examining the relation between analyst recommendations and IPO-specific characteristics, such as type of investment bank, and its prestige. In the setting of analyst recommendations, we take into account both accounting and non-accounting characteristics of the IPO firms examined. In this way, our study is an extension of the IPO literature as well as of studies on recommendations of financial analysts. This study examines the recommendations of financial analysts with respect to internet IPOs during the years 1997-2000 during 3, 6 and 12 months after IPO, respectively. Key for this paper is whether the affiliation of the analyst (lead manager, co-lead manager or unaffiliated brokerage firm) has played a role in the recommendation. Second, we have examined the relation between the analyst recommendation and the prestige of the investment bank based on the Carter and Manaster study (1990). Furthermore, we have run regressions to analyze the relation between the analyst recommendations and both firm-specific and equity market characteristics. Finally, because internet firms are a new branch of industry, we examine to which extent the analyst recommendations for the same firm around a specific date are qualitatively similar.

Our findings provide evidence that the type of investment bank does matter. For each of the three periods of time after IPO examined (three months, six months, and twelve months) the number of recommendations is increasing with the type of investment bank: lead manager, co-lead manager, and unaffiliated brokers, respectively. Furthermore, it appears that a great majority of recommendations are *Strong Buy* and *Sub-Buy* recommendations regardless of the type of investment bank. The recommendations are independent of the type of investment bank. In general, the recommendations from high and low prestige investment banks are different for lead managers and unaffiliated brokers, not for high and low prestigious co-lead managers. For almost all periods of time the recommendations of the unaffiliated brokerage firms are significantly lower (have higher means) compared to those of each of the other two types of investment banks.

The outcome from the regressions shows that analyst recommendations are a decreasing function of the number of shares offered as a percentage of total shares after IPO: the higher this percentage, the better the recommendation. Furthermore, the regression results are consistent with those from the earlier findings of the paper.

The percentage change of the NASDAQ index is significantly related to the analyst recommendations: high recommendations go hand in hand with positive market changes for each of the three periods of time examined.

Finally, we have analyzed to which extent recommendations on the same internet firm are similar.

When within 3, 10 or 20 (calendar) days we compare the recommendation of a lead manager to that of a co-lead manager for a particular internet IPO firm, we find that the average recommendation of a co-lead manager is significantly lower than that of the lead manager or unaffiliated investment bank. This holds irrespective whether the matching range is 3, 10 or 20 days around the recommendation date, and the number of days after the IPO date, respectively. Looking at the recommendations given within 6 months from the IPO date, the empirical results provide evidence that the average lead manager's recommendation is significantly lower (meaning a better recommendation) than the average unaffiliated recommendation.

In sum, the recommendation is better when the NASDAQ stock market is surging, the number of shares in the offering as percentage of the shares outstanding is greater, the percentage retained ownership of the largest single shareholder is larger, and the analyst affiliation is from a co-lead manager. When we account for recommendations for the same firm only from different investment banks the empirical results provide evidence that the co-lead manager's recommendation is significantly better than that of both other types of investment banks for each of the three periods examined.

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Table 1 **Descriptive Statistics of Analyst Recommendations and Type of Investment Banks within one year after IPO.**

Recommendation	Frequency	Percent
Strong buy =1	1,605	40.59
Sub-buy = 2	1,936	48.96
Attractive = 3	342	8.65
Hold-neutral = 4	63	1.59
Sell = 5	8	0.20
	3,954	100.00

Type of Investment Bank	Frequency	Percent
Lead manager	670	16.94
Co-lead	1,299	32.85
Unaffiliated	1,985	50.20
	3,954	100.00

Investment Bank Prestige	Frequency	Percent
High prestigious Broker	2,389	60.42
Low prestigious Broker	1,565	39.58
	3,954	100.00

Table 2 Descriptive Statistics of Analyst Recommendations by Type of Investment Bank and Number of Days after IPO (expected frequencies assuming independence shown in *italics*).

Ratings if days after IPO ≤ 12 months					
	1	2	3	4+5	Total
Lead manager	287	319	60	4	670
	<i>272</i>	<i>328</i>	<i>58</i>	<i>12</i>	
Co-lead manager	538	670	70	21	1299
	<i>527</i>	<i>636</i>	<i>112</i>	<i>23</i>	
Unaffiliated	780	947	212	46	1985
	<i>806</i>	<i>972</i>	<i>172</i>	<i>36</i>	
Total	1605	1936	342	71	3954
Pearson Chi ² :	38.679		Asymp. Sig. (2-sided):	0.000	

Ratings if days after IPO ≤ 6 months					
	1	2	3	4+5	Total
Lead manager	167	201	40	1	409
	<i>158</i>	<i>214</i>	<i>31</i>	<i>6</i>	
Co-lead manager	327	416	22	6	771
	<i>298</i>	<i>403</i>	<i>59</i>	<i>11</i>	
Unaffiliated	175	287	71	18	551
	<i>213</i>	<i>288</i>	<i>42</i>	<i>8</i>	
Total	669	904	133	25	1731
Pearson Chi ² :	75.556		Asymp. Sig. (2-sided):	0.000	

Ratings if days after IPO ≤ 3 months					
	1	2	3	4+5	Total
Lead manager	105	146	32	1	284
	<i>111</i>	<i>153</i>	<i>19</i>	<i>2</i>	
Co-lead manager	238	298	16	2	554
	<i>216</i>	<i>298</i>	<i>37</i>	<i>3</i>	
Unaffiliated	53	102	19	3	177
	<i>69</i>	<i>95</i>	<i>12</i>	<i>1</i>	
Total	396	546	67	6	1015
Pearson Chi ² :	36.971		Asymp. Sig. (2-sided):	0.000	

Table 3 Descriptive Statistics of Analyst Recommendations within 1 year from IPO and Year of IPO (percentages in *italics*).

Ratings in year 1999					
	1	2	3	4+5	Total
Lead manager	69	96	25	1	191
	<i>62</i>	<i>107</i>	<i>18</i>	<i>4</i>	
Co-lead manager	140	230	19	3	392
	<i>127</i>	<i>220</i>	<i>37</i>	<i>8</i>	
Unaffiliated	112	227	50	15	404
	<i>131</i>	<i>226</i>	<i>38</i>	<i>8</i>	
Total	321	553	94	19	987
Pearson Chi2:	32.876		Asymp. Sig. (2-sided)		0.000

Ratings in year 2000					
	1	2	3	4+5	Total
Lead manager	201	197	27	1	426
	<i>192</i>	<i>196</i>	<i>31</i>	<i>7</i>	
Co-lead manager	350	382	35	14	781
	<i>352</i>	<i>360</i>	<i>57</i>	<i>13</i>	
Unaffiliated	598	595	123	27	1343
	<i>605</i>	<i>618</i>	<i>97</i>	<i>22</i>	
Total	1149	1174	185	42	2550
Pearson Chi2:	24.622		Asymp. Sig. (2-sided)		0.000

Ratings in year 2001					
	1	2	3	4+5	Total
Lead manager	15	22	8	2	47
	<i>15</i>	<i>24</i>	<i>8</i>	<i>1</i>	
Co-lead manager	40	50	16	4	110
	<i>34</i>	<i>55</i>	<i>18</i>	<i>3</i>	
Unaffiliated	56	107	34	4	201
	<i>62</i>	<i>101</i>	<i>33</i>	<i>6</i>	
Total	111	179	58	10	358
Pearson Chi2:	4.016		Asymp. Sig. (2-sided)		0.675

Table 4 Descriptive Statistics of the Variables in the Study.

	Mean	Median	Minimum	Maximum	Standard Deviation	Number
# Risk Factors (units)	31.442	31.000	11.000	50.000	6.433	328
# Shares offered without Green Shoe (units)	5,984,212	4,500,000	2,000,000	173,913,000	10,412,713	328
# Shares Total after Offering without Green Shoe (units)	37,860,636	25,239,726	5,452,858	973,913,000	66,822,244	328
Shares Offered without Green Shoe (percent)	0.192	0.180	0.054	0.488	0.073	328
Largest single Shareholder (percent)	0.285	0.219	0.060	0.902	0.180	328
Net Sales (million\$)	18.311	6.901	0.000	706.466	56.877	318
In Net Sales per Employee	0.068	0.053	0.004	0.510	0.065	318
Operating Cash Flow / Current Liabilities	-1.458	-0.963	-13.451	1.135	1.710	328
Offer-to-Book ratio	498.020	31.469	-8,396.597	164,539.510	9,105.107	328
# Shares Offered / # Total Shares without Green Shoe	0.192	0.180	0.054	0.488	0.073	328
Underwriter Fee (\$)	5,750,433	4,480,000	1,050,000	75,478,242	5,468,048	328

Risk Factors = Number of Risk Factors mentioned in prospectus; **# Shares Offered / # Total Shares without Green Shoe** = Number of Shares Offered upon listing / Total Number of Shares after offering (excluding Green Shoe)

Table 5 T-tests of Recommendations by one Type of Investment Bank compared with another Type of Investment Bank during three periods of time.

Panel A:

	Twelve months after IPO				Six months after IPO				Three months after IPO			
	mean	std. error	#	t-value	mean	std. error	#	t-value	mean	std. error	#	t-value
Lead manager	1.673	0.025	670	0.035	1.694	0.032	409	2.003	1.750	0.039	284	3.285
Co-lead manager	1.672	0.018	1,299		1.620	0.021	771		1.606	0.024	554	
Lead manager	1.673	0.025	670	-2.810	1.694	0.032	409	-3.970	1.750	0.039	284	-1.579
Unaffiliated	1.764	0.017	1,985		1.880	0.032	551		1.853	0.054	177	
Co-lead manager	1.672	0.018	1,299	-3.634	1.620	0.021	771	-7.027	1.606	0.024	554	-4.725
Unaffiliated	1.764	0.017	1,985		1.880	0.032	551		1.853	0.054	177	

Panel B (analyst recommendations within twelve months after IPO):

	Recommendations in 1999				Recommendations in 2000				Recommendations in 2001			
	mean	std. error	#	t-value	mean	std. error	#	t-value	mean	std. error	#	t-value
Lead manager	1.780	0.049	191	1.335	1.596	0.030	426	-0.937	1.936	0.119	47	0.582
Co-lead manager	1.707	0.030	392		1.633	0.023	781		1.855	0.076	110	
Lead manager	1.780	0.049	191	-2.263	1.596	0.030	426	-2.396	1.936	0.119	47	0.048
Unaffiliated	1.926	0.038	404		1.691	0.020	1,343		1.930	0.051	201	
Co-lead manager	1.707	0.030	392	-4.546	1.633	0.023	781	-1.833	1.855	0.076	110	-0.850
Unaffiliated	1.926	0.038	404		1.691	0.020	1,343		1.930	0.051	201	

Table 6 T-tests of Recommendations of each Type of Investment Bank and High an Low Prestige for three periods of time.

Panel A:

	Twelve months after IPO				Six months after IPO				Three months after IPO			
	mean	std. error	#	t-value	mean	std. error	#	t-value	mean	std. error	#	t-value
Lead manager High	1.709	0.028	564	3.288	1.753	0.036	332	3.847	1.820	0.043	233	3.901
Lead manager Low	1.481	0.057	106		1.442	0.068	77		1.431	0.085	51	
Co-lead manager High	1.701	0.027	488	1.233	1.658	0.032	307	1.474	1.671	0.035	240	2.355
Co-lead manager Low	1.655	0.024	811		1.595	0.028	464		1.557	0.032	314	
Unaffiliated High	1.715	0.034	513	-1.721	1.786	0.064	145	-1.732	1.706	0.085	51	-1.751
Unaffiliated Low	1.781	0.019	1,472		1.914	0.038	406		1.913	0.067	126	

Panel B (analyst recommendations within twelve months after IPO):

	1999				2000				2001			
	mean	std. error	#	t-value	mean	std. error	#	t-value	mean	std. error	#	t-value
Lead manager High	1.829	0.053	158	2.190	1.625	0.033	360	2.252	1.976	0.130	42	0.971
Lead manager Low	1.545	0.124	33		1.439	0.065	66		1.600	0.245	5	
Co-lead manager High	1.781	0.040	187	2.379	1.625	0.038	256	-0.224	1.848	0.131	33	-0.052
Co-lead manager Low	1.639	0.044	205		1.636	0.030	525		1.857	0.094	77	
Unaffiliated High	1.816	0.073	98	-1.652	1.663	0.043	350	-0.829	1.821	0.089	56	-1.327
Unaffiliated Low	1.961	0.044	306		1.701	0.023	993		1.972	0.062	145	

Table 7 OLS Regressions with Analyst Recommendations as Dependent Variable.

Recommendation	12 months	6 months	3 months
Largest Single Shareholder	-0.069	-0.090	-0.393** ***
	<i>-0.826</i>	<i>-0.778</i>	<i>-2.773</i>
Ln Number of Risk Factors	0.046	-0.065	-0.093
	<i>0.713</i>	<i>-0.746</i>	<i>-0.881</i>
Ln Net Sales per Employee	-0.211	0.067	-0.094
	<i>-0.816</i>	<i>0.185</i>	<i>-0.234</i>
OCF / Current Liabilities	0.022	-0.024	0.010
	<i>1.126</i>	<i>-0.884</i>	<i>0.300</i>
Ln Net Sales	0.056 **	0.049	0.039
	<i>2.528</i>	<i>1.534</i>	<i>1.002</i>
Offered Shares / Total Shares (excl. Green Shoe)	-0.617 ***	-1.324 ***	-1.364 ***
	<i>-3.392</i>	<i>-5.223</i>	<i>-4.503</i>
NASDAQ (30 days average around RCM date)	-0.150 ***	-0.134 ***	-0.122 ***
	<i>-9.916</i>	<i>-6.118</i>	<i>-4.566</i>
Co-lead Manager	-0.010	-0.096 **	-0.166 ***
	<i>-0.299</i>	<i>-2.407</i>	<i>-3.717</i>
Unaffiliated Investment Bank	0.087 ***	0.151 ***	0.065
	<i>2.796</i>	<i>3.529</i>	<i>1.105</i>
Constant	1.175	1.746	2.143
	<i>2.679</i>	<i>2.826</i>	<i>2.806</i>
# of Observations	3,926	1,719	1,009
R-squared	0.037	0.073	0.079

t statistics in *italics*

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 8: Results for the matched pairs setup. The recommendations are matched with respect to their dates.

	Match distance ≤3 days			Match distance ≤10 days			Match distance ≤20 days		
	Mean	t	# of pairs	Mean	t	# of pairs	Mean	t	# of pairs
12 months									
RCM_Lead - RCM_Co-lead	0.158 ***	3.556	279	0.157 ***	3.974	335	0.118 ***	3.369	417
RCM_Lead - RCM_Unaffiliated	-0.084	-1.199	143	-0.080	-1.388	233	-0.076	-1.621	330
RCM_Co-lead - RCM_Unaffiliated	-0.118 **	-2.056	225	-0.075	-1.642	366	-0.096 ***	-2.678	555
RCM_Low - RCM_High	-0.020	-0.364	261	-0.011	-0.246	342	-0.033	-0.863	441
6 months									
RCM_Lead - RCM_Co-lead	0.188 ***	3.779	223	0.203 ***	4.376	247	0.180 ***	4.152	274
RCM_Lead - RCM_Unaffiliated	-0.200 *	-1.941	60	-0.194 **	-2.029	93	-0.187 **	-2.384	128
RCM_Co-lead - RCM_Unaffiliated	-0.356 ***	-4.214	75	-0.264 ***	-3.419	122	-0.307 ***	-5.018	171
RCM_Low - RCM_High	0.087	1.486	165	0.065	1.222	208	0.053	1.180	255
3 months									
RCM_Lead - RCM_Co-lead	0.193 ***	3.814	209	0.218 ***	4.533	226	0.190 ***	4.049	236
RCM_Lead - RCM_Unaffiliated	-0.139	-0.971	36	-0.061	-0.498	55	-0.017	-0.150	65
RCM_Co-lead - RCM_Unaffiliated	-0.359 ***	-3.626	45	-0.281 ***	-3.384	61	-0.281 ***	-3.694	76
RCM_Low - RCM_High	0.140 **	2.317	132	0.164 ***	3.221	158	0.138 ***	2.990	179

* significant at 10%; ** significant at 5%; *** significant at 1%