

Are Underwriter-Analysts More Informed? Scandinavian Evidence*

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October 18, 2007

Abstract

Excess returns for Scandinavian IPO-firm initial buy recommendations registered on the *First Call* database from underwriter analysts (informed analysts) for 1996-2002 were compared to those of non-underwriter analysts (uninformed analysts). Underwriter analysts recommendations outperformed non-underwriter analyst recommendations during the first year after publication, yielding 28 percent higher mean excess returns. Supporting the superior-information hypothesis and contradict earlier research, the result may be explained by two factors: (1) a lower regional competition between banks for winning corporate finance deals in Scandinavia than the regional competition between banks in the U.S.; and (2) an extended analyst coverage of IPO firms today than during earlier periods making it costlier for underwriter analysts to be caught with giving positively biased buy recommendations.

Key words: Initial public offerings; Quiet period; Stock recommendations; Underwriter analysts.

JEL Classifications: G14; G15; G18; G24.

*The author gratefully acknowledges comments on this paper from Thomas Andréén, Brad Barber, Eva Liljeblom, Roni Michaely, Carl Montalvo, Carl-Johan Pousette, Jay Ritter, Clas Wihlborg, four anonymous referees, and the participants at the 2004 *Swedish Network for European Studies in Economics and Business* (SNEE) conference in Mölle, as well as the financial support received from *Bankforskningsinstitutet*. The usual disclaimer applies.

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1 Introduction

A firm going public via an initial public offering (IPO) often receives a first favorable recommendation by its underwriters. Depending on the outcome of such recommendations, three possible explanations have been hypothesized: (1) there might be incentives for underwriters to give positively biased recommendations of the firms they underwrite, the 'conflict of interest' hypothesis; or (2) positively biased recommendations may be caused by the IPO firm's choice of underwriter, the 'selection bias' hypothesis; or (3) underwriter recommendations could result from the superior information they gather during the due-diligence process, the 'superior-information' hypothesis.¹ Hypotheses (1) and (2) apply if underwriter recommendations perform worse than non-underwriter recommendations during the post-recommendation period. The main objective of this paper is to address whether buy recommendations are a result of underwriter-analyst bias or their possession of superior information. Therefore, on the basis of recent Scandinavian data, we will test whether buy recommendations from underwriter analysts will, on average, outperform those from non-underwriter analysts.

Buy recommendations on IPO-firm stocks published closely after the IPO date have been studied before. Michaely and Womack (1999) (henceforth M&W) studied the initiated and revised buy recommendations on the 391 IPOs for the period 1990-91 on the U.S. stock markets. Approximately half of them received a recommendation of *any* type within one year of the IPO date, but only 148 received a buy recommendation. M&W found lead-manager analyst buy recommendations to perform more poorly than non-lead manager recommendations prior to, at the time of, and during the first year after the recommendation date.² They see their strong results as evidence that lead-manager analysts are positively biased and that this potential conflict of interest comes from the 'different functions that investment bankers perform'.

Other evidence have been found in numerous studies that, taken together, claim that there is no difference in the immediate and long-run stock-price reaction between underwriter- and non-underwriter recommendations.³

Lately, the competition for corporate-finance deals in the investment-banking community has hardened (e.g. Ellis et al. (2004)). In order to increase the probability of winning future corporate finance deals underwriters, therefore, tend to be overoptimistic⁴ about the firms' future prospects. Overly optimistic analysts are more often evident when underwriters are unlikely to win a deal, and less likely when they are highly likely to win (see Ljungqvist et al. (2003)).

Although empirical research has found overwhelming support for analyst over optimism, such research has mainly been based on U.S. data and almost exclusively for earlier periods.⁵ Thus, there is no indication whether these phe-

¹Related to hypothesis (3) is the "certification" hypothesis suggesting that the underwriter has reputational incentives to issue accurate valuations of the firm.

²There are often several underwriters in the syndicate handling an IPO, including lead managers and co-managers, though the roles of these vary.

³Such evidence has been found in Branson et al. (1998); Lin and McNichols (1998); Bradley et al. (2003) and Bradley et al. (2006).

⁴Such results have been found in Bradshaw et al. (2003); Dechow et al. (2000); Dugar and Nathan (1995); Hong and Kubik (2003) Lin and McNichols (1998); Michaely and Womack (1999); and Rajan and Servaes (1997).

⁵A rare exception where more recent data has been analyzed is Bradley et al. (2006).

nomenon hold on international stock markets and for more recent periods as well.

What we try to do in this paper is to test whether underwriter analysts have superior information and if this is reflected in their buy recommendations. Using recent non-US data, we perform this test by analyzing if initial buy recommendations from underwriter analysts, on average, outperform those from non-underwriter analysts. We analyze initiated buy recommendations up to one year after the IPO date of 148 Scandinavian IPOs performed during the period 1996-2001, distinguishing between underwriter- and non-underwriter analyst recommendations.⁶ Our contribution to the existing literature will be on how underwriter-analyst recommendations should be viewed on other small stock markets and for more recent data.

Our results strongly support the 'superior information' hypothesis. Post-recommendation excess returns reveal that underwriter-analyst recommendations substantially outperformed the market and, more importantly, they *significantly* outperformed non-underwriter analyst recommendations. Both underwriter- and non-underwriter analysts tended to give buy recommendations to firms that had performed relatively well in the recent past; i.e. underwriters did not attempt to boost previously low-performing IPOs in the aftermarket trading. Also, in line with earlier research, the market responded equally to the information conveyed in underwriter- and non-underwriter analyst recommendations during the days surrounding the recommendation date. Controlling for selection bias as well as numerous other factors, underwriter-analyst recommendations outperform non-underwriter recommendations by an impressive 28 percent during the one-year post-recommendation period.

Although recommendations from underwriters generally occurred earlier after an IPO than did those from non-underwriters, the absence of a quiet-period regulation on these markets did not seem to be a problem. Dividing recommendations into those from lead managers and non-lead managers, yielded similar results; hence the results cannot be explained by either how the markets were regulated or how the recommendations were grouped. We instead argue that: (1) lower competition for winning corporate-finance deals in Scandinavia compared to the U.S.; and (2) an increased analyst coverage over time, may explain our results. First, in our sample period, only one IPO were underwritten solely by non-local advisors. Therefore, at least one of the members in the syndicate will be a Scandinavian investment bank, logical considering their relative advantage to foreign peers in knowledge of local regulations and in its future coverage ability of the company. Consequently, Scandinavian investment banks compete with each other over the same deals. Second, with several other recommendations out on the same stock - some perhaps with a negative view -

They analyze the market reaction to initiations, reiterations, upgrades and downgrades for U.S. IPOs during the period 1999-2000 and do not study the post-recommendation returns to these recommendations, the main feature of this paper.

⁶One feature of these stock markets in relation to the U.S. ones is the absence of a quiet-period regulation. The 'quiet period', applied only to the U.S. stock markets, is a period during which, among others, lead- and co-managers are prohibited from: (1) issuance of forecasts, projections, or predictions relating but not limited to revenues, income, or earnings per share; and (2) publishing opinions concerning values. Until July 2002 it was 25 calendar days, but was then extended to 40 days. The quiet period was put into place to enable the market participants to "correctly" price the stock during an aftermarket trading period, without biased recommendations.

underwriter analysts may be less tempted to publish positively biased buy recommendations. The costs of being discovered with such a recommendation is simply too high. This is in line with the findings in Bradley et al. (2006) who argue that market practices (and incentives to analysts) have changed during the last decade leading to less bullish analysts.

Our main conclusion therefore is that underwriter-analyst recommendations on more recent IPO firms in less competitive markets can be expected to be more valuable and less tainted by positive bias.

Section 2 presents the approach chosen, while Section 3 describes the data. The results are presented in Section 4, while Section 5 discusses the possible reasons to the found results and Section 6 concludes.

2 Hypothesis and Method

The conflicts-of-interest phenomenon has always existed on the financial markets scene and nothing points against its future existence. One example would be when an underwriter posts a positively biased recommendation in a recent IPO-firm where it participated, as was shown in M&W. That there have been positively biased and directly misleading recommendations from underwriter analysts was confirmed in the 2003 global research USD 870 million settlement between the Securities and Exchange Commission (SEC) and ten investment banks and two individuals.⁷

During the due-diligence process underwriters gain access to inaccessible information for those outside the underwriting syndicate and are thereby more informed (e.g., Leland and Pyle (1977)). Banks lending to that firm at the same time as being an underwriter to that firm's securities have an even greater informational advantage (e.g., Puri (1999)). Such advantage is expected to be even larger on the Scandinavian stock markets since companies in Denmark and Sweden present less timely or less value-relevant accounting earnings than U.S. generally accepted accounting principles (GAAP) earnings (see Alford et al. (1993)). Therefore, it is potentially more difficult to non-underwriter analysts to make correct valuations of the IPO firm. The assumed informational advantage for underwriter analysts over non-underwriter analysts leads to the hypothesis we intend to test:

HYPOTHESIS: Buy recommendations from underwriter analysts will, on average, outperform those from non-underwriter analysts.

The method we employ to calculate the excess returns an investor would get from following the recommendations by underwriter and non-underwriter analysts is the buy-and-hold approach. We deploy an industry-adjusted buy-and-hold strategy defined as the buy-and-hold return on the stock minus the buy-and-hold return on the relevant sector index:⁸

⁷See <http://www.sec.gov/litigation/litreleases/lr18438.htm> accessed on March 28, 2006, where the SEC litigation release #18438 is detailed

⁸Here we assume that the sector index correctly adjusts for the risk level in the recommendations. A alternative way would be to use a matching firm as a benchmark for each recommended IPO firm. Considering the relatively small sample size and that there would be few stocks to match with, we avoid this approach since results would be too sensitive to the return on the matching firm.

$$ER_{a\ to\ b}^i = \left[\prod (1 + r_t^i) - \prod (1 + r_t^{industry(C)}) \right], \quad (1)$$

where r_t^i is the raw return on stock i on day t , and $r_t^{industry(C)}$ is the return on the corresponding sector index for that country on that day; $ER_{a\ to\ b}^i$ is thus the excess return on stock i from time a to b . We define the event period as the day prior to, the day of, and the day after the recommendation, so that $(a\ to\ b)$ means $(-1, +1)$. Excess returns were also calculated for 3, 6, and 12 months after the recommendation, one month being defined as 21 trading days.

The excess returns (ER^i) for portfolios of underwriter- and non-underwriter-recommended stocks were averaged for each period according to

$$PER_{a\ to\ b} = \frac{1}{n} \left(\sum_{i=1}^n ER_{a\ to\ b}^i \right), \quad (2)$$

where n is the number of stocks with returns in the period of interest. The t -statistics were calculated using the cross-sectional variance of excess returns in the relevant period.

3 Data, Sample Selection, and Descriptives

All Danish, Norwegian, and Swedish IPOs during 1996-2001 were identified using *Thomson One Banker-Deals* provided by *Thomson Financial*. This information was then double-checked against information supplied from each stock exchange: Copenhagen- (Denmark); Oslo- (Norway); and Stockholm stock exchange (Sweden). For each IPO we collected: the company name; deal value; offering date; offering price; participating lead managers and co-managers; and industry classification (sector). Stock returns were collected from the *TRUST* database provided by *SIX Information Estimates*.

We put no restrictions on minimum deal values, but require the company to be *initially* listed at the Copenhagen-, Oslo-, or Stockholm stock exchanges.⁹ Table 1 describes the 148 sample IPOs by country and the first-year initiated buy recommendations in terms of market capitalization and industry sector.

IPO activity averaged about 25 IPOs per year, peaking in 1997 (38) and again in 2000 (43), before falling to only 13 in 2001 after the dot-com crash. About 50 percent (73) of the sample IPO firms were Swedish.

The Scandinavian stock markets have a few large-cap stocks and many small-caps. Thus 62 percent (92) of the IPOs were for firms with market capitalization less than USD 50 million (Panel A). Eight companies (5 percent) had market capitalization greater than USD 400 million.¹⁰

[Insert table 1 about here]

⁹M&W excluded IPOs with a deal value less than \$5 million. If we used an even tougher restriction such as excluding IPOs with a deal value less than USD 10 million, 27 IPO firms would have been excluded, but only 6 of the sample recommendations would have been lost.

¹⁰The eight companies are: *Fred Olsen Energy* (453); *Saab-Scania* (497); *Eniro* (649); *Tele1Europe* (891); *Telenor* (1,608); *Den Norske Stats Oljeselskap* (2,966); *Scania* (3,026); and *Telia* (9,267), all in USD million.

The IPO firms were well distributed over industry sectors (Panel B), with representation in almost all industries, classified according to the Global Industry Classification Standard.¹¹ The largest block of sample IPOs (56, 38 percent) were information-technology stocks. Information about analysts' recommendations of IPO-firms, obtained from *First Call*, included: (1) the recommendation date; (2) name of the recommended company; (3) broker ID; (4) analyst's name; and (5) text of the recommendation itself. In the database, all recommendations are standardized using Institutional Brokers Estimate System (I/B/E/S) recommendation-codes, which indicate 'strong buy', 'buy', 'hold', 'underperform', and 'sell'. We only include initial buy recommendations up to one year after the IPO date. We thereby obtain a recommendation sample free from news announcements which would have been the case if revisions from one category to another would have been included as is done in many other studies (e.g. in M&W). A certain analyst recommending a firm will therefore appear only once, reducing the problem with overlapping returns to an absolute minimum.

During the 1996-2002 period that we analyze, there are 469 recommendations related to the 148 Scandinavian IPO firms in the *First Call* database within one year of their offering dates. From the whole sample of recommendations on IPO firms one year after the IPO date, 28 were 'sell' (6.3 percent). Not surprisingly, only one of those were given by an underwriter (a co-manager). Also, there were and 47 recommendations to 'underperform' (10.6 percent), and 125 'hold' (28.3 percent). In two instances, recommendations were published *before* the IPO date, one by an underwriter. The 242 initial brokerage-analyst buy recommendations (54.8 percent) are differentiated by source (underwriter or non-underwriter), according to market capitalization (Table 1, Panel A), industry sector of the IPO firm (Table 1, Panel B), and length of time after the IPO (Table 2, Panel C).

Underwriters tended to give buy recommendations to stocks with relatively low market capitalization (Table 1, Panel A), whereas non-underwriters tended to recommend larger stocks, though the difference is statistically insignificant.

Recommendations were well dispersed over industries (Table 1, Panel B), with representation in all IPO-firm industries. Not surprisingly, larger IPO firms tended to be more frequently given an initiated buy recommendation during its first year than smaller ones.

[Insert table 2 about here]

Table 2 displays how often brokerage analysts initiated or changed opinion in the 148 Scandinavian IPO firms during the first year after the IPO date. Fifty firms had no recommendations (irrespective of whether being a 'buy' or a 'sell') during the first year after the IPO date (Panel A). The remaining 98 IPO firms are categorized in four ways: (1) IPO firms that only received buy recommendations from underwriters, 31 firms; (2) IPO firms that only received buy recommendations from non-underwriters, 20 firms; (3) IPO firms that received buy recommendations from both underwriters, and non-underwriters, 37 firms; and (4) IPO firms that only received non-buy (e.g., hold, underperform, and sell) recommendations, 10 firms.

¹¹Global Industry Classification System was jointly developed by *Morgan Stanley Capital International* and *Standard & Poors*.

For 33 of the 88 IPO firms that received a buy recommendation during its first year, or roughly 40 percent, only one recommendation was given. More than 10 initial buy recommendations was given to one IPO firm only, i.e. the Norwegian telecommunication-services company *Telenor*, receiving 12.

Only in 14 instances (5.8 percent), did an IPO firm receive a buy recommendation within the first month of the IPO date.¹² The majority of underwriter recommendations were given during months 3-6, whereas the majority from non-underwriters were given during months 7-12 (Panel C).

In line with previous international evidence, there seems to have been substantial underpricing on the IPO date (13.57 percent mean excess return the first day, with a t -value of 6.44). Underpricing on Scandinavian IPOs has been studied for earlier periods in various studies and the level of underpricing for our sample IPOs are similar to those.¹³ Over the next two years these IPO firms yielded a negligible increase in stock prices (5.19 percent, with a t -value of 0.54). Of the 148 IPO firms in the sample, 111 (75 percent) are still individually active; the 37 other firms were either bought up by, or merged with, another company, delisted, or went bankrupt.

Among the underwriters involved in the sample IPOs as lead- or co-manager, the five most active underwriters were Swedish; there were also two American, one German, one Norwegian, and one Danish underwriter among the top ten. As one might expect, more active firms tend to be lead manager more often than co-manager, and vice-versa for less active firms.¹⁴

4 Empirical Results

4.1 Market Reactions

Table 3 reports the reaction to initial buy recommendations of recent IPO firms by underwriter- and non-underwriter analysts before, at the time of, and up to a year after the recommendation date.

[Insert table 3 about here]

The immediate (3-day) response suggests that markets marginally discounted the information contained in the recommendations from underwriters (0.07 percent return, t -value: 0.12) relative to non-underwriter recommendations (0.75 percent return, t -value: 1.55).

Recommendations by underwriters came much sooner (47 days, t -value: -3.48) than did non-underwriter recommendations. This is natural since underwriter analysts should be able to recognize underpriced IPOs earlier than non-underwriter analysts. We also note that it takes some time after the IPO

¹²One month after the IPO would mean the quiet period, if such a regulation would have applied. Two recommendations even occurred *before* the IPO date itself.

¹³Danish IPOs during 1984-98 had first-day excess return of 5.4 percent (see Jakobsen and Sørensen (2001)), compared with 11.7 percent for the Danish IPOs here; Norwegian IPOs during 1984-96 had 12.5 percent (see Ritter (2003)), compared with 12.7 percent here; and Swedish IPOs during 1980-98 had 30.5 percent (see Ritter (2003)), compared with 14.8 percent here.

¹⁴We find large variations in the stock-price performance of IPO firms over different underwriters, and therefore correct for broker affiliation in our results.

date before the initial buy recommendations are posted (about five months for underwriters and more than six months for non underwriters). One possible reason may be that when the shares of IPO firms are sold to institutional investors in U.S. or U.K., underwriters will follow the regulation in those countries as well. This will certainly 'slow' down the recommendation process for underwriters. Nevertheless, since considerable time passes between the IPO date and the initial buy recommendations, neither underwriter nor non-underwriter analysts rush to issue recommendations.

4.2 Pre-recommendation Price Performance

The conflict-of-interest hypothesis suggests that underwriters might be tempted to boost stocks that performed poorly in aftermarket trading by issuing a favorable recommendation. If so, we expect a negative pre-recommendation excess return to underwriter recommendations. During the month prior to the recommendation, 49 percent of the underwriter-recommended stocks had negative excess returns (38 percent of the non-underwriter recommendations had negative excess returns).

Table 3 shows one-month pre-recommendation excess returns. Recommendations by both underwriters and non-underwriters were of stocks that had positive average excess returns during that month, though, on average, underwriter-recommended stocks performed less well (2.12 percent, t -value: 0.96) than did non-underwriter-recommended stocks (3.34 percent, t -value: 2.17). Thus, the positive pre-recommendation excess return to underwriter recommendations says that, if anything, underwriters were not trying to boost aftermarket low-performing IPO-stocks.

4.3 Post-recommendation Price Performance

Excess returns on underwriter- and non-underwriter-recommended stocks 3, 6, and 12 months after the recommendation date are shown in Table 3. In 3 months, underwriter-recommended stocks had outperformed their sector by 4.72 percentage points (t -value: 1.35), while non-underwriter-recommended stocks had underperformed by 2.41 percentage points (t -value: -1.15). The 7-percentage point difference is statistically significant at the 10-percent level. Over the next 9 months, the stocks recommended by underwriters continued to outperform, whereas those from non-underwriters continued to underperform. So, not only did the underwriter recommendations outperform their sectors by a substantial amount (15.79 percent over 12 months), but the non-underwriter recommendations were *significantly* outperformed by 23.13 percent (t -value: 2.02).

Out of the total sample of 148 IPOs, 60 never received a buy recommendation during its first year. One may argue that there is a selection bias in the firms that underwriters choose to cover and firms for which *First Call* records recommendations. That is, *First Call* may not keep record of *all* recommendations and, more importantly, underwriters may choose to cover firms which their clients have most interest in (e.g. firms large enough to be considered as feasible investment opportunities). If there is such a selection bias in the firms underwriters chose to cover and give buy recommendations of, it could potentially explain the obtained results. With this said, we should correct for the potential selection bias. One way to do this is to use a Heckman (1979)

selection bias model, previously used by Rajan and Servaes (1997) correcting for selection biases in I/B/E/S's choice of analysts.

4.3.1 Correcting for Selection Bias

The first stage is a maximum likelihood probit model that determines when the dependent variable in the second stage is not missing. In the second stage the dependent variable is the one-year excess return on recommended firms. In the first stage we should include variables explaining why certain firms were given buy recommendations while others were not. Institutional clients to the brokerage firm are more interested in larger firms leading analysts to focus on covering them. Since recommendation coverage may therefore depend on the size of the IPO firm, we include a variable controlling for it in the first stage (see Rajan and Servaes (1997)). If a firm was covered by one or more analysts giving earnings estimates during its first IPO year, it should be more likely to receive a buy recommendation. We therefore introduce a dummy equal to one if one or more analysts cover the firm, and zero otherwise. Out of the 148 IPOs, 101 (63 percent) is covered by at least one analyst in the first year after being introduced, and the average is 2.6 analysts per IPO firm. Only five large IPO firms were followed by more than ten analysts during its first year: *Eniro* (followed by 11 analysts); *Netcom* (12); *Telia* (14); *Telenor* (16); and *Den Norske Stats Oljeselskap* (20). It is very likely that *First Call* keeps record of close to all recommendations given by brokerage firms of the IPO firms, but it is also very likely that the number of brokerage firms tied to *First Call* increases over time. Therefore we also include a set of year-dummies controlling for coverage increasing over time.

Apart from whether the recommendation was given by an underwriter or a non-underwriter, we also include the following explanatory variables in the second stage: a dummy controlling for whether the underwriter had its headquarters in the U.S. and are therefore used to follow the quiet period regulation ($Quiet_i$), 27 recommendations; $Size_i$ is the log of market capitalization at the end of the first trading day; $Time_i$ is the number of days between the IPO date and the recommendation date; $First_i$ is a dummy taking the value 1 if the recommendation was the first in that stock since issuance, otherwise 0; and the Scandinavian IPO market share of the brokerage firm giving the recommendation ($MktShare_i$).¹⁵ Standard errors were again corrected for heteroscedasticity using the procedure in White (1980).

[Insert table 4 about here]

Table 4 reports the results on the excess return for the first year after the recommendations on the IPO firms. Heckmans lambda (the correction-variable for the potential selection bias in the first stage, i.e. λ) turns out statistically significant

¹⁵Underwriters with higher reputation tend to take on IPOs with less risk, leading to lower returns (e.g. Carter and Manaster (1990)). We use underwriter market share rather than performing a Scandinavian Carter-Manaster ranking as a measure of reputation; these rankings do not perform as well for small markets (such as the Scandinavian) as for the U.S. IPO market. Market share was calculated as the underwriter's share of the accumulated IPO total on Scandinavian markets during the period 1996-2001 and was supplied by *Thomson Financial*.

We also ran a regression controlling for brokerage affiliation. The results were not altered and are therefore not presented here.

at the 5-percent level implying a selection bias in the firms underwriters choose to cover. Having corrected for this potential bias, underwriter-recommendations outperform non-underwriter recommendations by 28.03 percent. This figure should be compared to the parametric result of about 23 percent, i.e. correcting for the selection bias further strengthen the results.

So far we have seen that the market initially discounted underwriter recommendations somewhat relative to those from non-underwriters, and the stocks that underwriters recommended had performed relatively worse in the pre-recommendation period. However, the positive pre-recommendation excess returns on stocks recommended by their underwriter(s) showed no evidence that underwriters need to boost stock prices. From the higher post-recommendation excess returns on underwriter recommendations, we see instead that there is support for the superior-information hypothesis.

One would expect the best-performing stocks to receive the most buy recommendations, and a really good stock to be recommended by both underwriters and non-underwriters. Sure enough, the highest two-year excess returns were on stocks that received buy recommendations from both underwriters and non-underwriters.¹⁶ As one would also expect, IPO firms that did not receive any buy recommendations in the first year after the IPO date had the lowest performance in the short run as well as the longer run; 20 percentage points lower than those which received recommendations from both groups. It is worth noting that IPO firms being buy-recommended only by underwriters performed in line with those IPO firms buy-recommended only by non-underwriters.

4.4 Robustness

Several concerns could be raised about the results presented so far.

First, were the IPOs studied a complete set of all the IPOs on Scandinavian markets during 1996-2001? As explained earlier, IPOs were first located via the *Thomson One Banker-Deals* and were then double-checked against, and supplemented with, additional information from the respective stock exchange. Some of the IPOs found in the *Thomson One Banker-Deals* were never carried through (although it was indicated as such) and a firm was occasionally indicated as having performed an IPO by the stock exchange while it was in fact a secondary public offering. The used procedure discovered shortcomings in the provided data and after being corrected assures a near-to complete set of the IPOs in these markets for the period.

Second, were all brokerage-analyst recommendations registered on the *First Call* database in relation to the IPO firms during the first post-IPO year? It has been argued by Bradley et al. (2003) that the coverage of recommendations on *First Call* is incomplete, especially during earlier years. They have drawn the line for the 'earlier years' as being before 1995. Bradley et al. (2003) uses Dow Jones Publications Library, the *IPO Reporter*, the website Briefing.com, and IPO Monitor. None of these report recommendations for Scandinavian stocks. This problem should, nevertheless, be of less importance since it is argued in Bradley et al. (2003) that *First Call* coverage is almost complete at the end of our period.

Third, were the results found here driven by dividing the recommendations

¹⁶We do not display the results here. They will, however, be available upon request.

into those from underwriter analysts versus those from non-underwriter analysts? M&W divided their recommendations into those from lead managers and those from non-lead managers. In order to find out whether it is our division as such that generates our results, we too divided the sample into lead-manager and non-lead manager recommendations. The largest difference to earlier results is that the one-year excess returns (19.46 percent with a t -value of -1.60) is no longer statistically significant at any conventional level. Nevertheless, the three-month post recommendation period is large (9.35 percent), and highly statistically significant. Although the excess-return difference here is statistically insignificant for the one-year post-recommendation period they, if anything, point in the same direction as our previous division.

5 Discussion

This section will be devoted to discussing the potential factors explaining why we find, contradictory to previous research, underwriter-analyst recommendations to outperform those from non-underwriter analysts. We believe that two potential factors could explain these results: (1) the competition between banks to win deals; and (2) the sample period.

While the results found in M&W are quite strong, so is ours. M&W study the IPOs for the period 1990-1991 while we study the period 1996-2001. Recommendations during the IPO firm's first year as a listed company are considered both here and in M&W; they use recommendations for the period 1990-1992 while we use recommendations during the period 1996-2002. Another important difference is that they include both initiated and revised buy recommendations, while we only include initiations. We argue that it is more desirable to only study the initiated buy recommendations if one want to find whether underwriter analysts have superior information. If they know more about the IPO firm than non-underwriter analysts their initiated recommendations should also reveal that.

Level of Competition. Taken together, the U.S. stock markets (such as New York Stock Exchange and NASDAQ) are the worlds most liquid marketplaces for trading in stocks. As such, they attract a large number of players of varying size. The market for banks underwriting IPOs is not an exception. So, not only does the *composition* of these markets differ from the Scandinavian ones, but also the *competition* between banks for deals differ. The competition between U.S. investment banks for winning a deal on the U.S. stock markets, at all levels of deal value, can therefore be expected to be much greater than the competition between Scandinavian investment banks for deals on the Scandinavian market.

Out of the 148 IPOs in Scandinavia, in 66 of them the sole lead manager was a Swedish bank. The majority of these IPOs were for really small firms. So in smaller Scandinavian IPOs, the underwriter(s) is(are) usually Scandinavian-based, and for larger deal values the largest U.S. or German investment banks participates as one of the lead managers. Also, industry professionals told us that all IPOs on any of the Scandinavian exchanges will involve at least one local player; a valid statement since only one of the IPOs during our period was underwritten only by non-local investment banks.¹⁷ With less competition

¹⁷*Sparebanken Pluss*, introduced on the Oslo stock exchange in 1998, was underwritten by *Lehman Brother* and *Goldman Sachs*.

between local investment banks for the local stakes, local underwriters are not forced to the same extent as in U.S. to issue favorable research in order to get future deals from that firm. The low number of active Scandinavian investment banks also ensures a relatively low competition between them for the local stakes in the deals. The underwriter analysts at these banks are thereby expectedly less optimistic in their recommendations since they are highly likely to win future deals with the same company. But this should hold both for firms where the bank has a deal and for firms they have not. If this is the case underwriter analysts, who are more secure to get future deals from the IPO firm, should post buy recommendations influenced by the superior information they possess. Indeed this is what we find.

Dividing the buy recommendations into those from analysts at Scandinavian investment banks and those from analysts at non-Scandinavian investment banks, the following three observations can be made. *First*, the 72 recommendations from underwriter analysts employed by a Scandinavian Investment bank outperformed the 23 recommendations from underwriter analysts employed by non-Scandinavian investment banks by 32 percent (with a t -value of 1.26). *Second*, the 116 recommendations from non-underwriter analysts at Scandinavian investment banks outperformed the 32 recommendations from non-underwriter analysts at non-Scandinavian investment banks by 13 percent (with a t -value of 0.88). *Third*, according to theory we should find the most bullish analysts among those employed by banks less likely to win future deals at a certain firm, i.e. non-underwriter investment banks. This description fits well both for analysts from Scandinavian investment banks and from non-Scandinavian investment banks. When the Scandinavian investment bank is an underwriter their analysts produce recommendations that outperform those from their analysts when they are not underwriters (by 28 percent with a t -value of 1.94) and the same holds for non-Scandinavian investment banks (underwriter analysts then outperform by 9 percent with a t -value of 0.79).

An important finding in the above is that when the Scandinavian investment banks is an underwriter, their analysts post recommendations that outperform their sector indices (by 23 percent) while analysts employed by Scandinavian banks not being an underwriter post recommendations just marginally underperform their sector indices (by 4 percent). So even if they are less likely to win future stakes in these IPO firms, they do not try to get such deals by posting positively biased recommendations. We can think of only one reason to this; there are plenty of deals for everyone, i.e. there is no need to be overoptimistic. The reason why recommendations from analysts at Scandinavian investment banks when the bank is an underwriter outperform the recommendations from such analysts when their employer is not an underwriter, is because of the superior information that underwriter analysts possess.

Because of the above, we believe underwriters of Scandinavian IPOs to have less incentives to issue positively biased (misleading) buy recommendations as could be expected on U.S. IPOs. This phenomenon should also hold on similar stock markets characterized by low competition between investment banks.

Studied Period. In the beginning of 1990, stock recommendations registered on the *First Call* were seldom. Today, recommendations are much more common. Scandinavian IPO stocks were given an initiated buy recommendation in approximately 60 percent of the cases, while an initiated *or* revised buy recommendation was given to less than 40 percent of the IPOs for the U.S. data.

For each Scandinavian IPO firm receiving at least one initiated buy recommendation during its first year, it received 2.75 recommendations on average while it was 1.45 for U.S. IPOs. Also, for U.S. IPOs: (1) one buy recommendation was more common than two, if at all being given a buy recommendation; (2) lead managers are proven to more often issuing a buy recommendation than non-leads; and (3) other recommendations such as 'sell', 'hold', etcetera, are few. With fewer recommendations out on the market, investors have less information to compare the recommendations with. This may have tempted lead managers to publish positively biased recommendations because of a low risk of being discovered. The number of recommendations on U.S. IPOs for more recent years are probably much higher; mimicking the M&W-paper during the same years as our sample would most probably change the findings in M&W.

6 Conclusions

In this paper, we have analyzed stock recommendations by underwriter- and non-underwriter analysts of IPO-stocks on the Scandinavian stock markets during 1996-2001. Underwriter recommendations were found to yield substantially higher mean excess returns for up to a year after it was given in comparison to non-underwriter recommendations. This is a result directly contradicting previous research showing that underwriters and non-underwriters do publish equally performing buy recommendations or that underwriter analysts even publish positively biased buy recommendations (as is the case in M&W). The information gained by underwriters in the IPO-process thus appears to be superior to the information of non-underwriters.

We found no evidence that underwriters tried to 'boost' poorly performing IPO-firms during the aftermarket trading by publishing buy recommendations. Underwriter analysts were, nevertheless, found to publish recommendations on average almost two months before non-underwriter analysts, again supporting the superior-information hypothesis; presumably underwriters were earlier able to recognize mispriced stocks. For both underwriters and non-underwriters it takes considerable time after the IPO date before initial buy recommendations are registered. If underwriters were really attempting to influence IPO-stock-prices in the aftermarket one would expect recommendations to come sooner, and to perform much worse.

The clear difference from previous research may be explained by differences between the U.S. and Scandinavian stock markets in the competition for winning corporate finance deals and due to the relatively larger number of recommendations during our period on IPOs compared to earlier research. There are very few underwriters active in Scandinavia; the five most active during the period are all Swedish. The lower competition for the Scandinavian deals leads to 'healthier' buy recommendations from underwriter analysts in recent IPOs, and underwriter analysts at Scandinavian investment banks publish ever healthier recommendations. During the period 1990-1991, which is the period M&W study, recommendations were more uncommon than they were during the period we study. With a larger number of recommendations registered it is more difficult to get away with positively biased recommendations. Therefore, it appears as underwriter analysts were less tempted during our period to assist low performing IPOs in the aftermarket trading with favorable recommendations

than they have been found in previous research during earlier years.

Our results imply that initial IPO-firm buy recommendations of recent IPOs from underwriter analysts today can be expected to outperform those from non-underwriter analysts due to the superior information underwriter analysts possess. The outperformance is expected to be negatively dependent on the level of competition for winning deals.

To confirm that our findings are valid, future research could focus on the U.S. market for a more recent period as well as other markets ideally employing the division of informed versus uninformed analysts used here.

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Tables

Table 1: Distribution of Scandinavian IPO firms and initial buy recommendations from underwriters (U) and non-underwriters (non-U) for the period 1996-2001. Average deal values and market capitalization are in USD million. Market capitalization is measured as the stock price multiplied by the number of outstanding shares at the end of the first trading day. In panel B, the industry-sector classification follows the Global Industry Classification System (GICS). An underwriter (U) is a brokerage analyst representing any of the underwriting managers (whether it is a lead- or co-manager) in the syndicate, and a non-underwriter (non-U) is an analyst representing another employer.

Market capitalization		IPOs			IPO-firm recommendations					
		Denmark	Norway	Sweden	Total	Percent	U	non-U	Total	Percent
Less than \$50		17	32	43	92	62.2	34	29	63	26.0
\$50 - \$99.9		5	5	13	23	15.5	13	17	30	12.4
\$100-\$199.9		7	3	9	19	12.8	14	36	50	20.7
\$200-\$399.9		2	1	4	7	4.7	14	24	38	15.7
≥ \$400		0	3	5	8	5.4	20	41	61	25.2
All		31	44	73	148	100.0	95	147	242	100.0

Sector (GICS code)		IPOs			IPO-firm recommendations					
		Denmark	Norway	Sweden	Total	Percent	U	non-U	Total	Percent
Energy (10)		0	10	0	10	6.8	4	19	23	9.5
Materials (15)		1	1	0	2	1.4	3	4	7	2.9
Industrials (20)		3	6	7	16	10.8	17	18	45	18.6
Consumer discretionary (25)		7	4	12	23	15.5	12	19	31	12.9
Consumer staples (30)		0	3	3	6	4.1	3	8	11	4.5
Health care (35)		5	3	10	18	12.2	10	8	18	7.4
Financials (40)		2	4	6	12	8.1	4	7	11	4.5
Information technology (45)		13	12	31	56	37.8	31	38	69	28.5
Telecommunications (50)		0	1	4	5	3.4	11	16	27	11.2
All		31	44	73	148	100.0	95	147	242	100.0

Table 2: **Brokerage analyst recommendations for the period 1996-2002 on Scandinavian IPO firms.** Recommendation-information on the 148 IPOs firms in 1996-2001 was taken from *First Call*.

Panel A: Number of IPOs by source of recommendations			
	Number of IPOs	Percent	
Buy recommendations by underwriters only	31	20.9	
Buy recommendations by non-underwriters only	20	13.5	
Buy recommendations by both U and non-U	37	25.0	
Non-buy recommendations only (by U or non-U)	10	6.8	
No recommendations	50	33.8	
All	148	100.0	
Panel B: No. of IPOs, by No. of first-year buy recommendations			
	Number of IPOs	Percent	
No buy recommendations in first year	60	33.8	
1 recommendation	33	27.0	
2 recommendations	23	16.9	
3 to 5 recommendations	18	12.8	
6 to 10 recommendations	13	8.8	
More than 10 recommendations (The Norwegian telecommunications company <i>Telenor</i> received 12 recommendations)	1	0.7	
All	148	100.0	
Panel C: Recommendations by status, and time before, at, and after the IPO date			
	U	non-U	Total
During first month after IPO date	2(2)	12(8)	14(6)
During second month after IPO date	12(13)	9(6)	21(9)
During months 3 – 6 after IPO date	51(54)	48(33)	99(41)
During months 7 – 12 after IPO date	30(31)	78(53)	108(44)
All	95(100)	147(100)	242(100)

Table 3: **Mean excess returns (percent) on Scandinavian IPO-firm recommendations, 1996-2000.** The table displays excess returns to Scandinavian IPO-firm recommendations before, at, and after analyst buy recommendations by underwriter status and period. Excess returns have been calculated as an industry-adjusted buy-and-hold excess return, that is: $ER_{a\ to\ b}^i = \left[\prod(1 + r_t^i) - \prod(1 + r_t^{industry(C)}) \right]$; where r_t^i is the raw return on stock i on day t , and $r_t^{industry(C)}$ is the return on the corresponding sector index for that country on that day; $ER_{a\ to\ b}^i$ is thus the excess return on stock i from time a to b . * = significant at the 10-percent level, ** = significant at the 5-percent level, and *** = significant at the 1-percent level using a two-tailed t -test.

Buy recommendations	Total (N=242)	U (N=95)	non-U (N=147)	t -stat of U vs. non-U
Month before event	2.86	2.12	3.34	-0.46
3-day event	0.48	0.07	0.75	-0.91
Days after IPO, mean	177	148	195	-3.48***
Event + 3 months	0.38	4.72	-2.41	1.87*
Event + 6 months	2.11	8.05	-2.70	1.47
Event + 12 months	1.72	15.79	-7.34	2.02**

Table 4: Excess returns (percent) on Scandinavian IPO-firm recommendations, 1996-2002. The table presents a two-step procedure discussed in Heckman (1979) correcting for selection bias. Panel A presents the coefficient estimates for the first stage model (a maximum likelihood probit model) determining when the dependent variable (one-year post-recommendation excess return) in the second stage (Panel B) is not missing. In the first stage we include a dummy which is equal to one if one or more analysts cover the firm, and zero otherwise. The first stage also includes a set of year dummies to control for analyst coverage increasing over time. The second stage includes a variable controlling for whether an underwriter or a non-underwriter (*Underwriter*) gives the recommendation, as well as the following explanatory variables: a dummy controlling for whether the underwriter had its headquarters in the U.S. (*Quiet_i*); *Size_i*, the log of market capitalization at the end of the first trading day; *Time_i* is the number of days between the IPO date and the recommendation date; *First_i* is a dummy taking the value 1 if the recommendation was the first in that stock since issuance, otherwise 0; and the Scandinavian IPO market share of the brokerage firm giving the recommendation (*MktShare_i*). Standard errors are corrected for heteroscedasticity using the procedure in White (1980), and *t*-stats are reported in the second column. * = significant at the 10-percent level, ** = significant at the 5-percent level, and *** = significant at the 1-percent level using a two-tailed *t*-test.

Panel A: First stage estimates, explaining when the dependent variable in the second stage is not missing (The coefficients on year dummies are not reported).

Variable	Coefficient	<i>z</i> -value
Log equity size	0.36	2.81***
Analysts covering the IPO firm	0.61	3.59***
Constant	-1.86	-3.58***
Number of observations		148

Panel B: Second stage estimates: Dependent variable one-year post-recommendation excess return

Variable	Coefficient	<i>t</i> -value
Underwriter	28.03	2.16**
Quiet	-15.91	-1.23
Log equity size	-4.79	-1.38
Time	-0.03	-0.55
First	-3.73	-0.33
Market share	-1.07	-0.65
λ (Mills ratio)	-37.64	-2.13**
Constant	31.38	1.20
Number of observations		240