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"Do analysts from underwriting firms tend to be more optimistic in their recommendations of IPOs in Nordic countries?"

Master of Science in Business with Major in Finance

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ABSTRACT

In this preliminary, we present our main thoughts for our master thesis, which is an event study on stock recommendations subsequently of an initial public offering in the Nordic countries. The study will base upon the article “Conflict of Interest and the Credibility of Underwriter Analysts” written by Roni Michaely and Kent L. Womack in 1999. By comparing stock recommendations from underwriters and non-underwriters, the research aims to find how the recommendations are at the end of quiet period, and some month after, to detect the preciseness of the recommendations.

The preliminary is structured with a first section that introduces the topic and our motivation. Our research question is the following: “*By looking at analyst recommendations from underwriting and non-underwriting firms in the Nordic countries subsequently of an IPO, do analysts from underwriting firms tend to be more optimistic in their recommendations?*” Section two presents Michaely and Womack’s (1999), with supplementary literature on the topic of conflict of interest in brokerage department. Section three presents the most relevant theory for the thesis, which are *agency theory*, *sell-side recommendations* and *regulations*. The last section, methodology, presents the plan in how data will be collected and analysed.

1 INTRODUCTION AND MOTIVATION

The Chinese wall is the separation between the investment banking department and the brokerage operations in an investment firm (Hayward & Boeker, 1998). The Chinese walls intends to allow the analysts in an investment firm to work independently. However, there exist situations where an analyst can be “brought over the Chinese wall” to provide the investment banking department with valuable opinions to the underwriting process, e.g. an initial public offering (IPO). A conflict of interest in the investment banking industry might arise when the investment banking department provide services to a client, and the investment firm’s financial analyst later issues research reports on the same client. Eventually, a positive recommendation subsequently of an IPO may enhance the likelihood that the same underwriter will be chosen to lead the next corporate mission.

In this preliminary we introduce our ideas and the approach we aim to investigate the relationship between analyst recommendations of an IPO from underwriting firms compared to non-underwriting firm. We aim to answer the following research question in our thesis:

By looking at analyst recommendations from underwriting and non-underwriting firms in the Nordic countries subsequently of an IPO, do analysts from underwriting firms tend to be more optimistic in their recommendations?

By comparing the recommendations from underwriting firms and non-underwriting firms, we aim to detect if there is a potential conflict of interest. The investment firms, and most specific the brokerage department, belongs to an industry with high competition, which increase the importance of reputation, performance and compensations. All together, these factors can represent possible sources of conflict, and we are interested in detecting what the trend shows regarding this topic for the Nordic countries.

Our master thesis is based upon the study completed by Roni Michaely and Kent L. Womack from 1999. They analyse three main issues which is closely related to our research question: (1) does an underwriting relationship bias analysts’

recommendations, or does it result in more accurate recommendations? (2) do underwriter analysts tend to be overly optimistic about stock prices of firms they underwrite? and (3) does the market correctly discount the overly positive recommendations of affiliated underwriters? We will use a methodological approach similar to the one in Michaely & Womack's (1999) study. However, we aim to investigate the relationship on Nordic IPOs.

The preliminary report will have the following structure: the first section will present the previous studies and relevant literature on the topic of our master thesis. The literature review will contain argument for our choice of hypotheses and the appropriateness of our chosen data and methodology. The second section, theory, will present the theoretical framework related to our research question. Methodology is the third and the final section of the preliminary report, this section will present the empirical methodology we aim to use in our master thesis to answer our hypotheses.

2 LITERATURE REVIEW

Several previous studies have examined the market reactions to sell-side analysts' recommendations, and the relationship between analyst recommendations from leading underwriters and non-underwriters. Ljungqvist, Marston & Wilhelm (2006), Michaely & Womack (1999) and Bradley, Jordan & Ritter (2003) have studied the behaviour of financial analysts and the potential conflict of interest occurring in the relation to the investment firm's competition of winning underwriting mandates. The study from both Michaely & Womack (1999) and Bradley, Jordan & Ritter (2003) concludes that analysts are shown to be more optimistic in their recommendations towards their banks' underwriting clients.

2.1 "Conflict of Interest and the Credibility of Underwriter Analyst Recommendation"

Our master thesis will be based upon the article "Conflict of interest and credibility of underwriter analyst recommendation", published in 1999 by Roni Michaely and Kent L. Womack. In the article, the authors evaluate the credibility of recommendations from the major underwriters in the US for IPO's from the period 1990 to 1991. The major problem that is investigated in the article is the conflict of interest between the brokerage operations and the investment banking department. At the time when the paper was published, it was a clear trend that it became more common to use equity analysts in the process of due diligence and marketing for IPO's. This makes the analysts more dependent on the investment banking department, and the Chinese walls appear to be less clear. From this argument, the authors developed two hypotheses. The first hypothesis states that: as the analyst is more involved in the process of due diligence they will have superior information compared to non-underwriters, hence give a more accurate recommendation. The second hypothesis states that the analysts have a stronger incentive to recommend IPOs that their firm has taken public. This hypothesis is also called the "conflict of interest" hypothesis. To test these hypotheses, Michaely & Womack (1999) compared analysts' recommendations from underwriting firms and non-underwriting firms, to examine if there is an existence over optimism in the recommendations from underwriting analysts.

Michaely & Womack (1999) used recommendations issued after the quiet period from leading underwriters and non-underwriters, and their sample statistics shows

that there is a significant amount of buy recommendations from both underwriting and non-underwriting firms. Michaely & Womack's (1999) findings in the research gave no support for the first hypothesis that the underwriter analyst recommendation should have superior information to others, however, they found support in the second hypothesis that it exist a "conflict of interest" when analysts issue recommendation of a company which has recently been taken public by the same investment firm. Their research found that 50 percent more "buy" recommendations come from lead underwriters than non-lead underwriters in the first two months following an IPO. This further concludes that the recommendations from underwriting firms include significantly estimation bias, and that non-underwriters have more credible recommendations.

2.2 Supplementary literature

In the process of extracting relevant literature for our thesis, we were interested in other research that had investigated the behaviour of financial analysts, and the market reactions to analysts' recommendation. As previously stated, Michaely & Womack (1999) finds that underwriter analysts have a strong incentive to recommend IPOs that their firm has recently taken public, regardless of the quality of the IPO. Ljungqvist, Marston & Wilhelm (2006) continued to investigate this relationship by examining a number of US debt and equity offerings. Ljungqvist, Marston & Wilhelm (2006) aimed to show the evidence that financial analysts behaviour influenced the issuer's choice of bank to underwrite its offering. Their findings provide little support that analysts misrepresented their recommendations about potential issuers under pressure from investment bankers competing for underwriting mandates. However, Ljungqvist, Marston & Wilhelm (2006) recognises that their research design involving all capital market transactions in the investment firm might be the reason for the lack of support. Existing research, like Michaely & Womack (1999) and Bradley, Jordan & Ritter (2003), examines the analysts behaviour in relation to IPO-firms which in most cases are uncovered by analysts before the IPO.

Ljungqvist, Marston & Wilhelm (2006) concludes that aggressive recommendations relative to consensus had no positive or beneficial effect on the probability of winning an underwriting mandate after the recommendation. Instead, they recognised that the reputation of the investment firm was far more determining

in the competition of different underwriting mandates. By testing for the reputation to the investment firms, Ljungqvist, Marston & Wilhelm (2006) were able to test how the ranking in the investment firms possibly could affect the conflict of interest.

The study by Bradley, Jordan & Ritter (2003) is also an extension by the results of Michaely & Womack (1999), however, their focus is to examine the information released at the end of the IPO quiet period. They find that 76 percent of the data sample have at least one analyst initiating coverage in the five-day period around the expiration of the quiet period. Out of those 76 percent, Bradley, Jordan & Ritter (2003) finds that about 96 percent of all recommendations are either buy- or strong buy- recommendations. However, in contrast to Michaely & Womack (1999) they find no support for the “conflict of interest” hypothesis or the “superior information” hypothesis.

Bradley, Jordan & Ritter (2003) also investigated the market reaction of the IPO-firms from those that have analyst coverage compared to those that do not have analyst coverage. Their study shows that firms that have analyst coverage experienced a significant, positive market adjusted return of 4.1 percent in the end of the quiet period, while firms that do not have analyst coverage experienced a market adjusted return of 0.1 percent. Michaely & Womack (1999) suggests that the market reaction to the initiation of analyst coverage may depend on the involvement of the lead underwriter. In their evidence of the “conflict of interest” hypothesis, they find that the markets tend to react less positively to lead underwriter recommendations.

3 THEORY

Relevant economic theory for our thesis when examining the behaviour of financial analysts will source from the agency theory. We will also include what theory say about analyst recommendations subsequently of an IPO, and regulations which aim to mitigate the conflict of interest problem. These are Chinese walls and MiFID II.

3.1 Agency theory and conflict of interest

Jensen (1976) define the agency relationship as the contract between one or more person (principal) who engage another person (agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent. From this definition, one can define the principal-agent problem, which describes the situation where the principal experience that the agents does not act in the best interest of the principal. This is also known as a conflict of interest.

Conflict of interest describes a situation where an individual has competing interest and loyalties, that can lead to irrational behaviour (Murray, 2017). One example of situation where a firm can suffer from conflict of interest is the when the interest of a managers violates from the interest of shareholders. This can lead to serious consequences for the firm with negative reputation, low shareholder interest and damaged firm value.

There exist direct and indirect pressure to portray a client in an optimal manner, and which evidently could lead to optimistic earnings forecast and biased analyst recommendations (Dugar & Nathan, 1995). A more frequent conflict of interest arising between two parties inside a firm is between the investment banking department and the brokerage department. The investment banking department is responsible for completing transactions like IPO's, private placements and mergers and acquisitions, while the brokerage department aims to maximise commissions and spreads by providing high quality information to investor's decision-making process (Michaely & Womack, 1999).

3.2 Sell-side analyst recommendations

Brokerage department in investment firms continuously issues analysis for different stocks to inform investor about the optimal strategy to follow. A sell-side analyst is responsible for distributing research reports on a list of companies, typically in the

same industry to the investors. Compared to a sell-side analyst, the buy side analyst has much more focus on being right, and finding high alpha funds are crucial (Simpson, 2017). Buy-side analyst typically work in institutions, like hedge funds, mutual funds and hedge funds.

The sell-side reports contain a description of the company and its industry, an opinionated thesis explaining why the analyst believes that the company will succeed or not, a target price for the stock, and finally, a recommendation or rating for that company's stock (Michaely and Womack, 1999). The recommendations can suggest a "buy", "hold" or "sell" strategy depending on the analyst's earnings forecast. On public trading facility, like Nasdaq, an average of all contributor recommendations are stored and classified as: Strong buy, buy, hold, underperform or sell. One problem with this rating scale is that it is not uniformly distributed across trading facilities, and some brokerage use a number system to indicate the rating on the stock.

The analyst dissemination of information to their investor can be categorised into three different time circumstances: "urgent", "timely" and "routine" depending on the information. An urgent communication often happens when there has been surprising events in the market, while less urgent- or routine information contains the daily information, and can be communicated through a call, or a daily mail.

The tendency in recommendations from analysts are buy-recommendations, or at least positive. The cause for this popularity is found in the relationship when brokerage provide service to large corporations. This is a lucrative deal for brokerage firms, and they may desire to please their clients at any cost. This situation is what we know as *conflict of interest*.

3.3 *Quiet period*

A quiet period refers to the time period when an issuer is forbidden to talk to the public about the business in order to avoid unfair advantages as a result of extracting inside information (Kennon, 2008). Prior to the close of a business quarter, executives have a quiet period up to four weeks, which means that they cannot exchange information with analysts, journalists or other public instances that would benefit from the executives inside information.

According to SEC, the IPO quiet period begin on or before a firm files its preliminary registration with SEC, and lasts around 30 days after the IPO (Bradely, Jordan & Ritter, 2003). The starting date is not specified by the SEC, but is often understood as when a firm is in “registration” by the time it makes an agreement with the leading underwriter, or even earlier when the firm’s board approves an IPO.

The first recommendations from the leading underwriter after an IPO is issued after the expiration of the quiet period. During the quiet period, the leading underwriter are not allowed to issue any analysis on the firm that has being public and investors must solely rely on prospectus and audited financial information (Dugar & Nathan, 1995). Non-underwriters are allowed to issue analyses during the quiet period, but they rarely do (Michaely & Womack, 1999).

3.4 Regulations

As conflict of interest may hurt the accuracy in underwriter’s recommendations, it is relevant to discuss and analyse relevant regulations used to prevent unethical behaviour in the financial markets. The regulations we believe are the most interesting are *Chinese walls* and *The Markets in Financial Instruments Directive (MiFID)*.

Chinese walls refer to the separation between the brokerage department and the investment banking department in the investment firms. This means that there under no circumstances should be a free float of information between the two departments. Investment firms typically become “insiders” in a client firm when an underwriter unit of a securities firm bring an IPO to the market, and the Chinese wall help to prevent any leak of insider information from the investment banking department and the brokerage operations (Seyhun, 2007). This further aim to prevent the conflict of interest as analyst from both underwriters and non-underwriters are equally informed about the issuing firm.

The Market in Financial Instrument Directive (MiFID) has been applicable across the European Union since 2007. In January 2018, MiFID II, a new legislative framework will be applied. Under MiFID II, one aim to ensure more fair, safe, and

efficient markets that facilitate greater transparency for the market participants (ESMA). With the new rules following MiFID II, investment firms are forced to incorporate stricter practice when issuing analyst recommendations, where fund managers must pay the investment firms directly for research instead of combining the cost with execution charges. As this new framework comes into force, it will be interesting to see the effects in the quality and the quantity of analyst recommendations issued to investors.

3.5 Efficient market hypothesis and behavioural finance

As an extended research to our research question, we want to investigate the market reaction to recommendations differentiated by underwriting relationship. In our hypotheses, we assume that the market includes only rational participants. However, we may find evidence from the market reaction that investors are not fully rational. Related to this, we will present the theory of efficient markets and *the efficient market hypothesis (EMH)*, and as extended research on this topic, *behavioural finance*.

The theory of efficient markets base its perception that prices in the market reflect all available information. Fama (1970) structured the information into three forms, *weak form*, *semi-strong form* and *strong form* efficiency. Weak form efficiency means that prices reflect all historical information, in semi-strong form efficiency prices also reflect all public data, and strong form efficiency also include inside information. The efficient market hypothesis (EMH) firstly states that all investors are rational, and hence perceive available information in the same manner. The second assumption in the EMH is that no single investor should earn any additional profit compared to other similar investor, and lastly, no investor under EMH should be able to beat the market. For our hypotheses, we will test the efficiency in the market by comparing the market reactions from the analyst recommendations from underwriting firms compared to non-underwriting firms.

Behavioural finance is an extended field in finance and the theory of efficient market hypothesis. Shiller (2003) understates that the financial markets does not always work well and that price changes does not reflect all information. The theory of behavioural finance can possibly explain mispricing in the market and events such as major stock market bubbles (Shiller, 2003).

4 METHODOLOGY

The following section will discuss the empirical methods we aim use to test if there exist incentives faced by financial analysts to not provide accurate earnings forecast to investors. We will apply similar methodology as earlier studies, which is mainly based upon event studies. Michaely & Womack (1999) have evaluated the effects of underwriter's and non-underwriter's recommendations on IPO-firms in their data sample before, during and after the recommendation date. Furthermore, they have calculated the return for a buy-and-hold strategy for the firms receiving a buy recommendation, and compared the return with the returns on several benchmark portfolios.

Ljungqvist, Martson & Wilhelm's (2006) approach differs from the one of Michaely & Womack (1999) by using an empirical model instead of an event study. The focus in their model is on the determinants of a bank's likelihood of receiving an issuing firm's underwriting mandate at a time t . Ljungqvist, Martson & Wilhelm (2006) have used the following determinants: (1) the reputation of the bank's analyst, (2) the bank's broader reputation within the debt and equity market, (3) its lending capacity, and (4) the strength of the bank's relationship with the issuer.

Bradley, Bradford and Ritter (2003) aimed to test the hypothesis: "On average, firms will not experience significant abnormal returns at the expiration of the quiet period". To test this hypothesis, they have used standards event study methods similar to Michaely & Womack (1999). Their first step in investigating this hypothesis was to provide summary statistics on market-adjusted return, cumulative market adjusted returns for (-5,+5) days of the end of the quiet period. They have also provided summary statistics for analyst recommendation and coverage of the end of the quiet period. To further investigate whether analyst coverage is driving abnormal returns, they have partitioned their sample based on whether or not coverage is initiated and repeated their event-study analysis.

We believe the topic conflict of interest and credibility in analysts' recommendations from investment firms remain as an interesting topic for research purposes. While Michaely and Womack (1999) used the US stock market as their research area, we aim to focus on the Nordic countries. As our starting point, we aim to include 15 of the largest investment firms in Norway, Sweden, Finland,

Iceland and Denmark. We also believe there will be reasonable to extend our time period since the Nordic countries has fewer IPO's during a year compared to the US. Also, by extending our time horizon we hope to detect some trends in the market.

Similar to Michaely & Womack (1999), we want to investigate post-IPO analyst recommendations. An analyst recommendation on a firm that has recently been taken public is perceived trickier since there does not exist any historical information on the stock. The stock price is likely to yield large changes in stock price after the IPO, with an increase in the share price until the expiration of the lock-up period (Hayes A, NA).

4.1 Data collection

As a starting point for the data collection, we aim to collect all available information about IPOs in the Nordic countries and recommendations on the IPOs. We will extract the data sample of IPOs from SDC Platinum, which contains historical information about stock listings. The data sample of recommendation will be extracted from the I/B/E/S database, where we aim to collect all available data such as EPS and recommendations.

We will investigate the post-IPO recommendations provided by financial analyst across the largest investment firms in the Nordic countries, and compare the differences between the analyst recommendations by underwriting firms and non-underwriting firms. We may need to include smaller IPO amount than \$ 5 million to maintain a reasonable dataset.

We aim to group all the collected post-IPO recommendations into three groups of recommendations: buy, hold and sell recommendations from the underwriting firm and the non-underwriting firm. However, we believe that we will experience lack of coverage in some of the IPOs, and that is the main reason for including recommendations from both international investment firms and Nordic investment firms. The expiration of the quiet period will be the relevant date for collecting the analyst recommendation, both from underwriters and non-underwriters.

Event studies are widely used to examine security price behaviour around events such as accounting rule change and earnings announcements, and one can study the post-recommendations given by underwriting firms and the non-underwriting firms (Binder, 1998). We will use a data sample consisting of IPOs from Nordic countries, primarily issued by the largest investment firms. Post-IPO recommendations will be collected from both Nordic and international investment firms. By introducing analyst recommendations from international investment firms as well as Nordic investment firms, it will strengthen the data sample with coverage of the IPOs from several and well-known investment firms.

To evaluate the effect of the analyst recommendations given by the underwriter and the non-underwriter firm after an IPO, we will calculate the return for a buy-and-hold strategy. As we are dealing with investment firms covering different stock exchanges, we will compare the returns obtained by the buy-and-hold strategies with the return of the following benchmark indices: Oslo Børs Benchmark Index (OSEBX), Stockholm Stock Exchange Index (OMXSB), Copenhagen Stock Exchange Index (OMXCBGI), Helsinki Stock Exchange Index (OMXHBPI), and Iceland Stock Market Index (OMXIPI). The data sample of the benchmark indices and the post-IPO stock prices will be extracted from Thomson Reuters' databases, DataStream and Eikon.

4.2 Event study

As previously mentioned, in order to examine the potential conflict of interest faced by financial analysts in underwriting firms we will use an event-study approach. The event study methodology is widely used to test the null hypothesis that the market efficiently incorporates information, and to examine the impact of some event on the wealth of the firm's security holder, assuming that the hypothesis of market efficiency holds (Binder, 1998). This method will be appropriate for our study as we want to test the statistical significance of financial analysts from underwriting firms giving overly optimistic post-IPO recommendations. The event date will typically be 25-30 days after the IPO, as this is the time when the "quiet period" is completed.

The event study methodology is based upon the Fama, Fisher, Jensen and Roll's (1969) paper, which introduced the event study methodology. To capture the effects

of an analyst recommendations on an IPO-stock, we will investigate the relation between the return for a buy-and-hold strategy from the different recommendations on the IPO-stocks, and the return on a stock market index. We will calculate the excess return of the buy-and-hold strategy, where excess return is defined as:

$$ER_{a\ to\ b}^i = \left[\prod_{t=a}^b (1 + r_t^i) - \prod_{t=a}^b (1 + r_t) \right]$$

where R_t^i is the return on the IPO-stock on day t , and r_t is the return on the benchmark portfolio. Hence, $ER_{a\ to\ b}^i$ is the excess return for the IPO-firm i from time a to b .

In order to investigate the market reaction to recommendations differentiated by underwriting relationship, we will use a similar model as Michaely and Womack's (1999) regression model:

$$ER_{a\ to\ b}^i = \alpha_i + \beta_1 UR_i + \beta_2 Size_i + \beta_3 Time_i + \beta_4 DEarn + \beta_5 DFirst + \beta_6 UR_i * Time_i + \beta_6 DInt_i + \varepsilon_i$$

where UR_i is a dummy variable that takes the value of one if underwriters make the recommendation and zero if non-underwriters makes the recommendation; $Size$ is the log of the market capitalisation of the IPO in the end of the quiet period; $Time$ is the number of days between the IPO and the recommendation; $DEarn$ is a dummy variable that takes the value of one if an earnings announcement has occurred in the three days around the recommendation date; $DFirst$ is a dummy variable that takes the value one if the recommendation is the first one to be issued on the IPO and zero otherwise; and $UR_i * Time_i$ is an interaction term between the source of the recommendation and the number of days between the IPO and the recommendation. The additional variable introduced, $DInt$, is a dummy variable which equals one when there is a leading international investment bank involved in the underwriting process, and zero otherwise. This variable is introduced to test the statistical significance of the reputation of the investment firm providing recommendations. Ljungqvist, Marston & Wilhelm (2006) recognised that the reputation of the investment firm was far more determining in the competition of different underwriting mandates.

We aim to use this model as a basis for our regression estimation, however, we believe that we need to include or exclude some variables after sorting and analysing the relevant data.

4.3 Hypotheses

To answer our research question, we have developed the following hypothesis:

*H₀: Underwriting analysts **are not** overoptimistic in their recommendations of the IPO-firm*

*H₁: Underwriting analyst **are** overoptimistic in their recommendations of the IPO-firm*

Following this hypothesis, we aim to develop sub-hypotheses on the basis that underwriting analysts are overly optimistic in their recommendations to further investigate the market reaction of these biased recommendations. This will be investigated with the regression model presented above, where we will investigate effect of the following factors: (1) the size of the IPO-firm, (2) the number of days between the IPO and the recommendation, (3) the coverage of underwriter firm, (4), the recommendation is the first one to be issued on the IPO-firm (5) if an earnings announcement has occurred, and, as a new introduced variable we want to investigate, (6) a leading international investment bank is one of the underwriters.

4.4 Robustness

Michaely & Womack (1999) have recognised several possible concerns about their estimation results. Firstly, they find that there are two possible problems with using recommendations made in the first full year after a firm goes public. The first problem is related to the data limitations of tracking full year data on IPOs, and, the second problem is that their choice of year is somewhat arbitrary. In order to minimise the effect of these two problems, Michaely & Womack (1999) have repeated their tests on recommendations made within two months of the IPO date. To mitigate these problems, it could be ideal to shorten the event period after the IPO date.

According to Binder (1998), there are several potential problems in hypothesis testing due to the lack of independency and not identical variance in abnormal returns. Abnormal return estimators can often be cross-sectionally correlated, have different variances, not be independent across time, and have greater variance during the event period than in surroundings periods (Binder, 1998). These potential problems need to be tested, in order to ensure that the returns used in the regression model does not contain heteroscedasticity, autocorrelation, etc. The problem of endogeneity issues may arise in our study, and we need to be aware of the possible tools to mitigate these issues. One solution is to use instrumental variables, difference-in-difference models, or dummy variables.

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