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The media coverage and its influence on the share price in an Initial Public Offering.

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Abstract

The role of mass media has during the past decades become more and more influential and with an increasing range of media channels the possibility to supply the population with news is easier than ever. Over the years media effects on individuals' perceptions has frequently been discussed and increased media coverage has contributed to an increased interest from the general public regarding the financial markets and institutions. The focus of this paper is to examine a potential relationship between the amount of media coverage and the share price movements in an IPO at the first day of trading. According to the results media demonstrates a non-existent effect on the share price, which implies that mass media fail to manipulate the accurate value of stock.

Key words: Initial Public Offerngs, Mass Media effect, Abnormal Returns.

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1. Introduction

The decision on whether to go public or not is a frequently discussed issue within the field of corporate finance. Yet the question is often briefly described in the usual textbooks rather than fundamentally elaborated. An Initial Public Offering (IPO) implies the possibility for a company to become quoted on the Stock Exchange and allows its shares to be publicly traded on the market for the first time. IPOs are conducted on the primary markets, defined as markets in which corporations raise funds through new issues of securities. (Millon- Cornet & Suanders , 2004) The underlying motives for carrying out an IPO are several and varies quite substantial from case to case. The conventional theories assert that going public is a natural stage in the growth process of any firm, however this is not always the case in reality. There are several large corporations that successfully operate in the developed capital markets that still are held private proving that going public is not always the ultimate alternative to grow and prosper. (Pagano et al., 1998)

When conducting an IPO careful planning and preparation is of great importance for the enterprise to be able to act effectively after the quotation. The timing of the quotation also plays a crucial part for the company to obtain established goals and the market conditions determine the right point of time for a company to be quoted on the stock exchange. (Grundvall et al. 2003) In a time when stock prices are dropping and the mood of most investors is quite distressed it is unlikely to see much action taking place on the market, especially not in the form of floating a company, i.e. conducting an IPO. This usually has to do with negative outlooks and inferior analyses, but it can also be explained by psychological behaviour. Gyllenram (2001) presents a profound discussion on how the human psychology influences stock markets and mass behaviour all in contrast to the otherwise more economical market hypothesis on efficiency, transparency and information accessibility. Investment Banks¹ have the function of intermediaries and advise the companies amongst other things about pricing strategies, information distribution, and number of shares to be offered. (Bergström & Björk, 1997) The decision concerning the price of shares offered is principally a question between the company, the owners and the underwriter acting as the company's adviser. The price is often based on a judgement of the company value. The valuation is calculated on discounted cash flows and on comparisons of business ratios between different companies. The valuation constitutes the foundation for the decisions made about the share price. (Grundvall et al., 2003)

In accordance with the theory of efficient markets, all relevant public information concerning a stock should be reflected in the share price, given that the market efficiency is semi-strong. The theory implies that share price movements are reflecting the correct value of a company and only if new information is revealed price movements will occur, and thereby be incorporated into the share price. In an efficient market there is no possibility of abnormal profits because of the assumption that current and past information immediately is shown in current prices. The theory divides the efficiency into three levels; weak, semi-strong, and strong efficiency. (Arnold & Glen, 2002 and Damodaran, 2002) There are various Swedish studies indicating that the Swedish stock market is characterized by semi-strong efficiency (Grönwall, 2005 and Ahlström & Eidegren, 2003).

Prior to the quotation and before trading on available information begins an initial price must be established. Normally a fixed price is offered at to all investors, decided by the company's directors and the financial manager. However, an offer

¹ Often referred to as Undrewriters or Financial advisers.

for sale by tender² is an alternative to the fixed price method. (Arnold, 2002) In the decision of determining the initial price of a share there are some adherent risks that have to be taken into consideration. There is a risk that investors will not accept the offer and that the shares will not be fully subscribed, often due to that the initial price is set too high. On the other hand, if the price is set below the market value the company's shares are underpriced³ which is a common feature amongst this kind of activity. Underpricing is favourable for investors who likely will make a profit from trading while the company might miss out on possible capital. (Ross et al. 2002) The ultimate way of creating a large demand of the share is to determine a reasonable initial price that will encourage investors to subscribe shares before the price is actually going to rise. (Arkebauer 1998)

Previous research indicates an augmentation of underpricing by 7 to 15 per cent between the years 1980 and 1998. The underlying reasons for underpricing shares in an IPO were according to this study closely related to the different companies' external market situation, i.e. the overall market condition. During the 80's the reasons for underpricing were often based on the winners curse theory, which states that there are two different types of investors; those who posses information about the company that will be listed on the stock-exchange and those who do not. Informed investors are likely to only purchase on a price set below market value whereas the uninformed investor will purchase both under- and overpriced stock and are thereby exposed to the winner's curse. (Högholm 1994) During the dot-com era underpricing was more dependent on changes in the issuers role where an allocation of current IPOs involved investment banks that generally underpriced substantially. (Loughran & Ritter, 2004) Benveniste & Spindt

 $^{^2}$ Investors are invited to make an offer of a price (above a minimum price) at which they are willing to buy the shares. The offers are collected and a strike price is chosen. Investors who stated a price above this will have the opportunity to buy shares at the strike price and not at the price of their offer. Investors who offered a price below the strike price will not receive any shares at all.

³ The underprice is determined as the first trading day's closing price subtracted by the offering price divided by the offering price.

(1986) claim in their study that IPOs have to be underpriced for investors to be interested in the shares.

The signalling theory states that companies use various methods to appear attractive in the eyes of investors and other parties. Companies that underprice shares in an IPO are often signalling to investors that the company has a large amount of resources and can thereby afford the cost of a lower price on its shares. (Ibbotson 1975) Yet underpricing can also be a result of asymmetric information⁴ between the issuer and the underwriter. Underwriters, e.g. Investment bankers, take advantage of their superior knowledge of market conditions to underprice offerings. (Baron & Holmström, 1980) However in the long run Investment bankers must price the IPO reasonably accurately to maintain their reputation and the possibility of future deals. (Beatty & Ritter, 1986)

The share price fluctuations at the first trading day usually reveal to what extent the stock is underpriced, yet the first day's variation might also be traced to macro, micro and other factors. According to theories concerning investor behaviour they state the fact that investors use all available information to make their decisions, in total accordance with rationality and efficiency. (Forssten, 2005)

On the other hand researchers have lately become more and more convinced that the stock market is not, as earlier considered, characterized by fully rational investor behaviour. Instead the stock markets from time to time show a somewhat bias behaviour more likely based upon a psychological influences rather than rational ones. (Forssten, 2005) One example of this irrational behaviour is the excessive demand for dot-com related stocks in the end of the twentieth century, later resulting in a major back fall.

⁴ Asymmetric Information is defined as; Managers, shareholders and external parties may all have different information regarding corporation and its values. (Brealey & Myers, 2000)

Gyllenram (2001) starts out his book on psychological effects on the stock market with stating that humans are merely humans and all what that involves, making them act emotional and irrational from time to time. The psychological dynamitic occurs when the trend, no matter up or down, comes to a standstill and the stock rates start moving sideways. After such a phase a psychological explosive situation occurs which can result in a great fall or rise in stock prices. (Gyllenram, 2001).

All investors who enter the stock market have the same aim, i.e. to increase their welfare. Thus, they want to make money not loose it. This makes "peer behaviour" a common feature on the stock markets. People experience a discomfort when the stock markets show a downward facing trend, but this emotion has a tendency to diminish when several other investors experience the same outcome. (Gyllenram, 2001). This phenomena is referred to as the "human behaviour explanation" and describes why many unpredicted stock movements occur.

In contrast to what has recently been presented, the psychological influence on stock movements, stands the classic and well debated theory of efficient markets. The theory is based on the assumption that investors act upon all relevant publicly available information. In addition such information is instantaneously incorporated in the share price, hence only when new information is released price movements will occur.

2. Problem & Hypothesis

Society today provides an abundance of information and impressions, influencing the minds and thoughts of the general public. The increased accessibility of information has made it easier for any investor to obtain news on corporation and market activities. The increased media coverage and information accessibility extends the mass media's power and importance which ought to have a significant effect on society. Corporations are aware of the possible media effect and seek to gain from its positive outcome. In previous research it has been stated that one of the underlying motives for conducting an IPO is the possibility of getting increased media attention, due to an increased investor interest (Axelsson & Gullmarstrand, 2000 and Lindgren et al. 2003).

Under the assumption that the media does in fact influence the audience, i.e. potential investors, by drawing attention to specific companies or industries this is likely to have an impact on the consideration to go public. A company who wishes to shed light upon itself and its business might see an entry on the stock exchange as a possible marketing channel, thus, making an IPO a good alternative. In a study by Axelsson & Gullmarsson (2000) it was found that within the "new industry", i.e. corporations operating within the telecom and IT industry, the superior motive for an IPO was the increase in publicity and attention. This motive was then divided up into two categories; the product effect -signifying the possibility to channel news concerning business and product developments, and the stock effect –keeping the share price at desirable rates.

Given the potential positive outcome of media coverage, the media ought to also affect the corporation in its quotation process. In other words, if companies generally consider increased press to be positive one might think that press related to IPOs ought to influence the initial development of the quotation. However, there are some differences of opinions on whether or not media is such an influence and if it really is an opinion changing force. Even though researchers seem to find several experiences and examples of influence there is little agreement on the nature and extent of the assumed media effects. The remaining doubts may partly be explained by the difference between general and particular effects. Particular effects are taking place all the time but there is no possibility to see or predict the total outcome and how much of it that is attributable to the media. The effects may be several but without any overall pattern or trend. It is rarely the case that media is the only sufficient cause of an effect and its potential involvement is therefore extremely difficult to trace. (McQuail, 2000) According to von Feilitzen (2001) the media contents have no independent influence on the human mind, it is rather so that it takes several factors united to have an effect. Furthermore, media cannot be characterized as one thing alone when it in realty is a massive set of messages, images and ideas which mostly originate from the society itself from the very beginning and is sent back through mass communication. (McQuail, 2000)

It is shown that the potential media influence is not constant over time and between places but that the media power might vary with the times. Powerful effects were signalled around the two world wars when there was great disturbance in the world, while the 50's and 60's was characterized more stability and thereby less powerful media influence. The reason for this might be that people in times of crises and uncertainty are more dependent on media as a source of information and guidance. (McQuail, 2000)

During the past centuries the media's role has become more and more influential mostly because of the broad range of media channels and larger exposure affecting the population (Wahlberg & Sjöberg, 2000). Given the increased media coverage many markets and institutions experience greater attention and interest from the general public. This ought to include the stock markets and its popularity as well.

Initial Public Offerings was a common feature during the dot-com era (peaking in 2000) before decreasing in numbers in 2001 due to the dot-com crash (Lidén, 2006). However over the past year (2005-2006) the down going trend has changed and again the IPO activity is frequent.

Under the assumption that the share price in an IPO is easily affected by external factors in association with the increase in media coverage the following hypothesis will be tested:

HYPOTHESIS: The share price in an IPO is influenced by the amount media coverage.

There is a rather large selection on media research, not all relevant for this study's purpose. Some relevant former research has stated that media does in fact have a great impact on the audience and their opinion-forming while other scholars quite contrary claim that media only strengthens ones former opinion, not change it in another direction. If the media motive, as proven in earlier studies, is one of the most common motives for going public one might suspect that the amount of media coverage can influence the outcome of the flotation. Given that media has power to increase company recognition and what that might do for their deal processing, makes the relationship between media coverage and share price an interesting issue to study. Under the assumptions that media is associated with an impact on the general public this paper aims to closer analyze if there is any evident relationship between media coverage and the related companies' share price on the quotation date.

The media is as known not only newspapers and television, but many other alternatives, all becoming more and more accessible. Due to this broad range of media channels this study is limited to simply deal with printing press, that is to say newspapers and magazines. This type of media is assumed to be the kind that requires some "interest" and "commitment" from the receiver making its message more likely to have an effect on the audience. This kind of press is also categorized as "high-involvement" and includes a great recall, whereas television is regarded as the opposite. (McCuail, 2000) Furthermore the study is made under the classic assumption that "all press is good press", which is to say there is no separation made between good and bad press from a company perspective. The underlying motive for this is to avoid making subjective judgments on what constitutes a good or a bad article.

From the previous discussion the focus on this particular paper is determined to examine whether or not the share price in an IPO is influenced by the amount of media coverage. By analyzing the findings we expect to prove whether a relationship between the media coverage and the share price exists. Additionally, the final results are anticipated to confirm or reject the efficient market hypothesis.

3. Methodology

This thesis is based on a number of observations concerning the recent IPO activity on the Swedish market and related printed press. When carrying out a study there are several methods to employ. Choosing the most appropriate one is a delicate issue that requires some idea of the anticipated outcome. Given the characteristics of the expected results a quantitative approach⁵ is in this study considered to present the most relevant results. From previous research within the field of IPOs, underpricing and the psychology on the stock market similar methods have been applied and therefore are considered appropriate for this paper.⁶ Further, one of the main objectives is to attain a level of generalization.

For this thesis purpose it is required to adjust the return on day t for each stock by excluding the possibility of a potential over- or underprice⁷. This is conducted by calculating an average for all over- and underprices. The average "miss-price" is then subtracted from the closing price of the first trading day (t). The adjusted return can be expressed as;

$$AdjR_{it}$$
 = Closing price – average "miss-price" / Offering price

The abnormal return for a stock on the quotation day (t) is then calculated by subtracting the markets return on this day (R_{mt}) from the adjusted return $(AdjR_{it})$ on that stock on day t. This relationship can be expressed algebraically as;

⁵ see information on different approaches in: Eneroth, 1994 and Jacobsen, 2002.

⁶ Previous research as starting-point for determining method and creation of hypothesis: Lidén, E. Is Underwriters' Superior Information Reflected in Recommendations? (2006), Andersson, E. & Persson, L. Nyintroduktioner (2005), Forssten, S. Psykologin på Aktiemarknaden (2005) et cetera.

⁷ Last price paid at first trading day – Offering price Underprice = <u>Offering price</u>

$$AR_{it} = AdjR_{it} - R_{mi}$$

 AR_{it} is the abnormal return for stock i at time t whereas R_{it} represents the return for stock i at time t and R_{mt} is the market return at time t. Usually the market return is based on a market proxy, but in this case an industry proxy has been used. For some specific companies where no relevant industry proxy was found the average market index⁸ was used.

There is an alternative way to measure the abnormal return by using the market model, which is expressed as;

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt})$$

Where α_i represents the change in return due specific factors related to the individual company and β_i is the systematic risk, i.e. changes in return due to external factors for stock i. (Ross et al. 2002).

Because of the selected population this later alternative does not, is in this case, differentiate from the first since the β is assumed to be 1 given that the stocks have not earlier been traded and thereby not exposed to any risk before the quotation.⁹ Under the assumption that the companies have not been quoted on the exchange their risk is considered to be neutral and therefore α equals 0.

Once all underlying statistics has been produced a regression analysis can be carried out. This analysis will explain one variable, the dependent, using an independent variable. The final result will reveal whether a correlation exists and if the results show any significance, i.e. if a relationship can be proven between the variables.

In the case of insignificant findings there are some alternative methods can be used to see whether some kind of relation may exist. For exercising such a test a number

⁸ SXGEN from the Stockholm Stock Exchange

⁹ As seen in previous research, i.e. Lindstein & Öh (2005).

of dummy variables are chosen. This is done by dividing the original selection into different quotas, in this case depending on the amount of media coverage each observation is exposed to. Another alternative in the search for spotting a correlation is to divide the time period into new series separated from the initial one, with an anticipation of finding whether a media effect is present in some years or not.

Referring back to the discussion regarding the method used in this case it considered to be both reliable and valid for achieving its purpose. During the working process the final method has been accomplished through detailed research of similar previous studies as well as discussions with researchers Erik Lidén, Thomas Andrén, and Director Evert Carlsson at the Center for Finance all active within the field at Göteborg University, School of Economics and Commercial Law. Given this design the underlying work process leading to the final results are considered to be trustworthy and can be used for generalizing purposes.

Data Collection

Information regarding the chosen public offerings was identified using the Stockholm exchange's own statistic records, received on request. The secondary information¹⁰ obtained includes; company name, offering price, quotation date, industry and financial adviser for each IPO. Additional information concerning closing prices, number of shares and the market proxy for every industry was gathered from OMX, Affärsdata and the TRUST database provided by SIX Information Estimates. Information concerning the amount of media coverage was identified using Affärsdata's database¹¹. These sources are all considered trustworthy as they provide objective and un-treated information and are frequently used in similar research.

¹⁰ Information gathered for another purpose (Lundahl & Skärvad, 1999).

¹¹ See appendix I for further information.

The chosen companies are required to be initially listed on the Stockholm Stock Exchange under a ten year time period, 1996-2005. Given this all companies listed are entitled to fulfil certain demands set up by the Exchange¹². The quotation requirements differentiate depending on which market place the company enters yet there are some universal requirements. The time period is motivated by the fact that is involves both up- and downwards facing trends in the market conditions, hence high and low IPO activity. The time period involves both positive market situations, where stock prices were rising and IPOs were common, as well as negative trends hence few public offerings and low trading activity.

Regarding the amount of media the paper is limited to include relevant articles in printed press, gathered from 72 Swedish papers and magazines. The observation period is determined to one month (4 weeks) prior to the quotation date. This period is based on the assumptions that the public announcement, the release of the prospect, and the quotation date coincide within a four week time horizon. The amount of media is in this research measured as the number of articles published. Further the selection of articles has not been adjusted for relevance and therefore all news about the companies is included.

Other, more general information concerning theories, methodology et cetera is collected from scientific papers, articles and course literature.

¹² For detailed information, http://www.se.omxgroup.com/se/index.aspx?

4. Theory and previous research

Printed media in the appearance of books constitutes the earliest form of mass media¹³ and has gradually become a means of communication. The invention of printing later established another type of printed media; the newspaper. The history of the newspaper has been characterized by series of struggles for freedom to publish. Nowadays institutionalization of the press within a market system serves as a form of control. (McQuail, 2000)

Television and radio are quite recently developed technologies and have during their relatively short existence, especially television, grown to be massive means of communication in terms of reach, time spent and popularity among the audience. Television is today considered to be the main source of news and information for many people. However, printed press is the kind of mass communication¹⁴ that has provided the population with information during several hundreds of years and has thereby gained a profound establishment in the society. (McQuail, 2000)

4.1 Classical theories of Mass Communication

The following section is based on McQuail's collection of various communication theories.

The potential media effect is a frequently debated issue and the extension of its influence has been examined by many. A frame of reference for attaching mass media with the society reflects that media provide its audience with information and impressions that are not always guided by its own purpose. Instead it is sometimes adjusted according to the audiences' anticipated needs. Occasionally media follows the motives of social institutions concerning advertising, making

¹³ Means of communication that operate on a large scale, reaching and involving virtually everyone in a society to a greater or lesser degree. (McQuail, 2000)

¹⁴ "Social interaction through messages" (by Gerbner, G. quoted in McQuail, 2000)

propaganda etc and mass media often acts as agents, consciously or not, of other sources.

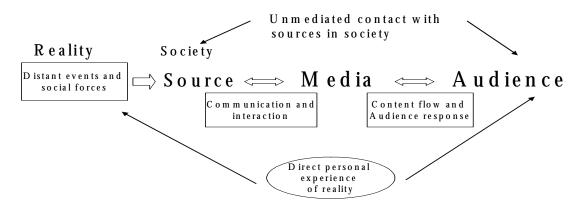


Figure I: A frame of reference for connecting media with society (M cQ uail, 2000) $\,$

The figure emphasize that experience is not always mediated by mass media and that there is a possibility of direct personal experience of some of the more distant events presented in media, such as crime, poverty and war.

Mass media is commonly considered to be an effective instrument of power with a potential capacity to exercise influence in different ways. When discussing media power there are two models opposed to each other; the model of dominant media and the model of pluralist media.

The dominant model considers media as a subgroup to other institutions and that media organisations are controlled by a small number of powerful interests and are thereby similar in type and purpose. The audience is constrained to accept the view of the society which is offered by media. The pluralist model allows more diversity and unpredictability where the audience initiates the demand and is therefore able to resist persuasion of media. Although there are two opposing models of media power, mixed versions of these are more likely to be encountered in the reality.

4.1.1 The mass society theory

This theory underlines the interdependence of institutions that exercise power and as a result the integration of media into the sources of social power and authority. Furthermore the media cannot be expected to offer any critical or alternative descriptions of the world. The dominant media model reflects the mass society theory, where media is considered being a causal factor, i.e. media offers a vision of the world to manipulate but also to help people with their psychic survival in difficult situations. The media creates a relation of dependence with the audience and influence not only their opinions but also their self-identification. However, the idea of this theory, that there is small elite dominating the rest of the society, is not broadly accepted and has been criticized. The theory is considered by many to persist of loosely related components, involving critical attitudes towards the assumed emptiness and consumerism of life in a modern-day free-market society. In addition, the new electronic media give rise to visions of what society may become that contradicts the mass society theory.

4.1.2 The Theory of Functionalism

Functionalism explains the media feature in terms of needs of the society, which mainly involves integration, motivation, socialization, order, guidance and adaptation. By responding to the demands and needs of the audience, media reaches unintended benefits for the society. Media is portrayed as self-directing and self-correcting and the functionalist theory is reflected by the pluralist media model. Functionalists consider media as a means of maintaining society as it is rather than as a source of major changes. This theory has been criticised because of the assumptions that what exists must be necessary for the social system to be able to function. There is no way though, to verify separately whether some feature

of the media is necessary or not. The way media is performed and the part it actually plays varies depending on the type of society.

4.2 Additional theories and previous research

The mass media and its influences on the public's perception has been a topic under observation by the media scholars since the beginning of the twentieth century (Gunter, 2000).

4.2.1 The effect of mass media

The question whether or not the public is affected by the mass media is often answered differently depending on who you ask. Over the years several concerns and ideas regarding the topic has been discussed, often without a uniform result. However, during the most recent decades the overall opinion has been that media does have a large impact on the society and mankind. The media's power can be divided into two categories, power over the public and power over the media content. A study by Asp (1997) presents the relationship as follows;

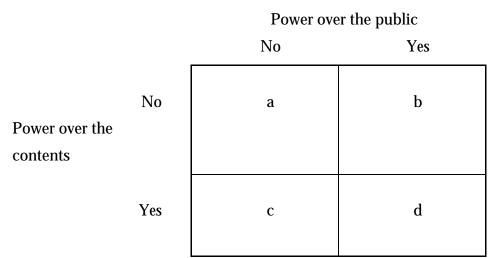


Figure II: The top left corner, a, describes a situation where media has neither power over the public or the contents whereas the opposite corner, d, indicates that media has power over both. In the top right corner, b, media is stated to have power over the public but not the content, and reversely in c, i.e. media has power over the contents but not the public. (Asp et al., 1997)

The study concludes that "d" is the most accurate description of the media's power, i.e. they have an impact on both the public and the contents. The study also shows that it is not only the information media disclose that has an effect, but also the journalists' and editors' way of communicating is influential. Given this, media is associated with a great deal of impact on the population, hence it is an important channel for those wanting to propagate a view to the general public.

According to the simple communication models within media research their implicit foundation is that the media produces stereotyped information. That is to say that media distorts the true nature of the message through exaggeration and caricature leading to prejudiced attitudes and beliefs by the audience. (Blackman & Walkerdine., 2001)

People tend to make judgments that are in line with ones current mood, this is the case even when the subject matter is unrelated to the underlying reason of that mood. This indicates that our perceptions are volatile and that media is likely to, at least temporarily, have a strong effect on our perception. (Johnson & Tversky, 1983)

Unlike the studies presented above there are also theories that contradict media's large effect on people. These theories claim that the audience take in perceptions selectively, which means that they choose what information to acknowledge and what they want to screen out. Thus, using media channels with the intention to change the audiences' opinion is rather difficult task. Since people screen out what they do not want to hear or know about, changing there attitudes becomes impractible. (Klapper 1960)

Other theories state that the audience pays so little attention to the media and in addition understands only small fragments of it that this understates its impact on people. The two features are in related litterature referred to as; inattention and incomprehention. Inattention is explained by the statement that people tend to neglect the media and its message that most news and information pass them by without them reacting. Incomprehension is when the reciever can not acknowledge the true message due to a difficulty in understanding, hence the message is to complicated to take in. Regardless of which of the two ideas that is more common or correct, they both signal the same message that the mass media is characterized as a week enforcement when it comes to changing opinions. Instead, they are rather explained by reinforcing existing ideas. (Entman, 1989)

Moreover it can be said that media does not have the direct power to determine what people should think, but rather what to think about. This can be elucidated by that media itself is not such a strong force that it masters to "brainwash" the audience, yet it has the benefit of influencing what the audience might think about. Hence, media nevertheless possesses a rather large power over the public. Given that it might infact have an impact on what people think about, consequently this is considered to be a rather strong influence over the final opinion of the audience. (Entman, 1989)

Information-processing theory suggests that it is due to whether the information is in line with or violates the personal view that determines if or if not new information is acknowledged. People tend to more or less ignore information that contradicts one's own perception and be positive to acquire information that is in line with one's own opinion. Consequently if this theory is correct the media has week power over the opinion changing of its audience. (Entman, 1989)

To sum up, the media theories presented is included due to the assumption that this paper will be read mostly by people who are rather unfamiliar with media and its effect on society. This comprehension is required to understand the following analysis and its relation with the paper's hypothesis.

5. Empirical Results

The foundation for this thesis consists of a selection of observations, i.e. all the companies conducting an IPO over the last ten years¹⁵.

During the ten year observation period the number of IPOs occurring varies quite substantial from year to year. The IPO activity had its greatest peak in the years 1999-2000 due to the favourable market conditions with a high demand for dotcom related stocks. 1997 was also a year characterized by many public offerings. Post the dot-com crash occurring in the early 21st century the number of quotations diminished substantially and an astonishing fact is that not a single initial offering took place in the year 2003. In 2005 one could spot a turnaround in the negative trend and IPOs are once again frequently taking place. Many analysts predict the following year to involve an increased number of public offerings¹⁶.

5.1 Underprice

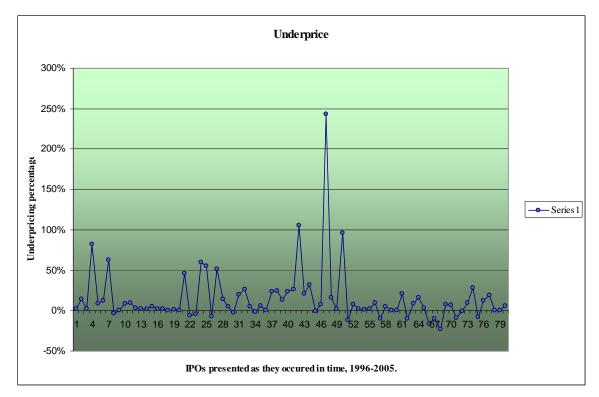
As mentioned earlier underpricing is a common aspect when it comes to public offerings. The underprice is calculated by using the following formula;

Last price paid at first trading day – Offering price Underprice = ________Offering price

The results from the observed companies and their underpricing is presented in the following graph;

¹⁵ See Appendix II

¹⁶ Stated in various articles in Dagens Industri over the last 6 months, e.g. Linnala, T. Guldläge för börssugna, 2005-10-14, Carlsson, B. Plötsligt vill alla köpa, 2005-11-25 et cetera.



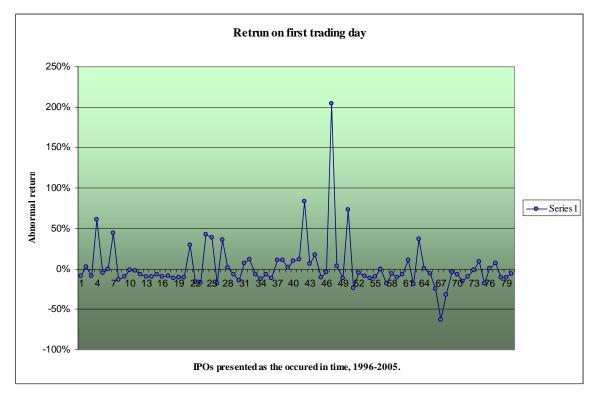
Graph I: Presentation of the underprice of each individual share

As can be noticed from Graph I the underprice varies quite substantial from case to case. Up until the year 2000, with an exception from the second quarter of 1997, the share prices were characterized by a larger underprice than those shares listed during the later part of the observed period. An interesting fact is that from the second half of 2000 some companies experienced a significant change in their development on the first day of trading, i.e. the shares were not longer mainly underpriced but sometimes overpriced. This can be traced to the overall poor market condition between the late 2000 up until the end of 2003.

One remarkable event was Cyber Com's extraordinary movement in stock price on its first trading day, the 1st of December 1999. The company experienced an increase of almost 250 per cent on the quotation date, making them the most underpriced company in this observation. On the contrary the company showing the worst first day activity was RNB Retail and Brands (quoted on the 26th of June, 2001) with a decline of 23 per cent closing approximately 9 SEK below the offering price.

5.2 Abnormal Return (AR)

From the graph below one can see that the outlook has not change dramatically from the previous graph. The companies which showed an insignificant first day return now displays a trivial negative development. By excluding the underprice with a market average from the first day return all observations show a slightly lower value. The reason for this is to assure that the underprice effect is not included in the upcoming research regarding whether there exists any media influence.



Graph II: The first trading day's abnormal return for each firm once an average underprice has been removed.

The average abnormal return¹⁷ compared between the different industries, presented in table II, indicates large variations in achievements. The information

¹⁷ $AAR = \frac{1}{n} \sum AR_{it}$

technology industry shows the highest average abnormal return, 17 per cent, during the ten year observation period, whereas pharmaceutical industry involves a decline in average abnormal return by approximately 11 per cent. Important to mention is that the measurements of average values for each industry must be taken into consideration since some industries' average values contain only a few number of observations, the final outcome might be somewhat bias. In addition the category All others include a number of companies from different industries and therefore its average abnormal return indicates a wide-range result.

Industry abnormal return, free from underprice			
Industry:	AAR		
Consumer goods	-7,9%		
Industrial goods and services	-4,5%		
IT	17,4%		
Electronics	12,0%		
Finance	-7,2%		
Pharmaceuticals	-11,1%		
Services	-4,9%		
All others	5,6%		

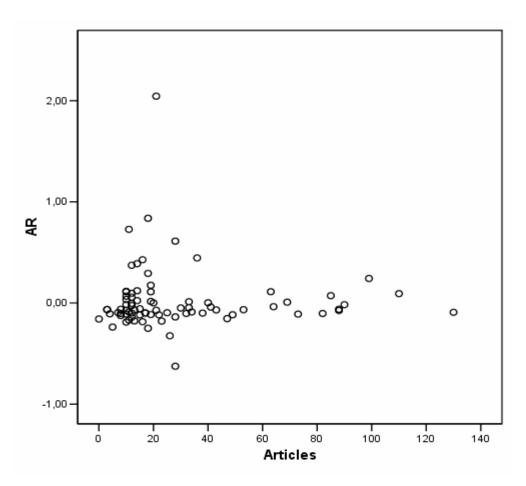
Table II: A summary of industry specific average abnormal returns once average underprice has been removed.

5.3 Regression Analysis

Once completed the information gathering and data processing the final tests were made to determine whether or not there is any relation between the amount of media coverage and the stock price development at the first trading day. The processing was carried out by conducting a correlation and regression analysis on relevant statistics¹⁸. In the regression analysis the abnormal return was set to be the dependent variable whereas the amount of media was the independent. The findings turned out to be insignificant (t-value of -0,202) and no relationship could

¹⁸ "Performing Financial Studies" was used as methodological guide for the statistical processing. (Seiler, 2004)

be traced. As an attempt to trace some potential correlation the observations were divided into categories, so called dummy variables, depending on the related media amount each company entails. The reason for conducting such a classification was the anticipation of finding a correlation group wise. No correlation, or at least no significant one, was found in any case.

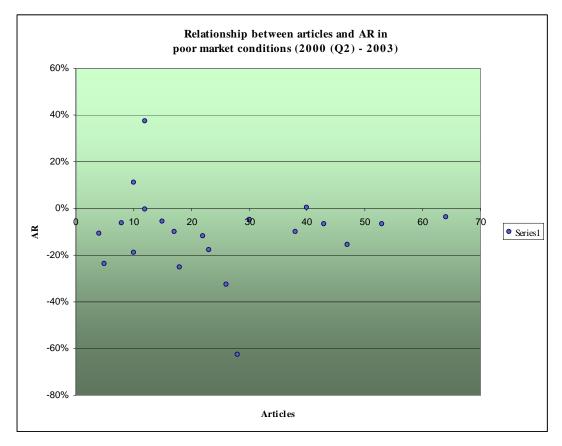


Graph III: The relationship between the amount of media coverage, that is the number of articles published, and Abnormal Return

5.4 "Depression Analysis"

Due to the notion that media shows a tendency to have a larger influence during difficult times compared to in other times a test which only includes the quotations occurring during the dot-com depression was conducted. The time period included stretches between the second quarter of 2000 up until the end of 2003. The

regression showed, as before, no significant result (t-value of -0,234) hence no relationship can be traced during the period. In the graph below, the observations for the "dot-com-test" is presented and as one can see there is no visual correlation between the observed companies' Abnormal Return and the amount of media found.



Graph IV: The relationship between the amount of articles and AR, for IPOs occurring 2000 (Q2) to 2003)¹⁹

To summarize the concluding results it could be said that no relationship between the media and Abnormal Return has been proven. Due to this fact this study can not confirm that the media does influence the share price in an IPO. Our concluding remark is that the hypothesis set up for this assignment can be rejected.

¹⁹ With an exclusion of Telia due to ignorance of extreme values which can imply bias results.

5.5 Robustness

A numbers of concerns could be highlighted regarding the results so far. On the subject of the selection of IPOs some topics has been questioned. Information on the IPO activity was located from OMX's statistical records and further double-checked with historical share price index to make sure it in fact was an Initial Public Offering. The final selection of IPOs is to be considered as near to complete for the period.

Furthermore, the quantification of the amount of media exposure can be seen as somewhat distorted. On the other hand, all observations were based on the same conditions making the final outcome acceptable. In addition it would be of some interest to broaden the selection of media channels to include all types of mass communication. Although as stated by previous researchers there exists a great complexity in tracing media effect due to the fact that media involves an extensive number of communication channels.

As a consequence of underpricing there were some enquiries on how this effect should be removed from the data to get a clean and usable first day return. After discussing the issue with several people at the Centre for Finance²⁰ a final method to clear out the effect was determined. This method is considered to suitable for handling the issue in this specific case and therefore the results are thought of as consistent.

Due to the objective of generalization and the use of underlying data of statistical character made a quantitative approach appropriate for carrying out this research. Previous researchers have argued this same fact and are frequently using a similar approach for comparable studies. In terms of the reliability and validity²¹ of the references used they show a high standard. This since many are published in

²⁰ Erik Lidén, Thomas Andrén & Evert Carlsson, all three active within the field at Göteborg University, School of Economics and Commersial Law.

²¹ For futher information regarding validity and relaibility see; Bell & Bryman, 2005)

academic journals and often referred to by others. Other aspects making all sources reliable are the contents of classic theories and their usage in the academic world.

6. Analysis

This thesis main objective focuses on tracing an eventual correlation between the amount of media coverage for an individual company and its share price development in an IPO. The final results show that no relationship between the two has been established. That is to say that a large amount of media coverage is not associated with a higher abnormal return on the first day of trading. An analysis of the methods used and related theories may function as an explanation of the findings.

Given that underpricing is a common event when it comes to Initial Public Offerings an increase in share price during the first trading day is a necessity for the IPO to be considered successful. Although giving the stock an offering price by far below its market value can be thought of as selling out too low. It can be discussed whether a company that experience an extraordinary return at the first trading day, i.e. is highly underpriced, might be seen as deceiving the former owners as they lose out on possible capital. If the price was determined at a slightly higher level it is likely that the public still would accept this price and subscribe stock, hence this would result in a boost of the capital acquiring. On the contrary it is of importance that all the shares offered are getting sold or the company will be exposed to an unfavourable situation where capital is being missed out on. Therefore the determination of an accurate price is an important issue. In this observation of the IPOs occurring on the Swedish stock market between 1996 and 2005 several stocks have been remarkably underpriced whereas some have also shown an overprice. Generally the findings are in line with what previous research established regarding underpricing.

The chosen time period is considered appropriate and provides a relevant picture of how such activity is implemented. When performing such research it is important to include all types of market conditions to reflect the reality in order to achieve profound results. The findings from this study are especially interesting since they are based on recent events. In accordance with the initial discussion the media influence has various effects depending on the current situation in society. Hence, this phenomenon should be reflected in the observed events and the overall situation in society obviously has en effect on the market condition. It has been stated that media's effect is greater in troublesome times, e.g. in times of depression people tend to listen more to externalities, where mass communication play an important role in form of information intermediaries.

With former discussion as basis the dot-com crash is considered as "a time of depression" and where media ought to show a strong influence over the audience. Under the assumption that media has a greater influence in bad times compared to in good times this should be reflected in our results using the dot-com crash period as bad times and the upward facing years as good ones. This has been tested in this research. When running such a test the findings do not show such an outcome. Therefore this thesis can not prove the existence of media effects in either good or bad times.

Due to the existence of different definitions regarding the media concept its power and ability to manipulate has been proven to be difficult to trace. Researchers explain this fact by the extreme broad range of channels and types of mass media. In addition to those types discussed in this paper, newspapers, television and radio, there exists an immense number of alternatives. Since the characteristic of what constitutes media is extensive this makes it complicated to direct an effect with a specific media channel. This is the underlying reason for why many previous studies have been unable to empirically prove any tangible media effect.

The findings from this paper are considered to be subject to the same issue, the difficulty of tracing any effect from a specific media exposure. The ignorance of all other types of media is likely to distort any potential influence regarding the price movements in an IPO. In an attempt to trace a media effect it is be of importance to know who the receiver of the media message is and how it is communicated. In

this case the exclusion of international press and other types of media could be seen as one reason for not proving a relationship existence. For example not only Swedes invest in Swedish equities implying that also international press may have an influence on investments in Sweden.

According to this thesis no correlation was found and the presented hypothesis could be rejected. These results can be traced to some of the theories and previous research within the field of communication theory and media research. The findings verify the ideas that the audience seems to pay little or no attention to the media and its content, in accordance with the theory of inattention. In line with this concept, that media has insignificant effect, people tend to screen out information they do not agree nor find interesting. Further in some cases the message is not acknowledged due to the problem of incomprehension. As a result of the rejection of the hypothesis one can predict that the inattention and incomprehension feature is present within this examination and paves the base for the invisible media effect. After drawing such a conclusion one might question the reason for ignorance of mass communication. One possible explanation for this may be today's tremendous media supply, making it more or less impossible to grasp. Such behaviour can be seen as necessary in order to maintain sanity in this information society.

As initially presented, peer pressure is commonly seen as a psychological effect on the stock market, making people act upon general perceptions rather than rational ones. This kind of action, peer behaviour, creates extreme stock price movements that are not always reasonable. The findings show a possible support for this kind of action and could be seen as an explanation for why no correlation was found. In other words, the stock market experience peer behaviour-trading which is not based on information and news but rather on different groups acting in certain ways. In addition people tend to be especially cautious concerning individual failure, which is another reason for following the group. As an afterthought, the last statement can be associated with an eventual carefulness when it comes to subscribing new shares.

The general perspective of this academic paper takes its standpoint more in the theory of functionalism rather than the mass society theory. Additionally the results convene with the pluralist model concept whereas the dominant model is an inappropriate way of describing the outcome. However it is reasonable to think that media, in contrast to what found results show, in fact should have an influence over the development of share price in an IPO. Given the large amount of media coverage prior to some IPOs it is surprising that no potential effect has been traced. To exemplify Micronic shows a first day return of 95.7 per cent with media amount of only 11 articles, whereas Scania only had a return of 1.7 per cent with a media amount of as much as 130 articles.

Arguably it seems peculiar that such a common idea, that media has a strong influence over the audience and their way of acting, can not be proven through this research. Perhaps a recreation of the underlying variables used in the process might be a way of finding some kind of relation. An idea would be to rearrange the way to measure the amount of media and also broaden the definition of media, e.g. by including television, radio and other channels. By doing such a rearrangement, this could be considered as an interesting area for further research.

To finalize the analysis a discussion regarding the efficient market hypothesis and its found support in this research will be elaborated. From the findings it has been stated that no relationship exists between the amount of media coverage and share price movements at the first trading day. This result supports the semi-strong market efficiency declaring that all relevant public information is directly incorporated in the share price when released. Under an opposite circumstance, that media has an effect, share price movements would be influenced by manipulated information making the share price from time to time reflect an incorrect value. The theory claims that the stock price reflects the true value of any corporation, and that only as soon as new information is released share price movements will occur. Thereby no abnormal returns can be made due to the assumption that all past and current information is immediately absorbed in the price. Under the assumption that the media entails somewhat bias and manipulative information this should not be shown in the share price, as the theory emphasize. Since the final results do not show any visual effect on the share price in an IPO this paper suggests that the Swedish stock market is characterized by efficiency. This in accordance with the theory of efficient markets.

7. Concluding Remarks

First and foremost, this paper has analyzed stock prices manipulations due to the amount of media exposure. This study can not prove that mass media has any effect on the stock price in an IPO at the first day of trading. This shows that companies which often appear in the press, hence is referred to in a greater number of articles, fail to verify a higher abnormal return.

From the findings it can be settled that this research support the theories stating that media involves small or no effect on its audience. Theories claiming media effects are hard to trace are based on the complexity of media definition and the complications of measuring its degree, and is considered as the justification for the current outcome. On the contrary the results from a study which extends the quantification and selection of media channels might show a somewhat different outcome, although this is considered doubtful.

According to other studies the Swedish stock market is characterized by semistrong market efficiency and thereby supports the efficient market hypothesis. The results attained verify the same statement as previous research claim although the underlying focus differs from each case. It is considered favourable that the market reacts to relevant publicly available information and is not subject to manipulative features, such as media. Share prices are supposed to reflect the true value of a corporation and not be affected by subjectivity in form of attention and popularity.

To finalize the presented hypothesis, The share price in an IPO is influenced by the amount media coverage, is rejected as no media effect is proven. As a last comment the result is satisfying as it sustains the general idea of efficient markets and accurate company values, which is favourable for the stock market and society as a whole.

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Dagens Industri:

Guldläge för börssugna, by Tomas Linnala, 2005-10-14 Plötsligt vill alla köpa by Bengt Carlsson, 2005-11-25

Appendix I – Media sources

Press selection from Affärsdata:

Chef Du&Jobbet Personal ofh Ledarskap **Biotech Sweden Dagens Medicin** Pharma Online **Dagens Handel** Effektiv E-handel Fri Köpenskap Svensk Handel Computer Sweden Datateknik Datateknik 3.0 Datavärlden **Dagens Finans** Nytt från Revisorn **Pension Online** Pensioner & Förmåner Placeringsguiden (PAF) Privata Affärer Reuters svenska ekonomi-nyheter Sunt Förnuft Banknvtt Online Fond & Bank Online Fond&Bank Börsveckan **R F Online Risk & Försäkring** PointLex Förenade Landsort Tidningar Newswire Nyhetsbyan Direkt Nyhetsbyrån Ticker Nyhetsbyran TT Spektra TT Nyhetsbanken Konkurrensverket Affärsvärlden Dagens Industri Dagens Nyheter – ekonomi

Sydsvenskan -ekonomi Veckans Affärer Svenska Dagbladet Näringsliv Månadens Affärer Göteborgs-Posten ekonomi Finanstidningen LO Tidningen SAF tidningen Näringsliv Dagens Nyheter DN.se Svenska Dagbladet AktieTorget Upsala Nya Tidning NG News PIR **HUGIN** - Sverige Waymaker Dagens Reklamnyheter Tekniska Nyheter Telekom Online Nordisk Mobilmarknad Telekommarknaden Resumé Resumé.se Vision Vision Online **Risk Management** Svenskpapperstidning.se Svensk Papperstidning TT Sport **IVA-Aktuellt** Ny Teknik Nyteknik.se

Appendix II – Underlying Data

Firm	Quotation date	Offer price	First day close price	% Δ
Scania AB	1996-04-01	180	183	1,7%
Dahl Invest International AB	1996-06-04	83	95	14,5%
Oxigene Europe AB	1996-11-19	166,5	170	2,1%
Intentia International AB	1996-11-22	55	100	81,8%
Scandic Hotel Svenska AB	1996-12-17	95	103,5	8,9%
Biora AB	1997-02-10	60,13	67,5	12,3%
Sigma AB	1997-02-21	53	86	62,3%
NK Cityfastigheter AB	1997-03-21	64	62	-3,1%
Sardus AB	1997-04-07	73,5	74	0,7%
Ticket Travel Group AB	1997-04-25	77	84	9,1%
Castellum AB	1997-05-23	51	56	9,8%
Semcon Engineering	1997-05-26	32	33	3,1%
Karlshamns AB	1997-06-05	93	95	2,2%
PartnerTech AB	1997-06-12	53	54	1,9%
Pro Solvia	1997-06-18	115	121	5,2%
Pandox Hotellfastigheter AB	1997-06-23	52	53	1,9%
Hemkop	1997-06-27	78	79,5	1,9%
IFS	1997-06-30	38	38	0,0%
Wedins Norden AB	1997-07-01	56	56,5	0,9%
Munters AB	1997-10-21	80	80	0,0%
Karo Bio	1998-03-19	92	134	45,7%
Addvise Inredning Skyddsven	1998-03-27	49	46	-6,1%
Karolin Machine Tool AB	1998-04-03	105	100	-4,8%
Guide Konsult AB	1998-05-27	87,5	140	60,0%
Prevas AB	1998-05-29	47	73	55,3%
Tryckinvest i Norden AB	1998-06-08	144	134	-6,9%
Saab-Scania AB	1998-06-18	55,5	84	51,4%
Affarsstrategerna AB	1998-06-26	66	75,5	14,4%
CityMail AB	1998-07-01	68	71,5	5,1%
NoCom	1999-01-04	43	42	-2,3%
Sectra	1999-03-03	35	42	20,0%
Telelogic	1999-03-08	50	63	26,0%
Malmbergs	1999-03-12	41	43	4,9%
Sorb Industri	1999-05-11	36	35,5	-1,4%
RKS	1999-05-17	64	68	6,3%
Adera	1999-06-10	160	161	0,6%
ReadSoft	1999-06-22	25	31	24,0%
Framtidsfabriken AB	1999-06-23	125	156	24,8%
Poolia	1999-06-23	75	85	13,3%

1(2)

Firm	Quotation date	Offer price	First day close price	% Δ
Boss Media	1999-06-24	39	48	23,1%
Novotek	1999-06-30	21	26,5	26,2%
Connecta	1999-09-20	68	140	105,9%
Clas Ohlson	1999-10-05	106	128	20,8%
Proffice	1999-10-11	84	110,5	31,5%
Enlight Interactive	1999-10-12	105	104	-1,0%
A-Com	1999-11-04	95	102,5	7,9%
Cyber Com	1999-12-01	62	213	243,5%
M2S	1999-12-06	33,5	39	16,4%
Q-Med	1999-12-06	58	59	1,7%
Micronic Laser Systems AB	2000-03-09	105	205,5	95,7%
JC Aktiebolag AB	2000-04-19	60	53	-11,7%
Scandinavia Online	2000-06-07	115	123,5	7,4%
Telia AB	2000-06-13	85	86,5	1,8%
Axis AB	2000-06-27	38	38,5	1,3%
Pyrosequencing AB	2000-06-30	100	102	2,0%
Tripep AB	2000-07-14	90	99	10,0%
Jobline International AB	2000-09-15	70	63	-10,0%
AudioDev AB	2000-09-21	63	66	4,8%
Netwise AB	2000-09-28	55	55	0,0%
Eniro AB	2000-10-10	84	84	0,0%
Orc Software AB	2000-10-19	120	145	20,8%
Neonet AB	2000-10-20	20	18	-10,0%
Dimension AB	2001-02-20	61	66,5	9,0%
D. Carnegie & Co AB	2001-06-01	115	133	15,7%
BTS Group AB	2001-06-06	57	59	3,5%
BioInvent International AB	2001-06-12	62	52	-16,1%
Vitrolife AB	2001-06-26	40	36,1	-9,7%
RNB Retail and Brands AB	2001-06-26	38	29,3	-22,9%
Alfa Laval AB	2002-05-17	91	98	7,7%
Intrum Justitia AB	2002-06-07	47	50	6,4%
Nobia AB	2002-06-19	78	71	-9,0%
Ballingslöv International AB	2002-06-19	64	63,5	-0,8%
Oriflame Cosmetics S.A.	2004-03-24	190	208,5	9,7%
Unibet Group Plc	2004-06-08	135	172,5	27,8%
NOTE AB	2004-06-23	75	69	-8,0%
Indutrade AB	2005-10-05	65	73,25	12,7%
Hemtex AB	2005-10-06	56	66,5	18,8%
Tradedoubler AB	2005-11-08	110	110	0,0%
Orexo AB	2005-11-09	90	90	0,0%
Hakon Invest	2005-12-08	77	81,5	5,8%

2(2)