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# **Study program:** Master of Science – Major in Finance

## Title:

Do Insiders know best?

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### 1.0 Introduction

Insider trading is a topic that has gained increasing attention in the media the last couple of years. First and foremost, this is due to increased focus on illegal insider trading as a form of economic crime. Insiders are therefore more heavily regulated than other investors which indicate that there exists some kind of unfairness in the market. Being CEO, CFO or having another position within the company gives you an advantage over non-informed investors outside the firm. This leads to information asymmetry, as people within a company get access to information before other market participants and use their information to gain advantages over "outsiders". Under the Norwegian and European law, insiders cannot rely on inside information that significantly affects the price. Nevertheless, it is reasonable to assume that insiders have more accurate information about their own business compared to outsiders. Legislators have tried to find a balance between freedom and restriction, but a perfect balance in this case is practically impossible to achieve. The signals and the market imperfections that insider trading creates may therefore be possible to take advantages of.

In this thesis, we want to investigate whether there is possible to obtain abnormal returns by following the transactions made by insiders trading. We will identify some different hypotheses to be tested, where each of the hypotheses treats buy and sell transactions individually. The null hypothesis we will test on Oslo and Stockholm Stock Exchange will in each case be the same;

 $H_0$ : No abnormal returns from following insider transactions.

#### $H_1$ : Abnormal returns from following insider transactions.

The first chapter will contain our motivation for writing about this topic, suggested hypothesis as well as our pre-knowledge in the field. The following chapters will then discuss literature review, methodology, data and finally progression plan for our thesis.

#### 1.1 Suggested Hypothesis

In this section, we will formalize suggest hypothesis we could test.

**Hypothesis 1**: Does insiders on Stockholm – and Oslo Stock Exchange on average earn abnormal returns in the 1,3,6 months following insider purchase?

**Hypothesis 2**: Does the size of the insider trades affect abnormal return on Stockholm – and Oslo Stock Exchange?

**Hypothesis 3**: Is it possible to earn profit by following insiders on Stockholm – and Oslo Stock Exchange?

**Hypothesis 4**: Does different positions within the firm earn different abnormal return on Stockholm – and Oslo Stock Exchange?

#### 1.2 Motivation

Our motivation for writing this thesis is that we wish to apply knowledge gained from our two-year Master in Finance through subjects such as *Introduction to Asset Pricing, Investments* and *Advanced Corporate Finance*. We chose a topic that would challenge our previous knowledge. During our study time, we both have found the stock markets and the market mechanism that influence the stock market highly interesting. However, insider trading and how it affects the price development of a company is something we did not have much knowledge of. At the start of our research for information, we came across both Trygve Hegner's Finansavisen with its insider portfolio called "Innsideportefølje" and Dovre Forvaltning and their fund "Dovre Inside Nordic". They both claim to be highly successful, where Finansavisen posting as late as January 3. 2018 that their portfolio had beaten the Oslo Stock Exchange in 2017. The portfolio started in 1996, and have since outperformed the stock exchange 20 out of 22 years. This result can only be described as impressive and in conflict with some of the most acknowledged financial theories such as efficient market hypothesis.

With the belief in the market efficiency theory, which states that the price of a stock fully reflects all available and relevant information at any given time, we are curious to whether it would be possible to beat the market by using the information from the insider trading. To our knowledge, there has not been a study conducted at both Oslo and Stockholm Stock Exchange within the same time period to see if abnormal returns are possible. We find it interesting to see if there is any difference between the two neighboring countries.

### 2.0 Literature review

To write an excellent master thesis, we need to have a strong knowledge of our research topic. Our research paper will be written from an academic point of view and therefore we need to apply some of the important findings made in earlier research into our thesis. All theories presented have been thoroughly selected and studied to help us answer our research questions. Our most important focuses will be market equilibrium, asymmetric information and efficient market hypothesis.

#### 2.1 Market efficiency

The efficient market hypothesis was developed by Eugene Fama. Efficient market hypothesis is one of the most well-known and possibly the most significant proven theory ever created to describe the financial market. The theory was created in 1970 and describes how asset prices fully reflect all available information in the market. To this day, many have tried to challenge the efficient market hypothesis, but the theory still stands as a valid description of how stock prices behave. It is important to remember that financial theories such as efficient market hypothesis are not proven laws, but merely ideas that attempt to explain how the market works. Abnormal returns tend to occur on a frequent basis as new information is released.

According to Fama (1970), the main role of the capital market is the allocation of ownership in the economy's capital stock. Further, Fama (1970) states that a perfect market is one where prices fully reflect all available information. A market where prices constantly reflect all available information is called "efficient". Fama (1970) defined three different subgroups of market efficiency based on the amount of information in each group, these are:

- Weak-form efficiency
- Semi-strong-form efficiency
- Strong-form efficiency

#### 2.1.1 Weak-form

The hypothesis in a weak form of market efficiency states that equity prices reflect only information that lies in the historical prices and historical development of the shares and the market. The hypothesis implies that trend analyzes are of little value, as any reliable signals will already be known in the market.

#### 2.1.2 Semi-strong-form

The intermediate level, the semi-strong form of efficiency, requires prices to mirror not just past prices, but also all "obviously publicly available" information (Fama 1970). This may consist of company's products, management, accounting figures, patents, mergers and other similar information. To test whether the semi-strong market efficiency holds, one would have to study the changes of stock prices before and after an announcement for a given price affecting event. One would have to see how quickly the price adjusts to the announcement. The faster the adjustment, the more efficient is the market. If the price had started to adjust before the announcement, this could be a sign of an information leak. Hence, investors with better access to relevant information have used their benefit to earn abnormal returns. This level of efficiency is the one that our thesis is mostly related to since all insider trades in both Norway and Sweden must be reported to Oslo Børs (Norway) and Finansinspektionen (Sweden).

#### 2.1.3 Strong-form

The strong form of market efficiency sate that prices reflect all public information, information contained in the historical changes and all other available information that exists in the market, both private and public. This implicates that no investor can earn abnormal results above what is expected. Evidence that insiders can obtain abnormal returns and that investors, traders, and funds who beat the market over time would go against the strong form of market efficiency.

#### 2.1.4 Why is the efficient market hypothesis of great importance?

Even though markets are constructed upon assumptions and regulations, there is a common assumption that insider trading must be banned. The reason for this is that the market is entirely dependent on investor's confidence to function according to their prerequisites (Finans Norge). Just an assumption of insider trading can ruin the whole market, since investors without insider information may not want to enter the market with capital or use the market as a capital source.

For persons within the company (CEO, CFO or another position within the company), special requirements apply to trading and reporting of trading in financial instruments issued by the company. Primary insiders are obliged to report all transactions in financial instruments in the relevant company to the regulated market where the securities are traded. This is because primary insider trades may have price relevance as a buy or sell signal and thus the pricing of the securities in the market. It is also assumed that the reported obligation is to prevent illegal insider trading since reported obligations will often contain inside information.

#### 2.1.5 The connection between insider regulation and Fama

If we look at the strong form of market efficiency, illegal insider trading would not earn abnormal results. When looking at the semi-strong form of market efficiency, it would be possible for an insider to earn an abnormal return. However, not for an outsider, because the signal from the insider trade is already reflected in the price of the asset.

If somebody were trading on non-public information, i.e. illegal trading or if the market expects insiders to have more information which they trade on, it could be possible to earn abnormal returns. Taking this into consideration and the fact that all primary insiders are obligated to report their insider trades to Oslo Børs no later than the opening of the market the next day makes it interesting to study. If we find some irregularities in the stock market relating to insider trading then this would violate the semi-strong market efficiency.

#### 2.2 Asymmetric information

It is fair to assume that insiders have more information of the accurate value of a company than outside investors. Asymmetric information can be divided into two types depending on how the cause of asymmetry occurs. The two types are "moral hazard" and "adverse selection".

#### 2.2.1 Moral hazard

The first type of asymmetric information is moral hazard or hidden action. Moral hazard is the risk that a party, for example, to a transaction has not entered into the contract in good faith. The party can have provided misleading information about its credit capacity assets, liabilities or other and has an incentive to take unusual risks or act irresponsibly. Another classic example here is an insurance agreement where the

insured party can no longer be controlled by the issuer of the insurance after the contract has been signed. One can say that moral hazard arises because a party does not bear the full responsibility for its actions and therefore acts in a way that can give other outcomes. This part of the asymmetric information is not particularly relevant to the effects of insider trading.

#### 2.2.2 Adverse selection

The other type of asymmetric information is adverse selection. One example is life insurance. If the insurance company offers only one type of policy, they may attract high-risk customers. This is because people with good health will find the insurance premium too high in relation to their perception of their own risk. This problem is called adverse selection and comes from the hidden information before the contract signing. It is essential that one party knows something before a transaction that the other party is unaware of, for example, about its own health condition. Hence, the asymmetric information is already there before the action takes place. Another example is the sale of a car, where the seller has more information about how the car works than the buyer.

#### 2.2.3 Asymmetric information and insider trading

Due to asymmetric information, one can assume that there is a relationship between insider transactions and firm value. For instance, one can interpret that insiders selling assets would be a sign of lower value of the company and buying would mean a higher value. Why is this so? Altering the amount of ownership in your own company can be interpreted as a sign that you as an insider is taking advantage of unique information. The insider has the possibility to invest in more or less any assets on the financial market but chooses to buy or sell shares in his own company. Outsiders should interpret this as a sign that the company is either over – or undervalued. However, when talking about a decrease in the ownership, there could be several reasons for an insider to do this. One reason could be for tax purposes, another could simply be that the insider needs money for private reasons. Due to the above reasoning, the relationship between selling assets because of inside information or due to other reasons is not as unambiguous as in the case of purchase transactions.

#### 2.3 Literature on insider trading

Earlier studies on inside information have been conducted on a number of stock exchanges. However, several of the research articles come up with contradiction conclusions based on the models and variables that are being checked for.

The first studies around an insider's ability for excess return were based on the data from the US market. The return per share was measured in relation to the market return, where monthly purchase and sales portfolios were established for each company. Months with multiple insider purchases or sales within the company were defined as a purchase or a sale month. The study of Lorie & Niederhoffer (1968) was conducted using this method where they took over 150 companies in the US market. Their results showed that during the month of purchase, market returns increased over the next six months. Thus, one could already conclude that the US market was not highly efficient.

As more knowledge about statistical testing and better market data were collected, Jaffe (1974) and Finnerty (1976) made an improved effort to study the significance of insider trading.

Jaffe (1974) and Finnerty (1976) share the same opinion regarding the need for market risk correction. He took into account transaction costs and concluded an average excess return on insiders of 3%. Thus, he also rejects the hypothesis of strong market efficiency. Jaffe (1974) also explicitly looked at how much more outsiders can earn by replicating insiders. After transaction costs, his results indicate no significant excess return for the outsiders. This conclusion is also supported by Chan et al. (1997), which tested market efficiency against various inside trades in 18 different countries.

Finnerty (1976) concludes that strong form of efficiency does not exist. The reason why his study was more credible than previous studies was preliminary the correction for market risk. He avoided to focusing on the inside deals that most likely yielded more returns than the average inside trade. In this way, he managed to remove the bias that other studies were accused of. Based on earlier research, H. N. Seyhun (1986) wanted to test the ability to achieve excess return based on an outsider following a strategy that only replicates insiders in the NY Stock Exchange. In this way, he wanted to test whether it was possible to reject the hypothesis of half-strong efficiency. By continuing earlier research, he categorized the insiders after managers, directors, chairman and major investors in order to control positions in the companies. Seyhun (1986) concluded that a higher position in the job hierarchy was synonymous with higher levels of information and higher expectation of excess return.

Eckbo and Smith (1998) further addressed the problem of Seyhun (1986) but implemented a more statistically advanced model on Oslo Stock Exchange. By deviating from the traditional event study method, they concluded that it was not possible to achieve abnormal excess return by following insiders on the Oslo Stock Exchange. They further argued that the finding of any excess return could depend on the choice of research methods. Implementation of simpler methods as used in several previous studies, gave according to Eckbo and Smith (1998) incorrect positive excess returns.

Dickgiesser and Kaserer (2009) tests semi-strong efficiency. Their results indicate that insiders achieve excess return, but that the opportunities for excess return in the aftermath of an inside trade are due to an increase in risk. Thus, Dickgiesser and Kaserer (2009) conclud that it is not possible to replicate insiders, given the same risk, in order to achieve profit. They therefore keep the hypothesis of semi-strong market efficiency.

## 3.0 Methodology

In our research paper, we will use a deductive approach. The purpose is to arrive at a specific conclusion through given logical premises. We base our thesis on existing research and form our own hypothesis which is then tested. To get an overview of the deductive procedure, we choose to explain this in the figure below:



#### 3.1 introduction

The method of measuring efficiency on Oslo Stock Exchange/Stockholm Exchange will be based on an event study technique as earlier studies.

The method also has its weaknesses, like holding the level of risk constant. This may bias the long run testing which will affect the measure of risk-adjusted abnormal returns (Kothari and Warner 1997 et.al). However, other researchers have used a different approach to avoid this long run bias. Eckbo and Smith (1998) used different weighting algorithms in addition to equally weight to construct monthly portfolios that could adjust the risk in order to deliver a more reliable result.

Nevertheless, event studies have been a frequently used method and are a robust measurement to study abnormal stock returns (MacKinlay 1997). We therefore find it applicable to our thesis in order to measure abnormal returns.

#### 3.2 Event study

The method we will use in our thesis is an event study. This method is defined as a statistical method to measure whether different events have a significant impact on stock prices.

Fama (1970) developed the method along with Fisher, Jensen and Roll in the 60's in order to measure how new information affected changes in the price. Event studies are best suited for unforeseen events where one wish to investigate the direct effect of an announcement, as well as the period after. If the event has been known previously and discussed to a larger extent, such as a legislation, the market will most likely have incorporated the event. The market will therefore not respond to the same extent in the days following the publication (Wasley 1993). As insiders are not known to the

market before they are published, the trade is unforeseeable and therefore also suitable for event study.

Another researcher in the field is MacKinlay (1997). He claims that there is no particular structure for the design of an event study, but that there are some general guidelines for implementation. As there exists no unique structure for an event study, we decided to use the same structure as described by MacKinlay (1997). MacKinlay uses financial market data to measure the impact of a specific event (an earnings announcement) on the value of a firm (change in its stock price), similar to what we will do.

#### 3.3 Models

Our goal of the tests is to see if we can find abnormal returns caused by an event. We can define the abnormal returns as the difference between expected return and the real return.

$$AR_{i\tau} = R_{i\tau} - E(R_{i\tau}|X_{\tau})$$

Where  $AR_{i\tau}$ ,  $E(R_{i\tau}|X_{\tau})$  and  $R_{i\tau}$  are the abnormal, normal, and actual returns for time period  $\tau$ . Mackinlay (1997) states that several approaches can be used to calculate the normal return. Furthermore, Mackinlay (1997) groups the approaches loosely into two categories, economic and statistical.

Two common economical models are the Capital Asset Pricing Model (CAPM) and the Arbitrage Pricing Theory (APT). CAPM is a model explaining the relationship between risk and expected return and is used theoretically to determine the price of shares. CAPM is based on strict theoretical assumptions, such as a perfect capital market with full information without tax or transaction costs. The use of CAPM was common in event studies in the 1970s, but Fama and French (1996) discuss the validity of studies, arguing that the studies may be too sensitive due to CAPM restrictions. Today, CAPM is almost never used for such purposes (MacKinlay 1997). The criticisms include the ignore of transaction costs (Seyhun 1986) and CAPM's assessment of the market portfolio (Roll 1977).

APT is a model that considers the expected return based on a linear function of various macroeconomic factors. It is not limited to just one factor, such as CAPM,

but can include a variety of variables. The drawbacks are due to the difficulty of choosing which factors for estimating normal return. A general finding is also that the most important factor in an APT model acts as a kind of market factor and that the other factors give little or no additional explanation for the model. For this reason, the gain of using APT compared to the market model is small (MacKinlay 1997).

The market model is a statistical model which relates the return of any given security to the return of the market portfolio (MacKinlay 1997). The model is a one-factor model and is based on the relationship between the return on a single axis and the return on an index. It is often expressed in this way;

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it}$$

where  $R_t$  and  $R_{mt}$  are the period returns on security *i* and the market portfolio.  $\epsilon_{it}$  is the zero-mean disturbance term and  $\alpha_i + \beta_i$  are the parameters of the market model (MacKinlay 1997). The market model is based on less strict assumptions than CAPM and is easier to use. The main assumptions are that the single-share return, and market return are bivariate normal distribution, and that the return is independent over time.

#### 3.3.1 Event window

When choosing the length of the estimation window it is vital to pick one that is long enough to show all the volatility of the stock. Mackinlay (1997) argues that the estimation window should be between 180 and 250 trading days prior to the event window, while Armitage (1995) argues that it should be between 100 to 300. In our thesis, we will use an estimation window of 200 trading days. We want to use a post-event window of one, three and six months as well a look at the short-term effect occurring a short time after the transaction. This gives us the following event window: (0,1] (0,20] (0,60] (0,120]. The figure below shows both estimation window and event window:

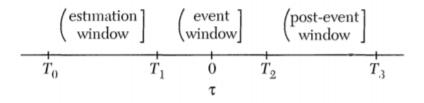


Figure 1 Timeline for an event study

### 4.0 Data

In our thesis, we wanted to focus on both the Norwegian and Swedish stock market. In collaboration with Dovre Forvaltning, we obtained a dataset with trades on both the Norwegian and Swedish market. In our dataset, we have information about the company, date of publication, name/position of buyer/seller, number of shares, prices, and holdings after the trade. Our dataset contains trades on the Swedish stock market from 2000 and trades on the Norwegian stock market from 2011. In appendix 1 we have included a draft of our dataset from Dovre versus a screenshot from a reported insider trade on Oslo Stock Exchange. We will exclude corporate actions such as bonus shares, options etc. as they are initiated by insiders and in most cases not driven by private information. Through DataStream we will download daily stock prices and match them to our dataset with insider trades.

## 5.0 Progression plan

We wanted to come up with a progression plan to give our self a timeframe. This is important to see if we are "on track" with our thesis. We will allow for some deviation, but by more or less following this progression plan, we will be able to finish our paper in time.

| Plan                                       | Deadline             |  |  |  |  |
|--|----------------------|--|--|--|--|
| Preparing and cleaning the insider dataset | February 2018        |  |  |  |  |
| Collect historical prices from data stream | February 2018        |  |  |  |  |
| Structure and test our hypotheses          | March 2018           |  |  |  |  |
| Analyze and comment results                | March – April 2018   |  |  |  |  |
| First draft                                | May – June 2018      |  |  |  |  |
| Review, correction, finish thesis          | June– September 2018 |  |  |  |  |
| Deadline Master thesis                     | September 2018       |  |  |  |  |

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## 7.0 Appendix

Here is an example of our dataset we have obtained from Dovre Forvaltning versus how the insider trades are registered on Newsweb.

| 1    | Publ. Date Date Ticker      | Company                           | Name                           | Position                                    | Action | Price  | Shares    | /alue In NOK | Change | Holdings after trade |
|------|-----------------------------|-----------------------------------|--------------------------------|---|--------|--------|-----------|--------------|--------|----------------------|
| 3256 | 2017.01.03 2017.01.03 ROM   | RomReal Ltd.                      | Arne Reinemo                   | Director                                    | SELL   | 3,00   | 1 000 000 | 3 000 000    | 62 %   | 611 100              |
| 3257 | 2017.01.03 2017.01.03 ZAL   | Zalaris ASA                       | Richard Schiørn                | VP Strategic Projects                       | BUY    | 33,79  | 1 514     | 51 158       | 100 %  | 1 514                |
| 3258 | 2017.01.09 2017.01.09 PGS   | Petroleum Geo-Services ASA        | Espen Grimstad                 | employee elected Board Member               | BUY    | 22,50  | 134       | 3 015        | 15 %   | 91.                  |
| 3259 | 2017.01.09 2017.01.09 SDSD  | Hanekamb Invest AS                | Martin Nes                     | Board member                                | SELL   | 0,90   | 500 000   | 450 000      | 18 %   | 2 292 062            |
| 3260 | 2017.01.09 2017.01.09 STORM | Storm Real Estate ASA             | Kim Mikkelsen                  | Managing Director                           | BUY    | 4,75   | 340       | 1 615        | 0 %    | 3 575 259            |
| 3261 | 2017.01.12 2017.01.11 STORM | Storm Real Estate ASA             | Kim Mikkelsen                  | Managing Director                           | BUY    | 5,00   | 21 584    | 107 920      | 1%     | 3 596 843            |
| 3262 | 2017.01.13 2017.01.13 STORM | Storm Real Estate ASA             | Kim Mikkelsen                  | Managing Director                           | BUY    | 5,00   | 2 200     | 11 000       | 0 %    | 3 599 04:            |
| 3263 | 2017.01.16 2017.01.16 NAVA  | Navamedic ASA                     | Patrik Hellström               | Board Member                                | SELL   |        | 10 000    | 0            | 100 %  |                      |
| 3264 | 2017.01.16 2017.01.16 ТОМ   | Tomra Systems ASA                 | Jan Svensson                   | CEO   | BUY    | 86,76  | 140 000   | 12 146 400   | 0 %    | 38 651 000           |
| 3265 | 2017.01.17 2017.01.16 NAVA  | Navamedic ASA                     | Patrik Hellström               | Board Member                                | SELL   | 12,95  | 10 000    | 129 500      | 100 %  | (                    |
| 3266 | 2017.01.17 2017.01.17 STORM | Storm Real Estate ASA             | Kim Mikkelsen                  | Managing Director and Board Member          | BUY    | 5,00   | 23 499    | 117 434      | 1%     | 3 622 542            |
| 3267 | 2017.01.24 2017.01.24 OLT   | Olav Thon Eiendomsselskap ASA     | Lars Løseth                    | Special advisor                             | BUY    | 157,78 | 6 000     | 946 680      | 86 %   | 7 000                |
| 3268 | 2017.02.06 2017.02.06 UMS   | Unified Messaging Systems ASA     | Leon Roy Hausmann              | Head of business development                | BUY    | 1,25   | 660 000   | 825 000      | 100 %  | 660 000              |
| 3269 | 2017.02.07 2017.02.07 LINK  | Link Mobility Group ASA           | Siw Ødegaard                   | Executive Vice President                    | SELL   | 150,00 | 63 745    | 9 561 750    | 32 %   | 136 255              |
| 3270 | 2017.02.07 2017.02.07 LINK  | Link Mobility Group ASA           | Søren Sundahl                  | Board member                                | BUY    | 149,00 | 2 720     | 405 280      | 0 %    | 1 312 024            |
| 3271 | 2017.02.09 2017.02.09 NSG   | Norske Skogindustrier ASA         | Paul R. Kristiansen            | Member of the Board                         | BUY    | 2,52   | 15 500    | 39 060       | 25 %   | 62 19:               |
| 3272 | 2017.02.10 2017.02.10 PRS   | Prosafe SE                        | Stig H. Christiansen           | CEO   | BUY    | 37,55  | 26 500    | 994 990      | 100 %  | 26 500               |
| 3273 | 2017.02.10 2017.02.10 GJF   | Gjensidige Forsikring ASA         | John Giverholt                 | Board member                                | BUY    | 134,20 | 3 500     | 469 700      | 100 %  | 3 500                |
| 3274 | 2017.02.10 2017.02.10 тся   | TGS-NOPEC Geophysical Company ASA | Mr. Amundsen                   | Primary insider                             | BUY    | 190,00 | 2 250     | 427 500      | 100 %  | 2 250                |
| 3275 | 2017.02.10 2017.02.10 sso   | Scatec Solar ASA                  | Roar Haugland                  | Executive Vice President                    | SELL   | 37,50  | 150 000   | 5 625 000    | 39 %   | 235 735              |
| 3276 | 2017.02.13 2017.02.13 NOD   | Nordic Semiconductor ASA          | Thomas Embla Bonnerud          | Director of Strategy and Investor Relations | BUY    | 33,00  | 4 000     | 132 000      | 54 %   | 7 42(                |
| 3277 | 2017.02.13 2017.02.13 SOLON | Solon Eiendom ASA                 | Simen Thorsen                  | Chairman of the Board                       | BUY    | 0,13   | 666 668   | 86 667       | 0 %    | 2 334 000 000        |
| 3278 | 2017.02.14 2017.02.14 AFG   | AF Gruppen ASA                    | Borghild Lunde                 | Board member                                | BUY    | 158,43 | 10 000    | 1 584 300    | 100 %  | 10 000               |
| 3279 | 2017.02.15 2017.02.15 TTS   | TTS Group ASA                     | Anita Kråkenes                 | Employee elected Director of the Board      | SELL   | 3,88   | 2 000     | 7 760        | 100 %  | (                    |
| 3280 | 2017.02.16 2017.02.16 RENO  | RenoNorden ASA                    | Accentfourteen Holding Limited | Primary insider                             | SELL   | 1,27   | 618 398   | 786 540      | 30 %   | 1 460 20             |
| 4    | Sweden DB Swe               | den Manual Norway Manual          | +                              |   |        |        |           |              |        | •                    |

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| Text:                   | LL Holding AS, et selskap kontrollert av Lars Løseth<br>spesialrådgiver i Olav Thon Erendomsselskap ASA har<br>idag 24. januar 2017 kjort 6.000 aksjer i Olav Thon<br>Eiendomsselskap ASA til kurs 157,78<br>LL Holding AS eier etter transaksjonen 7.000 aksjer i<br>Olav Thon Eiendomsselskap ASA.<br>For Olav Thon Eiendomsselskap ASA<br>Arne B. Sperre<br>Konserndirektor finans |