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Performance of stocks after repair issues

An empirical analysis of the stock performance of firms undergoing repair issues on the Oslo Stock Exchange: Evidence from 2012-2022

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Acknowledgements

This thesis marks the completion of our Master of Science in Economics & Business Administration program at the Norwegian School of Economics (NHH).

As we both are majoring in Financial Economics, and given our fellow interest in the Norwegian capital markets, we aimed to select a thesis topic that was (1) an current interesting topic in the Norwegian capital markets, and (2) a topic that could be of value to others. After productive discussions with our supervisor, Professor Karin Thorburn, and various other industry professionals involved in the Norwegian capital markets, we found that the topic of private placements and subsequent repair issues on the Oslo Stock Exchange was a highly intriguing subject to explore.

While working on this thesis presented its challenges, it ultimately proved to be a highly rewarding experience. It has been particularly rewarding to acquire such a comprehensive understanding of such a pertinent topic, particularly in light of the ongoing public discourse surrounding private placements and repairs issues in the media. After an extensive examination of over a decade's worth of NewsWeb messages to gather our data, we were able to obtain a final data set of 243 private placements with intended subsequent repair issues. We would like to express our gratitude to Bernt Arne Ødegaard at the University of Stavanger, whose extensive database on asset pricing for the Oslo Stock Exchange enabled us to perform regression analysis using the Fama-French three-factor model.

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Abstract

In recent years, private placements have emerged as the preferred method of raising equity on the Oslo Stock Exchange (OSE). Private placements have a discriminatory character, and dilutes the non-participating shareholders. To offset this dilution, and in line with their principle of equal treatment, the OSE has established a requirement for companies to consider subsequent repair issues. Our findings indicate that these repair issues are implemented in 20% of the instances and are not apportioned on a pro-rata basis. This study explores the abnormal returns of firms that have conducted private placements and subsequent repair issues listed on the OSE. We employed the Jensen's alpha calendar-time portfolio method with the Fama-French three-factor model as a benchmark to analyze the performance of these firms. Additionally, we tested the returns using the buy-and-hold reference portfolio method, where the reference portfolio comprised of peer firms listed on the OSE with similar TRBC codes, market capitalization, and book-to-value multiples. In this methodology, we also evaluated the returns incorporating the share price discount offered. With a sample size of 186 companies that completed private placements and repair issues, We find some contradicting results regarding the two methodologies. Specifically, the Jensen's alpha method detects negative long-term returns in the full sample, a finding not mirrored by the buy-and-hold method, which instead yields no significant results. When we segment the data into sub-samples, neither methodology identifies significant returns. Nevertheless, the picture changes when we shift our focus to participating investors. In this context, we observe numerous short to medium-term positive returns, with significance at the 1% level, painting the possibility for favorable returns for investors. Our findings provide valuable knowledge for the OSE. The results suggests that repair issues, rather than just being tools to alleviate the dilution effect resulting from private placements, could also serve as potentially profitable investment opportunities for those who choose to participate.

Keywords – Oslo Stock Exchange, Private Placements, Repair Issues, Principle of Equal Treatment, Abnormal Returns, Jensen's Alpha Method, Fama-French Three-Factor Model, Buy-and-Hold Method, Investor Perspective

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1 Introduction

Over the last years, private placement have become the preferred way to raise equity on the Oslo Stock Exchange (herafter OSE). A private placement is a quick and effortless way to raise capital. Yet, it has a discriminatory nature, as only selected investors can participate. The OSE states that, without factual reason, rights issues to all shareholders should be the preferred method to raise equity, and private placements should be the exception (Oslo Børs, 2014). However, the reality tells a different story. Over the last 7 years, the total amount of equtiy raised through private placements (mNOK 241 352) was almost 22 times as much as the equity raised through rights issues (mNOK 11 041).

If the capital in the private placement is raised at the market price, the value of all the non-participating shareholders shares will remain status quo. Naturally, this is never the case as the companies offer the targeted investors a discount to the market price. This is to make it appealing for the investors and secure a fast book building process. Due to the discount given, it may seem like all the non-participating investors are diluted. Yet, under section 5-14 of the Norwegian Securities Trading Act (STA), written by the Norwegian Ministry of Finance, all shareholders of public companies must be treated equally (Finansdepartementet, 2007).

When assessing equal treatment, the OSE states in their circular[1] from 2014 that they take a careful approach to not overrule the issuing companies' industry-specific knowledge (Oslo Børs, 2014). Further, the OSE also states that the companies conducting private placements are obligated to consider a repair issue. This repair issue is targeted at all the non-participating investors, at the same offer price, and are meant to offset the dilution. If the number of shares issued in the private placement and the repair issue is on a pro-rata basis, then the repair issue works perfectly. Yet, this is seldom the case in practice. As private placements have no formal ownership requirements, they often target new shareholders. In addition, our data show that the distribution of new shares between the private placement and the repair issue are often greatly in favor of the investors in the private placement.

[1] A circular is a written statement of policy. It will often provide information, guidance, rules, and/or background information on legislative or procedural matters.

Further, data provided by the OSE show that the investors in 23% of the private placements in 2022 were given an additionally immediate short position of shares as a part of the transaction. This is done to hedge against decrease in share price. As the repair issue is effectively cancelled if the share price drops below the offer price, these short positions could lead to a high selling pressure in the stock, reducing the chances of a repair issue. The purpose of these short hedges is to make the private placement more attractive for investors, however, in our view, it may also attract more short-term investors.

As a result of all the factors described above, we find it very interesting to observe how companies perform after the subscription period for the repair issue has ended. The purpose our thesis is to examine exactly this issue. We will examine both how the performance of companies from an market perspective, and the performance from the perspective of the participating investors.

Our research focuses on 243 events spanning the period from January 2012 to October 2022. Each event represents a unique case of private placements supplemented by proposed repair issues, covering a diverse range of 133 distinct companies. This extensive sample enables us to scrutinize the performance and impact of repair issues across a broad spectrum of scenarios and business contexts.

We propose four hypotheses related to the long-term performance of firms undertaking private placements and subsequent repair issues on the OSE. Hypothesis 1 suggests that firms using these proceeds for M&A activities will experience abnormal returns significantly different from zero. Hypothesis 2 posits that firms raising capital due to liquidity issues will exhibit abnormal returns greater than zero. Hypothesis 3 anticipates firms offering higher discounts during their private placements and repair issues will display greater long-term abnormal returns than those offering lower discounts. Finally, Hypothesis 4 proposes that firms with higher relative share increases in their equity offerings will experience greater long-term abnormal returns compared to firms with lower relative share increases.

In accordance with Mitchell and Stafford (2000) and others, we subscribe to the belief that Jensen's alpha calendar-time method is the least biased approach to determining long-term abnormal returns. This method looks at the statistical significance of Jensen's alpha through a monthly return from a portfolio consisting of event companies which are

regressed against the three Fama-French factors: excess market returns, the returns from a portfolio going long in small stocks and short in big stocks (SMB), and the returns form a portfolio going long in value stocks and short in growth stocks (HML).

However, to complement the robustness of our analysis we also test this by employing the buy-and-hold method. This method involves purchasing the event company at the offer price and selling it after n months at the prevailing market price, with the subsequent return compared to the returns of an industry-and-size matched reference portfolio. This method has its statistical weaknesses, and one should be cautious about drawing conclusions about the statistical significance from the results. In order to increase the validation of the results obtained from the buy-and-hold method, we will use a skewness-adjusted bootstrapped t-test, in favour of the convectional t-test. By doing this we eliminate the skewness in the buy-and-hold method, and reduce the chances of Type I errors[2] Additionally, we utilize the buy-and-hold method to provide a viewpoint reflecting an investor's perspective in subscribing to repair issues. Furthermore, to complement our analysis of returns and gain a deeper insight into the mechanisms of private placements and repair issues, we incorporate a probit regression model into our study.

Intriguing findings emerges from our full-sample analysis, revealing a divergence in findings depending on the method applied. The Jensen's alpha calendar time method indicates increasingly negative returns over 24, 36, and 60-month periods, significant at the 5% threshold. This is in line with several previous studies, and might reveal that the market slowly adjusts the valuations of the firms as the true, negative, impact of the repair issues are know. the buy-and-hold approach does not find any significant results. We argue that this might be due to biases in the latter method.

However, from an participating investor perspective, we find positive returns in the short- to medium-term periods, all significant at the 1% level. This indicates that there may exist substantial returns for participating investors in the repair issue.

As we delve deeper into our investigation and examine specific sub-samples, the narrative changes once more. Here, we find no significant returns for non-participating investors across all sub-samples and methodologies. Consequently, we reject all our alternative hypotheses. This implies that regardless of the specific circumstances, non-participating

[2]A Type I error means rejecting the null hypothesis when it's actually true.

investors do not achieve significant deviations from the expected returns.

Yet, a silver lining appears for participating investors in these specific scenarios. We identify significant positive short to medium-term returns in the context of M&A activities, liquidity issues, situations where the largest share discounts were offered, and cases where the largest share increases were enacted. These findings underscore potential advantages for investors who choose to participate under these specific circumstances.

Lastly, the estimates from the probit regression model studying the factors that influence the cancellation of repair issues yielded some weakly significant effects (at the 10% level) for variables associated with M&A activities and price discount.

All these results may be of great interest for the OSE, as they indicate that repair issues serve a dual purpose: mitigating dilution from private placements and providing attractive investment opportunities. Additionally, the results suggest that repair issues do not harm companies in the short-term and mandatory adoption should be considered in accordance with the principle of equal treatment.

The rest of the thesis is built up as follows: Section 2 introduces relevant types of SEOs, relevant regulations on the Oslo Stock Exchange regarding equity issues, and finally a thoroughly review of repair issues. Section 3 discusses relevant theory and a literature review on SEOs. In section 4 we propose our four hypotheses. Section 5 provides a description of the data sampling, data characteristics, and the economic rationale behind the sub-samples. In this section we also provide descriptive statistics of the loan agreements. Section 6 provides a review of the two methodologies. Section 7 provides the statistical results and discourse on performance of the firms in the different holding periods and sub-samples. At the end of this section, we also provide a probit regression analysis on the determinants of completion or cancellation of the repair issue. Section 8 concludes the thesis, discusses implications of the results, discuss the weaknesses, and comes with suggestions to further research.

2 Equity Issues at the Oslo Stock Exchange

Our research question requires a deeper understanding on the fundamentals of equity issuance on the OSE. Thus, this section will first provide insights on relevant seasoned equity offerings, then it will provide insights of regulations and procedures regarding equity offerings on the OSE. Furtermore, the section will then conclude with a thorough examination of repair issues.

2.1 Seasoned Equity Offerings

After their initial public offering (IPO), public companies often need to raise further equity. Public companies can generate additional capital through a variety of seasoned equity offering (SEO) flotation methods. The most common flotation methods are public offerings, rights issues, and private placements (Eckbo et al., 2007). There exist several other flotation methods, such as auctions, however, as they are not relevant to this thesis, we will not elaborate on other SEO-methods than rights issues, private placements and repair issues.

2.1.1 Rights Issues

Rights offerings allow all existing shareholders to purchase new shares at a predetermined price during a specified period (Eckbo et al., 2007). A subscription warrant is granted on a pro-rata basis, meaning the right to purchase additional shares is proportional to the number of shares they currently own. Like call options, subscription warrants provide the owner with the right, but not the obligation, to buy additional shares. Due to these characteristics, the owner can sell the warrant, thereby preventing any wealth loss associated with an offering discount.

2.1.2 Private Placements

An equity issue directed at a group of investors is called a private placement (Eckbo et al., 2007). In this instance, the entire issue is raised by a limited number of shareholders, bypassing most existing shareholders and thus causing a wealth transfer from nonparticipants (see section 2.1.2.2). Private placements do not have formal ownership

requirements, but some private placements target existing- or nonexistent shareholders exclusively. In addition to being targeted towards a specific group of investors, private placements often require a minimum subscription amount.

Furthermore, private placements are known for their reduced formal requirements compared to rights issues, leading to more efficient book-building and due diligence processes. As a result, private placements have proven to be a more expedient method of raising equity. There are a variety of reasons why private placements may occur, including liquidity crises, financial distress, the desire to finance a business opportunity, or the opportunity to capitalize on favorable market conditions. Due to the high risks associated with situations such as liquidity crises and financial distress, a higher discount is typically offered, and therefore, more shares are issued to raise capital. Over the last ten years, our data shows that 20% of the private placements on the OSE have been followed by a repair issue. See section 2.2.4 for further elaborations.

2.1.2.1 Additional Loan Agreement in Private Placements

Lately, an additional aspect to the traditional private placement contract described above has emerged at the OSE. In addition to the ordinary shares in the private placement, the investors also receive an immediate borrowed position of shares as a part of the deal. This makes it more attractive for investors to subscribe to the private placement. With this borrowed position the investors have a lot more flexibility to sell their new shares in the period between the announcement of the private placement and the registration of the new shares. Data provided by the OSE show that this was done in 23% of the private placements in 2022.

Typically, these positions are offered by other big non-participating investors, managers, or board members. The positions vary in size but are usually smaller than the initial shares offered in the private placement. If desired, the investors can sell the borrowed positions on the first possible trading day after the announcement. Then it becomes a short position. This hedges the investors against a drop in the market share price below the subscription price. Additionally, it makes it possible to immediately exploit the discount given in the private placement. This will provide an immediate profit for the investors, as they can sell the loaned shares at a higher price and close the in short

position with the newly issued discounted shares.

In their own Circular no. 2/2014, the OSE states in that "a decision to carry out a private placement requires proper factual justification, which means that it must be based on the objective of maximising value for shareholders as a whole over the long term" (Oslo Børs, 2014). However, we do believe that these loan agreements may attract more short-term investors with little or no interest in participating as long-term owners in the company. Thus, these loan agreements may directly violate the OSE's reqirement of a factual justification.

We discuss the consequences of this lending practice in regard to repair issues in section 2.2.4. Additionally, a more thoroughly explanation of how this loan agreement hedges downside risk can be found in appendix A2.

2.1.2.2 Dilution

The value of a share to its owner originates from two primary sources (Fjesme and Norli, 2011). The first is the residual cash flow claim after other claimants have been paid, and the second is derived from the control over the firm. When an equity issue occurs, the result is a decrease in the relative ownership of each shareholder because of the new shares issued. This can be referred to as dilution of ownership, and entails existing shareholders losing some control over the company.

While equity offerings leads to dilution of ownership for non-participants, it does not necessarily indicate a dilution of the value of the investments of non-participating shareholders. This value will only be diluted if the per share value of the assets is lower than before the equity issue. The value of their investments will only be diluted if the new capital structure results in a lower value compared to the pre-issuance period. This can happen if the firm needs to secure the necessary funds and offers the equity issuance at a discount to the market price of the stock. Thus, non-participating investors face dilution, causing a decrease in the value of their ownership.

2.2 The Oslo Stock Exchange

In comparison to larger markets such as the New York Stock Exchange (NYSE) and London Stock Exchange (LSE), the OSE is a relatively small market. In contrast to other markets, the OSE is characterized by a high level of governmental ownership in individual companies. Several of the country's largest companies are mainly owned by the government, including Equinor, Telenor, Kongsberg Gruppen and Hydro. Additionally, the OSE is characterized by a predominance of industrial and energy firms. Due to these characteristics, the market is more sensitive to global sentiments, and particularly to changes in the price of oil. Private placements are now by far the preferred method to raise equity as we can see from Figure 2.1. In fact, the total amount of equtiy raised through private placements (mNOK 241 352) was almost 22 times as much as the equity raised through rights issues (mNOK 11 041) over the last 7 years. This can be seen in Figure 2.2. Comparable exchanges, such as the Stockholm Stock Exchange, have a much lower density of private placements (Holderness and Pontiff, 2016).

Figure 2.1: Number of private placements and rights issues at the OSE 2016-2022

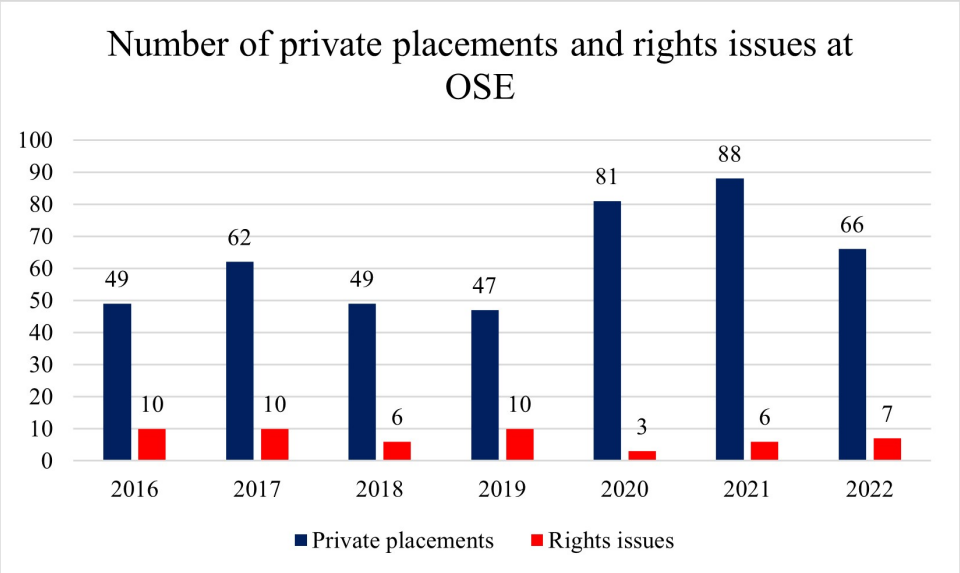
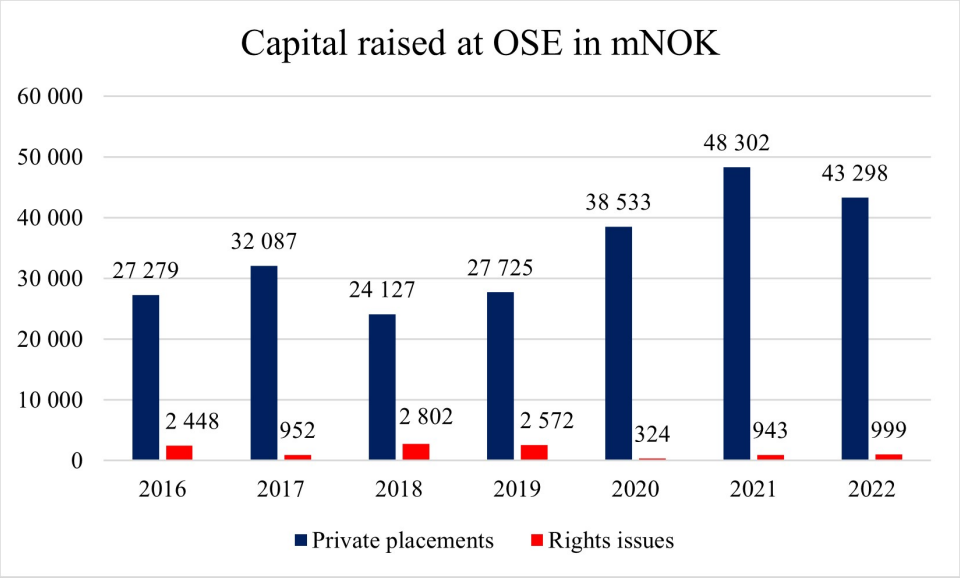


Figure 2.2: Capital raised through private placements and rights issues in mNOK at OSE 2016-2022



2.2.1 The Principle of Equal Treatment

Under section 5-14 of the Norwegian Securities Trading Act (STA), all shareholders of public companies must be treated equally (Finansdepartementet, 2007). This principle of equal treatment is crucial to ensure that all shareholders are treated equally, and that minority shareholders' interests are protected. There should be no unfair advantage provided to individual shareholders or third parties at the expense of other shareholders. It should be noted, however, that Section 5-14 does allow for some flexibility where different treatment may be acceptable as long as the issuer can demonstrate that it is a ***factual reason*** for the differential treatment, and it is likely to benefit both the issuer and shareholders.

To further elaborate on Section 5-14 of STA in regards to private placements and repair issues, the OSE has published their own circular. The motivation for the circular is to provide protection of minority interests. The OSE state that this is crucial in ensuring efficient and reliable trading markets (Oslo Børs, 2014). In their circular, the OSE states that any equity issue must be ***proportionate***, which means taking into consideration both the benefits to the investors and issuer as a whole and any disadvantages it may pose to individual shareholders. Thus, the issuing company is required to explain the inherent differential treatment shareholders receive because of private placements by weighing

the disadvantages of dilution and change in ownership structure against the potential advantages.

Additionally, the issuer should assess which ***alternative options*** are available. If an alternative option can provide the same benefits as a private placement at a reduced cost to non-participating shareholders, this approach should be implemented. The OSE has stated that these considerations plays an important role in its decision to grant approval to the private placement (Oslo Børs, 2014).

2.2.2 Issuing Equity at The Oslo Stock Exchange

The OSE is responsible for approving equity issuances and, thus the OSE is responsible for the way issuers approach equity issues. As for the documentation, it is delegated to the issuer and then reviewed by the OSE (Oslo Børs, 2014). In general, this is done to minimize the time and cost associated with documenting and controlling details. The OSE relies on the issuer's extensive industry knowledge when assessing the equal treatment principle. This is also why the OSE does not set its own judgment before that of the issuer (Oslo Børs, 2014). In cases when differential treatment does not appear to have a factual reason or complaints have been received, Oslo Stock Exchange will intervene and conduct a re-examination. The Board of the OSE has only imposed sanctions twice for violations of the equal treatment principle. Once in 2003 and once in 2006 (Oslo Børs, 2014).

However, the OSE has imposed stricter requirements regarding equity issues when an issue is offered at a substantial discount to market value and/or the number of outstanding shares increases a lot (Oslo Børs, 2014).. Especially the combination of large discounts and large share share issues will have a strong dilutive effect on shareholders. This is typical for an issuer in financial distress, as higher discounts and larger share issue sizes must be obtained to attract the same amount of capital. In most cases, however, issuing equity when the company is in financial distress is in the best interests of all shareholders since bankruptcy could be the alternative.

If an issuer seeks to finance a business opportunity or does not have any reason for raising capital other than favorable market conditions, it would be difficult to justify an issue with a significant discount if any discount at all. This type of offering typically involves a

low discount and a limited number of shares, which represent less than 20% of the issuer's capital to avoid the requirement of a listing prospectus (Oslo Børs, 2014).

2.2.3 Shareholder Approvals at The Oslo Stock Exchange

In accordance with Chapter 5 of the Norwegian Public Limited Liability Companies Act, equity issuances that are conducted using a specific flotation method or exceed a designated threshold must be subject to a vote by the shareholders at a general meeting (Nærings- og fiskeridepartementet, 1997). Specifically, under section 5-18 of the Norwegian Public Limited Liability Companies Act, Norwegian companies require a two-thirds (>66%) majority to pass a vote on equity issuance (Nærings- og fiskeridepartementet, 1997). If the company gets the approval to issue equity this authorization typically lasts for one year (Holderness, 2018).

2.2.4 Repair Issues

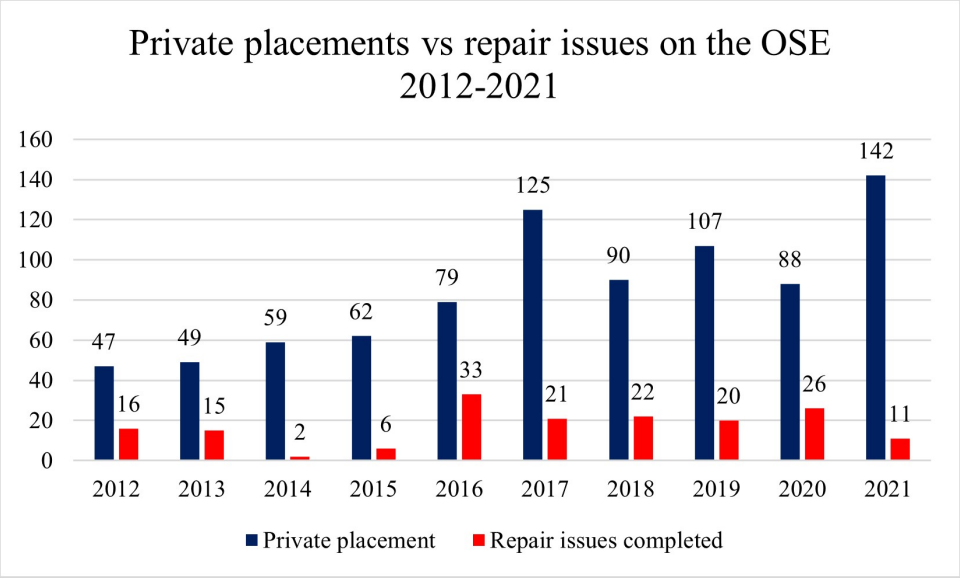
A repair issue is an offer to all investors who were excluded from the private placement to subscribe for new shares at the same price as in the private placement (Oslo Børs, 2014). In practice, one could argue that this is a new private placement. On the other hand, as often few investors are participating in a private placement, and all the other non-participating investors are targeted in the repair issue, it shares more similarities with a rights offering. However, the repair issue does not give the targeted investors the right to sell the subscription rights, as one would in a regular rights offering. Additionally, the subscription rights in the repair issue are not decided on a pro-rata basis.

The purpose of the repair issue is to effectively reduce the dilution experienced by the non-participating investors of the private placement. It is intended to result in a reduction of the adverse effect on existing shareholders' rights and financial interests. Section 4.3 of the Oslo Stock Exchange's Circular no. 2/2014 provides specific guidance on how repairs should be designed (Oslo Børs, 2014).

When private placements involve greater differential treatment of existing shareholders, stricter requirements will apply regarding the need for a factual basis. The Oslo Stock Exchange holds the opinion that, in situations such as acute liquidity requirements, a private placement may be a defensible course (factual reason) of action after evaluating

alternative financing sources (Oslo Børs, 2014). However, considering the adverse effects of differential treatment, the board will be obligated to consider conducting a subsequent repair issue (Oslo Børs, 2014). In cases of where there exists any doubt about factual reason, a repair issue should be conducted (Oslo Børs, 2014). Our data show that 20% of the private placements were followed up by a repair issue in the period of 2012-2021. In Figure 2.3 we see the development of private placements and repair issues at the OSE from 2012-2022.

Figure 2.3: Number of private placements and repair issues at the OSE 2012-2022

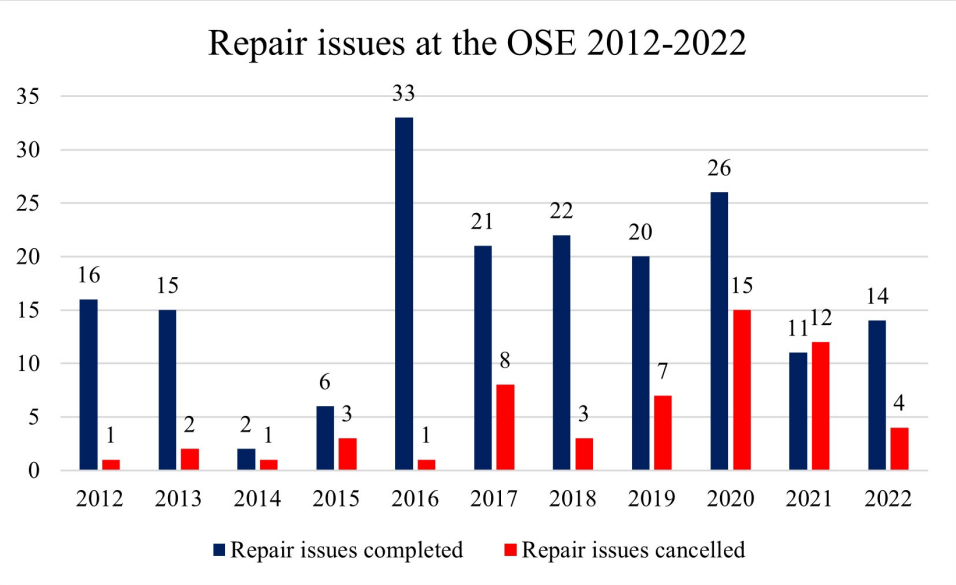


Furthermore, the OSE requires that the repair issue should be conducted as soon as possible following the private placement. On average it takes about 60 days from the announcement of the private placement until the repair issue subscription period is completed. A summary of the typical timeline from decision to issue equity to a completed repair issue can be found in Appendix A1. Additionally, the OSE requires that the offer price should be the same as in the private placement, and that enough shares are provided for other shareholders to avoid dilution (Oslo Børs, 2014). In certain circumstances, however, deviating from these basic principles may be justified. Our data shows that the distribution of new shares between the private placement and the repair issue are often greatly in favor of the investors in the private placement.

The main reason for conducting a repair issue from the company's perspective would be the equal treatment of shareholders. However, a repair issue may also play an additional role. The OSE will consider whether the company offered (or intended to offer) a repair issue when assessing whether a private placement resulted in unreasonable differential treatment. It will be relevant to the assessment of proportionality if the firm proposes to offer a repair issue (Oslo Børs, 2014). Thus, a proposed repair issue could be the difference on whether a private placement, without factual justification and/or clearly differential treatment of shareholders, is approved.

If the share price falls below the subscription price in the repair issue, the repair issue will in most be cancelled as investors can buy shares cheaper at the open market. Our data show that over the last 10 years, 31% of the repair issues have been cancelled, as presented in Figure 2.4. Additionally, the new practice of additional loan agreements in the private placements may create a sales pressure in the stock in the period after the private placement. This may contribute to a decrease in share price, and will increase the chance of cancelled repair issue.

Figure 2.4: Number of completed and cancelled repair issues at the OSE 2012-2022



2.3 Summary

In summary, private placements have become the rule, rather than the exception, of equity issues on the OSE. The OSE requires equal treatment of all shareholders. Yet, section 5-14

in the STA does allow for some different treatment of shareholders as long as the issuer can demonstrate a factual reason for the private placement, proportionality of advantages and disadvantages for the shareholders, and that alternative financing options have been considered. However, the OSE is hesitant to overrule the companies' own assessment these three factors. Lately, short position hedges in private placements have emerged at the OSE.

Further, to repair the damages of dilution, the OSE requires that the issuing companies consider offering a repair issue to all the shareholders not-participating in the private placement. Over the last ten years at the OSE, this have been done in 20% of the private placements. The repair issue should be conducted as fast as possible, offer the same subscription price, and be extensive enough to fully repair the dilution. Albeit, again, the OSE allows for deviation from these principles. The subscription rights to the repair issue are non-transferable, and not on a pro-rata basis. If the market price of the stock falls below the offering price in the period before the repair issue, it is effectively cancelled. In the last ten years this has been the case in 36% of the repair issues. With the new trend of additional loan agreements in the private placements, we may see even fewer repair issues in the future.

3 Theory and Literature Review

To effectively interpret our findings, it is crucial to establish academic benchmarks. Therefore, we will in this section provide some of the most important and relevant financial theories. These theories provide us with different insights into how firms make financing decisions, how information is processed by financial markets, and how conflicts between different stakeholders in a firm can be addressed. Subsequently, we will review the evidence of relevant prior studies. Lastly, a concise summary is provided.

3.1 Capital Structure

The Modigliani-Miller theorem, as proposed by Modigliani and Miller (1958), posits that firm value, under certain assumptions, is determined solely by future cash flows, which are not influenced by leverage. These assumptions include absence of taxes, transaction or bankruptcy costs, and asymmetric information. If these market frictions are not present, then borrowing does not offer any advantage over issuing equity, and the firm's value remains unchanged for all capital structures. This means that the capital structure is not relevant to investors. However, despite its theoretical soundness, the real-world capital markets are plagued by market frictions such as bankruptcy costs, taxes, and asymmetric information, explaining why capital structure matters to firm value.

3.2 Asymmetric Information

Already in 1961, Donaldson (1961) showed that firms prefer internal funds over external ones. Using these results, Myers and Majluf (1984) suggested that information asymmetries between insiders (management) and outsiders (investors) create an adverse selection problem. Since management is in a better position than investors to determine the firm's true value, equity issuance generally leads outsiders to believe that the firm is overvalued. As a result, the share price of a company drops when it announces an equity offering. This resulted in Myers and Majluf (1984)'s famous pecking order theory. This theory states that information-sensitive capital is the least preferred type of capital, since all public firms are pooled and get penalized. In the pecking order, internal financing is favored, followed by debt, and finally equity.

3.3 Agency Issues

The separation of ownership and control was first adressed by Berle and Means (1932). Separating ownership and control, according to them, allows managers to pursue their own interests instead of those of shareholders. In theory, management should only have one objective: to act in the interests of shareholders. For example, management may act in the best interest of the shareholders when they do private equity placements. Yet, Jensen and Meckling (1979) claimed that the incentives of shareholders and management could be in conflict. They suggested the principal-agent relationship, meaning corporate assets might be used for the managers benefits rather than shareholders benefits. These misalignments of incentives between the company's owners and managers results in what is known as agency costs. For example, rather than paying dividends, Jensen (1986) argues that firms with large free cash flows may invest the excess funds in value-destroying projects, as managers may value company growth and expansion. In the context of private placements, one could argue that management (the agents) acts on behalf of only the participating investors (the principals), potentially offering them significant discounts, which could favor a few large shareholders at the expense of others.

Additionally, the asymmetric information problem discussed in the previous section may further exacerbate these agency costs, as non-participating shareholders may not have access to all the information they need to properly evaluate the decisions made by management.

Jensen (1986) further proposed that using debt financing with its associated fixed payments could alleviate this behavior. A company with fixed payment commitments are forced to allocate their resources more efficiently. Furthermore, creditors are more likely to monitor the management. Unlike debt holders, shareholders benefit from the upside, while creditors do not beyond their principal. As a result, management of a company near distress is incentivized to invest proceeds from creditors in risky projects carrying a high default risk, but with a high potential outcome. It is for these reasons that creditors impose covenants, monitor debt performance, and undertake other measures to contain such costs, which are collectively known as agency costs of debt. These extra agency costs associated with debt could explain why companies sometimes prefer equity issuances over debt issuances.

3.4 The Efficient Market Hypothesis

A well-known theorem in financial economics is the efficient market hypothesis. According to Fama (1970), a market is efficient when prices reflect all available information immediately. Further, Grossman and Stiglitz (1980) propose the Grossman-Stiglitz paradox. According to the paradox, markets are efficient because investors do not believe they are. Thus, investors will conduct timely and costly research, to find any mispricing that may arise. If a sufficiently large number of such investors exists, the new information is incorporated into security prices immediately. According to the efficient market hypothesis, one can expect that the information revealed in private placements and repair issues, will be directly priced at the first possible opportunity after the announcement.

Nevertheless, several studies have shown results that are hard to reconcile with the efficient market hypothesis unless there are other (unknown) risk-factors that are priced. According to Nicholson (1968) and Basu (1977), stocks with low price-to-earnings (PE) ratios are undervalued, while high PE stocks are overvalued. Similarly, De Bondt and Thaler (1990) suggest that investors consistently overreact to new information. Further, Bernard and Thomas (1989) report delayed market reactions and that securities take time to absorb and fully reflect updated information. In addition, Daniel et al. (1998) suggest that investors may perceive information differently. They especially argue that investors tend to underreact to public information and overreact to private. Brav & Gompers found that event-based return predictability varies across stocks (1997). Lastly, Keim (1983) observed a calendar anomaly associated with small-cap stocks, known as the January effect.

Thus, the new information provided in regard to a private placement and subsequent repair issue may be viewed differently by investors, the market may react slower due to information or trading frictions, or some other market inefficiency may occur.

However, any test of the efficient market hypothesis is a joint test with the return model, and since we do not know the true return model, one cannot reject that markets are informationally efficient. Additionally, markets are becoming more efficient as transaction costs decrease, market participants increase, and algorithms improve.

3.5 Literature Review

In this part of the section, we will examine what previous event studies have found concerning SEOs, private placements, and rights issues. First, we will discuss research concerning announcement returns (AR) of private placements, as understanding the immediate market reaction to announcements can provide insights into investors' initial expectations and perceptions of the firm's prospects. Subsequently, we will exhaustively review relevant literature concerning long-term performance. Here, the studies of most interest to us, are the ones that utilize both Jensen's Alpha calendar time portfolio method and the buy-and-hold method, as we will use the two same methodologies. These two methods are further described in Section 6. Lastly, we will examine what the literature reports about the relationship between the announcement returns and the long-term performance.

3.5.1 Short-term Announcement Returns

Most studies on average market reaction to announcements of seasoned equity offerings, except private placement, report negative announcement returns (Eckbo et al., 2007). However, with respect to private placement announcement returns, the majority of studies indicate positive outcomes upon announcement, as we can see from Table 3.1.

Table 3.1: Literature Review Announcement Returns

Study	Year	Place	Event	Sample Period	AR (%)
Wruck	1989	US	Private Placement	1979-1985	1.89*
Eckbo and Masulis	1992	US	Uninsured Rights Issue	1963-1981	- 0.59
Eckbo and Masulis	1992	US	Standby Rights Issue	1963-1981	-0.70*
Hertzel and Smith	1993	US	Private Placement	1980-1987	1.72*
Kang and Stulz	1996	Japan	Private Placement	1985-1991	3.88*
Slovin, Sushka, and Lai	2000	UK	Standby Rights Issue	1986-1994	-2.90*
Hertzel et al.	2002	US	Private Placement	1980-1996	2.4*
Eckbo and Norli	2004	NOR	Standby Rights Issue	1980-1996	-0.58
Krishnamurthy et al.	2005	US	Private Placement	1983-1992	1.43*
Cronqvist and Nilsson	2005	SWE	Private Placement	1986-1999	7.72*
Wu, Wang and Yao	2005	Hong Kong	Private Placement	1989-1997	1.97*

* Significant at the 10% level.
** Significant at the 5% level.
*** Significant at the 1% level.

Wruck (1989) posits the monitoring hypothesis to explain positive announcement returns, finding a significant average effect in her study of 128 private placements by predominantly

large firms. In this theory, active investors in private placements monitor management and enhance resource allocation, thus increasing firm value. Despite the expected value increase, placements are issued at discounts to cover monitoring costs. As evidence, Wruck (1989) reports increased ownership concentration and significant discounts in private placements. However, conflicting findings emerge, such as Wu (2004), who reports that institutional investors, presumed to be the strongest monitors, often reduce ownership following private placements.

Another potential explanation of the observed positive announcement returns is the certification hypothesis by Hertzel and Smith (1993), who examined 106 private placements by relatively small firms in the United States. Contrary to the monitoring hypothesis, Hertzel and Smith (1993) contended that discounts in private placements reflect the information costs borne by participating investors to verify a firm's value. Successful equity issues thus signal favorable information about the company, as informed investors validate the market's valuation. Moreover, Fjesme and Norli (2011) suggests that smaller and younger companies are more likely to benefit from certification. The benefit is expected to be higher when the new investor is more professional than existing shareholders and when the firm has not undergone a similar review for an extended period. However, in their study, they reject the certification hypothesis.

Hertzel et al. (2002) also report positive announcement returns for private placements. Although they do not conclusively identify the reasons behind these returns, the authors propose several potential explanations, one of which is that managers may exhibit excessive optimism about the firm's prospects. In this case, investors, including those participating in private placements, may not recognize this over-optimism as they seek signals of inside information from managerial decisions.

Further, Krishnamurthy et al. (2005) also finds significant positive announcement returns in private placements. In line with Hertzel et al. (2002), they also argue that the significant positive announcement returns may be due to overoptimism of the issuing firms future prospects. They also report a significant price-run up in the pre-issue period. Interestingly, they report of a significantly higher announcement return in private placements with affiliated[3] investors compared to those with unaffiliated investors. This implies that

[3]Krishnamurthy et al. (2005) describe affiliated investors as those who fall into one or more of the following categories: (i) individuals holding officer or director positions within the firm, (ii) relatives

private placements involving investors with a direct connection to the company yield better announcement returns. The authors argue that this demonstrates the market's perception of participating affiliated investors as an indicator of quality. Additionally, they find that announcement returns are, in fact, higher for financially distressed firms compared to their non-distressed counterparts.

3.5.2 Long-term Abnormal Returns

As seen in Table 3.2, there exists a broad body of literature on long-term abnormal returns in SEOs and private placements using both methodologies. We will present a thorough review of the 7 studies in Table 3.2.

of the firm's officers or directors, (iii) consultants or legal advisors of the firm, (iv) existing large block shareholders of the firm, (v) institutions associated with the firm, and (vi) companies that have product market agreements with the firm.

Table 3.2: Literature Review Long-Term Performance

Study	Year	Place	Event	Issuer Sector	Period	Factor Model	BHAR	α
Jegadeesh	2000	US	SEO	All	5 yrs	Fama-French Three-Factor Model	-34.3%***	-0.45%***
Brav et al.	2000	US	SEO	All	5 yrs	Fama-French Three-Factor Model	-26.3%***	-0.37%***
Eckbo et al.	2000	US	SEO	Industrial	5 yrs	Model with Macroeconomic Factors[a]	-23.2%	-0.14%
Mitchell & Stafford	2000	US	SEO	All	3 yrs	Fama-French Three-Factor Model	-10.2%	0.33%***
Hertzel et al.	2002	US	Private Placement	All	3 yrs	Fama-French Three-Factor Model	-23.8%***	-1.18%***
Eckbo & Norli	2004	NOR	Standby Rights	All	3 yrs	Conditional Multi-Factor Model[b]	-22.2	0.20%
Eckbo & Norli	2004	NOR	Uninsured Rights	All	3 yrs	Conditional Multi-Factor Model	-23.3%	0.21%
Eckbo & Norli	2004	NOR	Private Placement	All	3 yrs	Conditional Multi-Factor Model	-10.4%	-0.91%**
Krishnamurthy et al.	2005	US	Private Placement	All	1 yr	Carhart Four-Factor Model	24.19%** [d]	
Krishnamurthy et al.	2005	US	Private Placement	All	1 yr	Carhart Four-Factor Model	-13.29%** [e]	
Krishnamurthy et al.	2005	US	Private Placement	All	2 yrs	Carhart Four-Factor Model	19.60% [d]	
Krishnamurthy et al.	2005	US	Private Placement	All	2 yrs	Carhart Four-Factor Model	-22.23%** [e]	
Krishnamurthy et al.	2005	US	Private Placement	All	3 yrs	Carhart Four-Factor Model	-1.24% [d]	-0.77%***
Krishnamurthy et al.	2005	US	Private Placement	All	3 yrs	Carhart Four-Factor Model	-38.4%** [e]	-0.77%***
Eckbo et al.	2007	US	SEO	Industrial	5 yrs	Carhart Four-Factor Model + LMH[c]	-29.7%***	-0.18%
Eckbo et al.	2007	US	SEO	Bank & Finance	5 yrs	Carhart Four-Factor Model + LMH	0.00%	-0.16%
Eckbo et al.	2007	US	SEO	Public Utilities	5 yrs	Carhart Four-Factor Model + LMH	-19.1%**	0.06%
Eckbo et al.	2007	US	Private Placement	Industrial	5 yrs	Carhart Four-Factor Model + LMH	-44.1%***	-0.48%
Autore et al.	2009	US	SEO	All	3 yrs	Fama-French Three-Factor Model	11.15%***	-0.39%
Autore et al.	2009	US	SEO	Investments	3 yrs	Fama-French Three-Factor Model	1.93%	-0.49%
Autore et al.	2009	US	SEO	Recapitalization	3 yrs	Fama-French Three-Factor Model	20.69%***	-0.74%**
Autore et al.	2009	US	SEO	General	3 yrs	Fama-French Three-Factor Model	11.59%*	0.01%

* Significant at the 10% level.
** Significant at the 5% level.
*** Significant at the 1% level.
a. The factors in the model is excess market returns, real per capita consumption changes, BAA and AAA bond yield changes, unanticipated inflation, return differences between long and short-term Treasury bonds, and return differences between 90- and 30-day Treasury bills.
b. The factors in the model include excess returns on the OSE total index, changes in long-maturity government bonds and 3-month NIBOR, variations in NOK/USD exchange rate, and fluctuations in Brent Blend crude oil spot price.
c. LMH is the Eckbo and Norli (2005) turnover factor, constructed as a portfolio long in low-turnover stocks and short in high-turnover stocks.
d. Returns to participating investors (those who also capture the discount in the offering).
e. Returns to non-participating investors (who do not buy shares in the private placement).

Jegadeesh (2000) investigates the long-term performance of SEOs in the US, with evidence of Nasdaq-listed firms in the period of 1970-1994. The author applies, among other methods, a size and book-to-market matched firm approach for computing their BHARs. To estimate alphas, he employs both the Fama-French three-factor model and the Carhart (1997) four-factor model.[4] We report the Fama-French three-factor model results in Table

[4]The Carhart four-factor model is given by:
$r = \alpha + \beta_1 \cdot \text{RMRF} + \beta_2 \cdot \text{SMB} + \beta_3 \cdot \text{HML} + \beta_4 \cdot \text{UMD} + \epsilon$,
Where the new fourth factor, UMD, is the "Momentum factor" - the difference in returns between long positions in stocks with strong past performance (winners) and short positions in stocks with weak past performance (losers).

3.2, as they are most relevant to our study.

Jegadeesh (2000) reports BHARs of -34.3% and a monthly alpha of -0.45%, both statistically significant at the 1% level. When employing the Carhart four-factor model as the benchmark in the Jensen's alpha calendar-time portfolio method, a monthly alpha of -0.31% is observed, which is also statistically significant at the 1% level. He interprets these negative abnormal returns following SEOs as an indication of overvaluation signaled to the markets by the act of issuing equity.

Furthermore, he posits that underperformance after an SEO could be explained by other underlying attributes such as size and growth. His results demonstrate that smaller companies underperform their benchmarks considerably more than larger companies, while value- and growth-companies underperform at similar levels. He claims that both factor models used, act as a too low benchmark for large companies and the opposite for small companies. Consequently, some of the underperformance is attributed to the inherent biases in the factor models.

Brav et al. (2000) find similar results as Jegadeesh (2000), when they examine the performance of SEOs in the US, focusing on both Nasdaq- and NYSE-listed firms between 1975 and 1992. The authors use a size and book-to-market matched firm method to calculate their BHARs. In terms of the Jensen's calendar-time portfolio method, the authors test the performance using both the Fama-French three-factor model and the Carhart four-factor model. They report BHARs of -26.3% and a monthly alpha of -0.37% using the Fama-French three-factor model, with both results significant at the 1% level. However, when employing the Carhart four-factor model, they do not find a significant alpha.

This study also reveals that smaller companies underperform their larger counterparts. Again, the authors argue that model misspecification is a crucial aspect to consider in long-horizon performance tests. They note that minor modifications to factor specifications can enhance the results, which may imply that the current model of security returns is not yet ideal. Additionally, the authors suggest that SEO underperformance might not be exclusive to issuers; instead, the returns of issuers may covary with those of non-issuing stocks.

With contradicting results to those studies mentioned above, Eckbo et al. (2000) investigates SEOs in the US industrial sector, focusing on a sample of stocks listed on NYSE/Amex/Nasdaq from 1964 to 1995. The authors employ a size and book-to-market matching firm approach to calculate their BHARs. For the Jensen's alpha calendar-time approach, they use a factor model that includes excess market returns, real per capita consumption changes, BAA and AAA bond yield changes, unanticipated inflation, return differences between long and short-term Treasury bonds, and return differences between 90- and 30-day Treasury bills as factors. To provide additional insight, they also test the long-term performance using the Fama-French three-factor model. However, they do not find any significant results in terms of BHARs and alphas.

Given that none of the models present statistically significant evidence of SEO underperformance relative to their respective benchmarks, the authors propose that previous claims from studies like those by Loughran and Ritter (1995), which assert that markets underreact to SEOs and that the benchmarks accurately capture the true risk characteristics of SEO firms, might be more closely tied to poor risk controls rather than the market underreacting to the negative news signaled by an equity issue.

Mitchell and Stafford (2000) examines SEOs in the US, focusing on a sample of stocks listed on NYSE/Amex/Nasdaq from 1961-1993. The authors employ size and book-to-market reference portfolios to compute their BHARs and the Fama-French three-factor model. To test the significance of their BHARs, they use a bootstrapped skewness-adjusted t-statistic. Although they do not find significant BHARs, they do report an alpha of -0.33%, which is statistically significant at the 1% level. Nevertheless, Mitchell and Stafford (2000) maintain that their results primarily imply that much of the evidence against market efficiency in previous studies (at the time), which measure significant long-term abnormal returns following major corporate events, is largely irrelevant because these studies assume independency of the event companies.

Regarding private placements, Hertzel et al. (2002) investigates private placements in the US, with a sample of stocks listed on NYSE/Amex/Nasdaq from 1980 to 1996. The authors employ size and book-to-market reference portfolios in their BHAR calculations, as well as the Fama-French three-factor model in the Jensen's alpha calendar-time portfolio method. They report a BHAR of -23.8% and a monthly alpha of -1.18%, both statistically

significant at the 1% level. The authors interpret these results as an indication that investors may be overly optimistic about the prospects of firms issuing equity.

In addition, Hertzel et al. (2002) examine the amount of investment made before and after the private placement for both event and non-event companies. They find that event companies consistently invest more than the control group, both before and after the private placement. This observation emphasizes the argument that both managers and investors might be overly optimistic about the investment opportunities of firms that issue equity privately.

Yet another relevant study, as it is the only study focused on companies listed on the OSE, is the one by Eckbo and Norli (2004). They examine the three-year long-term abnormal returns for firms making private placements, uninsured rights, and standby rights.[5] In order to estimate Jensen's alpha within the calendar-time portfolio approach, they employ a conditional multi-factor model. The factors in this model encompass excess returns on the OSE total index, changes in long-maturity government bonds and 3-month NIBOR, variations in the NOK/USD exchange rate, and fluctuations in the Brent Blend crude oil spot price. For calculating BHARs, they use a single size- and book-to-market matched firm as a benchmark.

The authors find no evidence of statistically significant abnormal returns, with the exception of a statistically significant alpha of -0.91% at the 5% level in the private placements sample. They interpret these findings as contradicting the overconfidence hypothesis suggested by Daniel, Hirshleifer, and Subrahmanyam (1998).[6]

One of the more recent and comprehensive studies, in our opinion, is the one conducted by Eckbo, Masulis, and Norli (2007). They examine SEOs in the US within the bank & finance, public utilities, and industrial sectors, as well as private placements in the industrial sector. Their data consists of NYSE/Amex/Nasdaq-listed stocks from 1980-2000.

Similar to other studies, they employ both methods to calculate abnormal returns. For their BHAR calculations, they use a size- and book-to-market matched firm. As a benchmark in their Jensen's alpha calendar-time portfolio regressions, they report results from both

[5]The authors also tested public offerings; however, these results are not relevant for this thesis.

[6]The overconfidence hypothesis suggests that investors may misinterpret the data presented in public announcements or, as proposed in the "overconfidence" model by Daniel, Hirshleifer, and Subrahmanyam (1998), assign excessive importance to their personal private information.

the Fama-French three-factor model and the Carhart four-factor model, with an additional fifth factor, Low-Minus-High (LML). LML is the Eckbo and Norli (2005) turnover factor, constructed as a portfolio long in low-turnover stocks and short in high-turnover stocks.

For firms in the industrial sector, they report negative BHARs statistically significant at the 1% level for both SEO and private placement samples, at -29.7% and -44.1%, respectively. They also report a BHAR of -19.1% for the public utilities sample conducting SEOs, significant at the 5% level. No abnormal returns are found in the bank & finance sample.

Regarding their alpha estimates, they find no evidence of abnormal returns in any samples, except for a significant alpha at the 10% level in the industrial private placement sample, using the Fama-French three-factor model as the factor model.

The authors interpret their results as consistent with previous literature, which suggests that the average realized two-to-five-year BHARs after share issues are significantly lower than the average return realized by non-issuing companies matched to have a similar size and book-to-market value.

However, Eckbo et al. (2007), argues that the "controversy" begins when interpreting this underperformance as a measure of abnormal returns to issuers. They argue that equal risk exposures between issuing and non-issuing matched firms are unlikely to hold. They also contend that securities issuers often exercise large real investment options around the same time, which can cause too risky matching firms in the port-issue period. This mismatch skews the expected benchmark return of matching companies, ultimately affecting the long-term performance of issuers negatively. They assert that the Jensen's alpha calendar-time portfolio method provides a more consistent way to identify and correct for issuers' true risk exposure.

Overall, they argue the existing research on the long-term performance of issuing and non-issuing companies does not consistently support the idea that the observed differences in returns are due to behavioral biases or inefficiencies in the market. Instead, the differences in long-term performance can be attributed to factors such as risk exposure, firm size, and other fundamental characteristics.

An additional relevant study is the one by Autore et al. (2009). In this study, the authors

examine 3-year abnormal returns in US firms conducting SEO with evidence from 1997-2003. They use both the BHAR and Jensen's alpha calendar-time portfolio method. As a benchmark for the BHARs, they use a size- and book-to-market matched firm. In Jensen's alpha calendar-time portfolio method, they employ both the Fama-French three-factor model and the Carhart four-factor model as factor models in two sets of tests.

Further, they divide their sample into three sub-samples based on the intended use of proceeds, specifically investment, recapitalization, and general corporate purposes. This is particularly relevant to our thesis as we also plan to divide our sample into sub-samples based on the intended use of proceeds.

They report a BHAR, statistically significant at the 1% level, of -11.15% for their full sample. Additionally, they report a BHAR of -20.69%, significant at the 1% level, in the sub-sample of recapitalization intended use of proceeds. In the general corporate purposes sub-sample, they report a BHAR of -11.59%, however only significant at the 10% level. In, the investment sub-sample, they do not find any significant BHARs.

Further, regarding the Jensen's alpha calendar-time portfolio method, they only report a significant alpha, at the 5% level, in the recapitalization sub-sample. When applying the additional fourth Carhart momentum-factor to the model, all alphas become insignificant.

The authors argue that their results support the idea that expressing an investment intention is a reliable indicator of profitable investment opportunities while stating recapitalization and, possibly, general corporate purposes as their intended use of proceeds is more associated with taking advantage of market timing.

Another study of interest to us is by Krishnamurthy et al. (2005), who examine private placements in the US using data from NYSE/Amex/Nasdaq-listed firms between 1983 and 1992. To compute BHARs, they employ a reference portfolio of the top 4 size- and book-to-market-matching firms. In the Jensen's alpha calendar-time portfolio method, they utilize Carhart's four-factor model. This study stands out because it investigates returns after private placements from both participating and non-participating investor perspectives. The key difference between these groups is that participating investors benefit from the offering discount, while non-participating investors do not and will purchase at the prevailing market price.

They report a monthly alpha of -0.77%, statistically significant at the 1% level. Furthermore, they later divide their sample into financially distressed and non-financially distressed companies. However, in these regressions, they do not find any evidence of underperformance following placements by distressed firms compared to non-distressed firms.

Regarding BHARs, they also explore 1-year and 2-year periods. For non-participating investors, the 1-year, 2-year, and 3-year BHARs are -13.29%, -22.23%, and -38.39%, respectively, all significant at the 5% level. For participating investors, the 1-year, 2-year, and 3-year BHARs are 24.19%, 19.60%, and -1.24%, respectively; however, only the 1-year BHAR is significant, also at the 5% level. These results reveal a statistically significant underperformance for non-participating investors, while participating investors notably overperform in the first year after the private placement. There is no evidence of abnormal returns compared to reference firms over longer timeframes.

Krishnamurthy et al. (2005) contends that the discount offered to participating investors, combined with the long-term underperformance of non-participating investors, implies that private placement market investors purchase equity at a price that factors in post-issue stock price adjustments by the market.

3.5.3 Relationship Between Announcement Returns and Long-Term Performance

Studies conducted by Spiess and Affleck-Graves (1995) and Loughran and Ritter (1997) reveal that, in addition to negative announcement period returns in SEOs, firms issuing equity experience abnormally low stock returns during the five years following the announcement. One potential explanation for these findings is that managers strategically time equity issuances to capitalize on "windows of opportunity" when the equity is overvalued. This rationale points towards two interrelated dynamics in investor behavior during and after the announcement. Firstly, despite the SEO announcement signaling potential overvaluation, some investors remain excessively optimistic about the issuing firm's prospects. Secondly, these optimistic investors may not fully adjust their valuation models to account for the information contained in the announcement. As a consequence, the stock price might not immediately reflect the full impact of the SEO, resulting

in what appears as a less severe immediate reaction. However, as these excessively optimistic investors gradually recalibrate their expectations to incorporate the implications of the equity issue, the stock price experiences a more prolonged decline over the long term. Although Fama (1998) argues that the observed results represent typical random fluctuations in efficient markets.

Further, Loughran and Ritter (1997) argue that investor over-optimism during the issue might be a result of the behavioral inclination, as demonstrated in psychological research, for individuals to overemphasize recent experiences at the cost of long-term averages. They report that operating performance reaches its peak at the time of the equity issue and propose that the post-announcement stock-price decline reflects investors over-extrapolating the pre-issue trend in operating performance.

Daniel et al. (1998) formalize the overconfidence hypothesis in a model where investors exhibit overconfidence and biased self-attribution. With these behavioral characteristics, they demonstrate that investors overreact to private information and underreact to public information, and that subsequent abnormal performance persists in the same direction as the announcement period returns. However, Daniel et al. (1998) also reports that positive returns may be a consequence of ongoing overreaction, which eventually undergoes long-term correction. As a result, short-term positive returns can coexist with long-term negative returns.

Both Hertzel et al. (2002) and Krishnamurthy et al. (2005) report statistically significant positive announcement returns and significant negative long-term performance, as we have seen from the two previous sections. They argue that overconfidence or excessive positivity indeed exists at the time of the private placement announcement; however, they also propose that the long-term returns turn negative due to the investors undervaluation of the potentially negative information embedded in the private equity placement. Assuming this holds true, we would anticipate that the long-term performance of firms with private equity placements, followed by subsequent repair issues, would be negative.

3.6 Summary of Theories and Literature Review

In conclusion, according to the Modigliani-Miller theorem (1958), changes in the capital structure, and thus equity issues, should not affect investors. However, this theorem

does not hold in the presence of friction in the financial markets. Thus, capital structure matter to firm value. Further, private information and the risk of adverse selection in equity issuance prompted Myers and Majluf (1984)'s argument that equity issues should only be considered as a last resort by management. Moreover, the agency issue theory suggests that management may prioritize their own interests over those of the majority of shareholders when conducting private placements, leading to short-term thinking and the dilution of non-participating investors. However, management may also act in the best interest of shareholders when they do private equity placements. Additionally, one could argue that the adverse effects experienced by non-participating shareholders are what management attempts to reverse through repair issues. However, as discussed in section 2.2.4, a repair issue is not able to fully offset the negative impact.

Furthermore, the existing literature on private placement announcement returns mostly presents positive outcomes. The monitoring hypothesis by Wruck (1989) and certification hypothesis by Hertzel and Smith (1993) offer plausible explanations for positive announcement returns in private placements. Some studies propose that positive announcement returns could result from managers being overly optimistic about the firm's prospects, which may not be recognized by investors. Other research finds higher announcement returns in private placements involving affiliated investors, indicating that the market perceives these investors as quality indicators. Interestingly, announcement returns are higher for financially distressed firms compared to non-distressed counterparts.

With respect to the long-term performance of SEOs, literature presents mixed results. Most studies report negative abnormal returns following SEOs, with some attributing these results to overvaluation and other underlying attributes of the event companies such as size and growth. However, several studies say that the underperformance is attributed to the inherent biases in the factor models, and imply that the current model of security returns may not yet be ideal. Further, Brav et al. (2000) suggest that SEO underperformance might not be exclusive to issuers; instead, the returns of issuers may covary with those of non-issuing stocks. Hertzel et al. (2002), on the other hand, argue that the underperformance may be due to overly optimistic investors.

Nonetheless, some studies find little or no significant abnormal returns, such as Eckbo et al. (2004), Eckbo et al. (2007), and Autore et al. (2009). The former study interprets

this as evidence against the underreaction hypothesis. Further, Eckbo et al. (2007) argue that the long-term performance disparities between issuing and non-issuing firms are not consistently supported by behavioral biases or market inefficiencies. Rather, factors like risk exposure, firm size, and fundamental characteristics account for the differences in performance.

Lastly, Krishnamurthy et al. (2005), find differing results between participating and non-participating investors in private placements. They suggest that investors in the private placement market buy equity at a cost that takes into account the adjustments in stock price made by the market after the issuance.

In regard to the relationship between announcement returns and long-term performance, several studies provides suggestions to explanations. One explanation is that managers time equity issuances to capitalize on overvalued equity "windows of opportunity." Investors may be overly optimistic about the firm's prospects but underreact to the announcement information. Thus, the stock price might not instantly show the equity issue's true impact, possibly causing a long-term decline as investors slowly adapt their expectations. Some researchers argue that investors overemphasize recent experiences, leading to over-extrapolation of pre-issue trends in operating performance.

The overconfidence hypothesis by Daniel et al. (1998) suggests that investors overreact to private information and underreact to public information, leading to subsequent abnormal performance persisting in the same direction as the announcement period returns. However, positive returns might eventually undergo long-term correction, causing short-term positive returns to coexist with long-term negative returns.

Significant positive announcement returns and negative long-term performance have been reported for private placements. Hertzel et al. (2002) and Krishnamurthy et al. (2005) argue that overconfidence exists during the announcement, but long-term returns turn negative due to investors undervaluing the potentially negative information embedded in private equity placements. If true, firms with private equity placements followed by repair issues would have negative long-term performance.

4 Hypotheses

The examination of equity issuance on the OSE, the financial theories, and the literature review in the previous sections have yielded some intriguing insights. Based on these insights, we will formulate our hypotheses in this section.

We know from the literature review that most studies have found negative abnormal returns from SEOs or private placements over a 3 to 5 year period. These studies have explored different sectors and purposes of the proceeds. However, there has not been any examination of the long-term performance after repair issues.

We recognize that repair issues are a result of a larger equity issue in the form of the initial private placement, and there is a causal relationship between the two events. Thus, it is not possible to analyze the performance of firms that solely conduct repair issues. This means that the examination of firms' long-term performance will always include the impact of the prior private placement. Therefore, it is important to keep in mind throughout the rest of this thesis that we are evaluating the long-term performance of firms that first undertake private placements and then repair issues.

Regardless, we find the recent surge in private placements on the OSE quite intriguing, particularly in relation to the OSE's equal treatment act. However, there exists a lot of literature on private placements, which makes the lesser-studied Norwegian phenomenon of repair issues perhaps more interesting. It raises questions about the performance of participating and non-participating investors in the repair issue following the end of the subscription period. Furthermore, it is compelling to explore whether certain attributes in the initial private placement could influence this performance.

The issuing firms vary considerably in terms of their intended use of proceeds, the extent of the discount provided compared to the market price, and the proportion of new shares relative to the initial number of shares. To account for these variations, we divide our main sample into sub-samples based on these criteria. The underlying economic rationale for creating these sub-samples is that the various motivations and attributes of private placements and subsequent repair issues may generate different returns. A discussion outlining our varying expectations for these sub-samples, ultimately leading to our hypotheses, will follow.

The three categories firms state as their intended use of proceeds are M&A activities, liquidity issues, and general operational purposes. The first two categories are fairly self-explanatory, and the third one is the most general and indistinct. From reading the announcements on NewsWeb, operational purposes encompass the day-to-day operations of a business, including but not limited to expenses such as salaries, rent, utilities, marketing, research and development, and others. The overall goal is an improvement of the company's financial position through increased working capital. Additionally, in our viewpoint, some firms might utilize the expression to avoid specifying the precise utilization of the funds raised from an equity issue. It seems this phrase is often employed as an umbrella category for various expenses that the company may need to address. In conclusion, there may be less new information in this category, and we will not discuss this category further, as there is little value in formulating a hypothesis suggesting that the sub-sample of operational purposes will yield no abnormal returns. Nonetheless, since it constitutes a significant portion of the intended use of proceeds, we will perform all the abnormal returns tests on this sub-sample and present the results in the analysis section.

Concerning the other two categories, there is greater scope for discussion about new information and, consequently, expectations. When companies use the proceeds of private placements for M&A activities, investors may learn the value impact of the individual transaction over time. This information might not be immediately available or apparent, which could lead to an initial over- or underreaction to the private placement announcement. As more information becomes available over time, investors may learn about the success of the integration. Hence, the market may update its valuation of the company, affecting the long-term performance of the private placement and repair issue. Successful M&A activities, which can create synergies, enhance efficiency, or expand market reach, may result in positive long-term performance for the involved company. Conversely, if the M&A activity does not yield the anticipated synergies or brings unexpected challenges, the long-term returns may turn negative as the market adjusts its expectations.

In the light of information asymmetry, investors often tend to price M&As lower, pooling companies together as they struggle to distinguish differences in types, leading to a potentially undervalued initial response, which could lead to a long-term correction resulting in positive returns.

On the contrary, an aspect supporting the potential for an initial overvaluation might be the optimism bias or overconfidence of investors. Investors might overestimate the potential synergies and benefits from the M&A, leading to an overly optimistic initial response which could later correct negatively in the long-term when the actual results become apparent.

Additionally, considering the inherent uncertainties and complexities in M&A valuations, it might be less likely that the long-term returns would be exactly neutral.

Therefore, we propose that the sub-sample of M&A activities should exhibit either positive or negative long-term abnormal returns in comparison to a benchmark factor model or a reference portfolio. Thus our first hypothesis is as follows:

Hypothesis 1: The long-term abnormal returns of firms that have conducted private placements followed by repair issues for the purpose of M&A activities, in the period after the repair issue subscription period has ended, are significantly different from zero when compared to a reference portfolio or benchmark.

$$H_0 : AR_{M\&A}(t_1, T) = 0 \quad H_A : AR_{M\&A}(t_1, T) \neq 0$$

Furthermore, firms facing liquidity issues often offer a large initial discount on their private placements. These firms may be in situations where they need to raise a significant amount of capital quickly. Consequently, they must offer a large discount to attract and compensate investors. Although Krishnamurthy et al. (2005) report positive announcement returns for private placements by financially distressed firms, they find no evidence of negative long-term returns. We argue that the market might be overly cautious in these situations, leading to potential initial undervaluation of the company. Markets tend to be cautious when dealing with financially troubled firms. For example, Eberhart et al. (1999) report positive long-term returns experienced by companies emerging from bankruptcy in the USA. We believe that this initial undervaluation may result in higher long-term returns as the market adjusts its expectations over time. Accordingly, we propose our second hypothesis:

Hypothesis 2: The long-term abnormal returns of firms that have conducted private placements followed by repair issues for the purpose of liquidity issues, in the period after the repair issue subscription period has ended, are significantly larger than zero when

compared to a reference portfolio or benchmark.

$H_0 : AR_{Liqudity\ issues}(t_1, T) = 0 \quad H_A : AR_{Liquidity\ issues}(t_1, T) > 0$

Shifting our focus to the remaining sub-samples, which encompass the discount relative to the market price and the proportion of new shares relative to the initial number of shares, much of the reasoning from the liquidity issue sub-sample is relevant in this context as well. We do believe that firms facing liquidity issues must provide their investors with higher discounts to quickly get the capital needed, and to compensate and attract investors. Additionally, we believe that the harder the new information is to interpret, as with the effects of M&A and with liquidity issues, the higher discount must be offered in order to compensate the investors for their risk of uncertainty. Following our argument that private placements motivated by operational purposes hold less new, or at least uncertain, information, we believe that these equity issuing firms offers less discount. Based on our argument that firms issuing equity privately due to liquidity issues face an under-reaction in the short-term followed by a positive long-term correction, which may be the case with M&A activites as well, we do believe that the sub-samples with higher discounts will yield better abnormal returns that the sub-samples with lower discounts.

With respect to relative share increases, the argument that firms with the highest percentage of share increases require the most funding, similar to those with the largest offering discount, applies here as well. In conclusion, we propose our last two hypotheses:

Hypothesis 3: Firms conducting private placements and subsequent repair issues with higher offering discounts are expected to exhibit greater long-term abnormal returns compared to firms offering lower discounts.

$H_0 : AR_{\text{Higher discounts}}(t_1, T) = AR_{\text{Lower discounts}}(t_1, T)$
$H_A : AR_{\text{Higher discounts}}(t_1, T) > AR_{\text{Lower discounts}}(t_1, T)$

Hypothesis 4: Firms conducting private placements and subsequent repair issues with higher relative share increases are expected to exhibit greater long-term abnormal returns compared to firms offering lower relative share increases.

$H_0 : AR_{\text{Higher share increases}}(t_1, T) = AR_{\text{Lower share increases}}(t_1, T)$
$H_A : AR_{\text{Higher share increases}}(t_1, T) > AR_{\text{Lower share increases}}(t_1, T)$

5 Data Sample and Characteristics

The purpose of the following section is to provide a comprehensive overview of the data gathering and its characteristics. Due to the unavailability of suitable data on repair issues from the OSE, we had to gather the data-set manually. It is therefore crucial to detail each step of the data gathering process. Moreover, this section will outline the economic reasoning behind the division of sub-samples and provide a description of the the relevant characteristics of the sub-samples. Finally, we present a short section offering descriptive statistics focused on loan agreements, as this is, to our knowledge, a new piece of information in the world of equity issue research.

5.1 Data Sources

All data on the private placements and repair issues have been retrieved from the OSE's own announcement page called NewsWeb. The data on stock prices and returns for both the event companies and the reference companies have been retrieved from the Refinitiv database provided by NHH. All the data Fama French factor data have been retrieved from Bent Arne Ødegaard's website (2022).

5.2 Data Sampling

The data consists of all the companies on the OSE that have followed up a private placement with a subsequent repair offering in the period of 01.01.2012 until 01.10.2022. The announcements on NewsWeb dates back to 01.01.2012, thus, this is when our data sample begins. Further, we drew a line at 01.10.2022, to concentrate on writing and analyzing the data sample.

We found out that the different companies used different words regarding repair issues. Therefore, we did these 6 different searches on NewsWeb and read all announcements from 2012-2022:

1. Subsequent offering
2. Repair offering

3. Subsequent issue
4. Subsequent offering
5. Reperasjonsemisjon ("Repair emission" directly translated from Norwegian)
6. Etterfølgende emisjon ("Subsequent emission" directly translated from Norwegian)

By carefully reading all the announcements that result from these searches, we are confident that we have covered all the repair offerings conducted on the OSE from 01.01.2012 to 01.10.2022. Examples of these announcements can be found in appendix A4.

As seen in Table 5.1, the initial result was 240 repair issues. These issue were conducted by 133 different companies. So many firms have conducted more than one repair issue over the last 10 years. Out of the 243 repair issues, 57 was cancelled, leaving the full data sample at 186 repair issues. We find it noteworthy that a small number of only 14 companies were responsible for all the cancellations. The fact that only 14 companies were responsible for all the cancellations raises questions as to whether these companies prioritize the interests of their small investors.

Furthermore, since we study returns over different time periods (20-days, 6-, 12-, 36-, and 60-months), we require the company to have no other equity issue during the test period. None of the companies had a new equity issue within 20-days. However, in all the other periods we had to remove some companies. As seen in Table 5.1, that left us with 173 6-month event free companies, 153 one-year event-free companies, 131 three-year event-free companies, and 122 five-year event-free companies. The full sample of event companies can be found in appendix A5.

Table 5.1: Overview Of The Sample Sizes Over Different Periods

Description/Period	**No. of Issues**	**No. of Firms**
Proposed repair issues	243	133
Cancelled repair issues	57	14
Completed repair issues	186	119
20 days event free repair issues	186	119
6-month event free repair issues	173	119
One-year event free repair issues	153	119
Three-year event free repair issues	131	119
Five-year event free repair issues	122	119

5.3 Sample Characteristics

In this paper, we aim to examine the long-term abnormal returns from repair issues, particularly focusing on the use of proceeds, share price discount, and relative share fleet increase, as stated in our hypotheses. As mentioned in Section 4 Hypotheses, we divide the use of proceeds category into three sub-samples: M&A activities, liquidity issues, and operational purposes. The share price discount category is split into sub-samples of 0-10%, 10-35%, and >35% discounts, while the relative share fleet increase category is divided into sub-samples of 0-15%, 15-40%, and >40% share increases. Since parts of our hypotheses are based on discussions regarding different sub-samples offering varying levels of discounts and share increases, we believe it is both valuable and necessary to report and test these characteristics.

In Table 5.2 and Table 5.3 we present the sample and sub-sample characteristics in regards to the offering discounts and share increases. To test significant differences in means, we perform a One-Way ANOVA[7] Test with a significance threshold of 0.05, followed by a Bonferroni Correction Post-Hoc Test[8], on each sub-sample. As evident from Table 5.2 and Table 5.3, the full sample of observations displays a broad range between the minimum, mean and maximum values, as demonstrated by the large standard deviations. In the following sections, we will examine how these mean values vary across different sub-samples.

[7]ANOVA (Analysis of Variance) is a statistical method used to compare the means of three or more groups. It helps to determine if there are any significant differences among the groups by examining the variability within and between them.

[8]A Bonferroni Correction Post-Hoc Test is a statistical method used following an ANOVA test to make multiple pairwise comparisons between groups while controlling for the overall type I error rate. It adjusts the significance level by dividing the original significance threshold (0.05) by the number of comparisons (3), reducing the likelihood of false positives due to multiple testing.

Table 5.2: Descriptive Statistics Of The Offering Discount For The Different Sub-Samples

Panel A: Full Sample

	Count	Mean	Median	Min	Max	Standard Deviation
Full Sample	186	0.129	0.175	0	0.930	1.294

Panel B: Use of Proceeds

	Count	Mean	*F*-statistic	Median	Min	Max	Standard Deviation
Operational pur.	88	0.215	3.78*	0.151	0.012	0.891	0.216
M&A Activities	32	0.152	3.78*	0.074	0	0.555	0.172
Liquidity issues	66	0.333	3.78*	0.232	0.08	0.930	2.115

Panel C: Offering Discount

	Count	Mean	*F*-statistic	Median	Min	Max	Standard Deviation
0-10%	63	0.028	15.36*	0.042	0	0.098	0.050
10-35%	64	0.207	15.36*	0.197	0.101	0.339	0.069
>35%	59	0.616	15.36*	0.555	0.365	0.930	0.183

Panel D: Share Increase

	Count	Mean	*F*-statistic	Median	Min	Max	Standard Deviation
0-15%	48	0.115	29.18*	0.089	0	0.809	0.195
15-40%	45	0.165	29.18*	0.131	0.015	0.760	0.179
>40%	93	0.368	29.18*	0.309	0.005	0.930	0.265

Notes. The table reports descriptive statistics for the full sample and different sub-samples in regard to the offering discount price given in repair issue. Panel A displays statistics for the full sample, panel B displays statistics for the different *Use of Proceeds* sub-samples, panel C displays statistics for the different *Offering Discount* sub-samples, panel D displays statistics for the different *Share Increase* sub-samples. The event count is based on the full sample of completed repair issues. To test significant differences in means, a One-Way ANOVA Test with a significance threshold of 0.05, followed by a Bonferroni Correction Post-Hoc Test have been performed. * denotes that the One-Way ANOVA test revealed significant differences among the groups at a 5% significance level.

Table 5.3: Descriptive Statistics Of The Share Increase For The Different Sub-Samples

Panel A: Full Sample

	Count	Mean	Median	Min	Max	Standard Deviation
Full Sample	186	1.182	0.321	0.018	10	1.964

Panel B: Use of Proceeds

	Count	Mean	*F*-statistic	Median	Min	Max	Standard Deviation
Operational pur.	88	0.749	3.85*	0.220	0.018	4.799	1.159
M&A Activities	32	1.810	3.85*	0.378	0.023	7.730	2.412
Liquidity issues	66	1.495	3.85*	0.511	0.061	10	2.439

Panel C: Offering Discount

	Count	Mean	*F*-statistic	Median	Min	Max	Standard Deviation
0-10%	63	0.610	14.12*	0.234	0.023	6.279	1.111
10-35%	64	0.726	14.12*	0.256	0.018	4.467	1.086
>35%	59	2.264	14.12*	0.920	0.092	10	2.788

Panel D: Share Increase

	Count	Mean	*F*-statistic	Median	Min	Max	Standard Deviation
0-15%	48	0.083	7.62*	0.092	0.018	0.137	0.034
15-40%	45	0.258	7.62*	0.251	0.150	0.399	0.072
>40%	93	1.284	7.62*	0.804	0.470	10	1.659

Notes. The table reports descriptive statistics for the full sample and different sub-samples in regard to the relative share increase due to the private placement and repair issue. Panel A displays statistics for the full sample, panel B displays statistics for the different *Use of Proceeds* sub-samples, panel C displays statistics for the different *Offering Discount* sub-samples, panel D displays statistics for the different *Share Increase* sub-samples. The event count is based on the full sample of completed repair issues. To test significant differences in means, a One-Way ANOVA Test with a significance threshold of 0.05, followed by a Bonferroni Correction Post-Hoc Test have been performed. * denotes that the One-Way ANOVA test revealed significant differences among the groups at a 5% significance level.

5.3.1 Use of Proceeds

With respect to the use of proceeds sub-samples, the distribution among them are 88, 32, and 66 for operational purposes, M&A activities, and liquidity issues, respectively.

Regarding offering discount means in Table 5.2, the One-Way ANOVA test indicates that the means are significantly different from one another; however, this test does not identify which specific means are different. Consequently, we need to compare the means pairwise using a Bonferroni Correction Post-Hoc test. This test revealed that the means for M&A activities and liquidity issues were statistically significant from each other at the 5% level while neither of these means is significantly different from the operational purposes sample. As displayed in Table 5.2, the mean values for operational purposes, M&A activities, and liquidity issues are 0.215, 0.152, and 0.333, respectively.

This result can be explained by the fact that firms issuing equity to fund M&A activities

may not need to offer as much compensation to participating investors as those in other intended uses of proceeds. These M&A activities can lead to an increase in the long-term value of the firm, which may provide confidence to participating investors. However, the complete effect of the M&A activities might not be immediately apparent, as investors gradually could learn the value implications of the transaction over time. If the market requires time to fully understand the value of the M&A transaction, it may likely draw more long-term investors than short-term ones, as the latter group tends to pursue more immediate investment returns.

Further, it is no surprise that the sub-sample of liquidity issues is the one with the highest mean and maximum offering discount. Companies with liquidity issues are in need of quick funding to meet their obligations and need to offer large discounts to secure the funding needed. Moreover, these large discounts might be perceived as negative news, as it signals the urgent need for financing and the associated risks.

Finally, as the operational purposes sub-sample is the most general and vague category, it is reasonable that its means are not statistically significantly different from the others. The uncertainty of the proceeds' purpose may lead to varying discounts. Nonetheless, the relatively small mean and median value appears logical. In the case of an equity issue for operational purposes, justifying a significant discount can be challenging, considering the potential dilution of non-participating investors as per the Equal Treatment Act (Oslo Børs, 2014).

For the share increase means, we find contrasting results. The tests revealed that the M&A activities and liquidity issues means are not significantly different at the 5% level, whereas the operational purposes mean is statistically different from the other two means. From Table 5.3, we observe that the means are 0.749 for operational purposes, 1.810 for M&A activities, and 1.495 for liquidity issues.

First of all, we see that the mean of the M&A sub-sample is very high compared to the operational purposes mean. We find these large share increases naturally as it seems possible that the M&A activities often necessitate a greater amount of capital compared to operational purposes.

Again, unsurprisingly, liquidity issues exhibit a large mean and maximum value, as

the demand for immediate capital requires offering significant discounts to investors to offset the associated risks, leading to substantial share increases to obtain the necessary funding. Additionally, it is not surprising that operational purposes have the smallest share increases, since it is the most challenging equity issue to justify based on the factual reason argument in the Equal Treatment Act (Oslo Børs, 2014).

However, it should be mentioned that the maximum values and standard deviations for share increases are considerably high. This suggests that the median values provide a more balanced picture. Accordingly, we find median values of 0.220 for operational purposes, 0.378 for MA activities, and 0.511 for liquidity issues. These medians appear more representative than the mean values. We see that M&A activities and liquidity issues swap rankings when evaluated by median size, yet the earlier reasoning remains unaffected.

5.3.2 Offering Discount

We also divide the full sample into three categories based on the offering price discount given to the market price in the private placement. It is likely that the companies giving the higher discounts are either in dire need of capital and/or need to compensate their investors due to higher risk connected to the use of proceeds. The three categories are (1) 0-10% discount, (2) 10-35% discount and (3) >35% discount. The distribution between the three categories are respectively 63, 64, and 59. From Table 5.3 panel C, we see that the mean and median share increase is by far the largest in the >35% category. They are all statistically different from one another at the 5% significance level. These means imply that in order to secure sufficient funding, the firm must offset the large discount with a large relative increase in shares.

5.3.3 Relative Share Increase

Lastly, we also divide the full sample into three categories based on the relative share increase in the private placement, (1) 0-15%, (2) 15-40%, and (3) >40%. Equivalent to the offering discount sub-sample, all the means demonstrate statistically significant differences from one another at the 5% significance level. The argument that companies with the highest number of shares issued require the most funding, similar to those with the largest

offering discount, applies here as well. The distribution between the three categories is respectively 48, 45, and 93. In line with the sub-sample that offers the greatest discount providing the highest relative increase in shares, panel D of Table 5.2 reveals that the sub-sample with the largest increase in shares indeed offers the largest discount.

5.3.4 Descriptive Statistics Loan Agreements

Table 5.4 provides the descriptive statistics for the loan agreements, which were offered to private placement investors at the OSE between January 2022 and May 2023.

Table 5.4: Descriptive Statistics of Loan Agreements (2022 - 2023)

Statistic	Value
Mean	0.4724
Standard Error	0.04402
Median	0.4575
Standard Deviation	0.2065
Sample Variance	0.0426
Kurtosis	-1.1161
Skewness	0.1020
Range	0.6706
Minimum	0.1339
Maximum	0.8046
Count	22
Confidence Level (95.0%)	0.0915

Notes. The table presents descriptive statistics summarizing the features of the 22 loan agreements offered to investors participating in private placements on the Oslo Stock Exchange during the period of 2022 up to the 1st of May, 2023. The presented values represent the ratio of issued shares accompanied by a loan agreement to the total number of new shares issued in the private placement.

According to the statistics, on average (mean), approximately 47.25% of the new shares issued in these private placements were accompanied by a loan agreement. However, this proportion has a wide range, with the smallest proportion being around 13.39% and the largest proportion as high as 80.46%, demonstrating variability across private placements. The standard deviation of 20.65% also points to this significant variability.

The skewness statistic of 0.1020 suggests a slight rightward (positive) skewness, implying that a majority of the private placements have loan agreements for fewer than 47.25% of the new shares, with some placements offering significantly higher proportions. A skewness of 0 would indicate a perfectly symmetrical distribution. A positive skewness, like what we have here, indicates that the tail of the distribution on the right side (the

larger values) is longer or fatter than the left side. So, while most placements offer loan agreements for fewer than 47.25% of new shares, there are a few that offer significantly more.

The negative kurtosis value of -1.1161 indicates a flatter distribution, light tails and a flat peak, suggesting a wide variability in the proportion of shares with loan agreements across different private placements. This means the observed values are not tightly clustered around the average (47.25%) but are quite spread out. Thus, there's a wide range of different ratios of loan agreements across the observed values, and they do not tend to follow a common standard.

In summary, while the average proportion of shares issued with a loan agreement to the total issued shares is quite substantial at 47.25%, the distribution's spread suggests no clear standard pattern. This is demonstrated by the the other descriptive statistics discussed above. Nonetheless, considering our arguments regarding the potential selling pressure introduced by these loan agreements, as discussed in Section 2.1.2.1, these figures are notably significant.

6 Methodology

The estimation of expected returns is a crucial aspect of conducting an event study, as acknowledged by Fama (1998), who postulates that any asset pricing model is just an approximation and does not fully capture expected returns, a phenomenon referred to as the bad-model problem. Long-run abnormal returns are particularly susceptible to model misspecification due to the compounding of small errors over time. In example, research have identified over 300 variables to explain stock returns (Harvey et al., 2016). In this section we will further examine the two most employed methods to measure long-term abnormal returns.

6.1 Methods to Measure Long-Term Abnormal Returns

When it comes to measuring long-term abnormal returns, the buy-and-hold method and the Jensen's Alpha calendar-time method is the most employed. The most popular method is perhaps the buy-and-hold method, as it is known to precisely measure the investor experience. Yet, this method has several flaws producing biased estimates. First of all, the method ignores cross-sectional dependence of event-firms, which produces overstated test statistics (Mitchell and Stafford, 2000). Corporate events, such as private placements, are not random events. Thus, it is unlikely that all the sample firms are independent. Further, positively skewed multiyear returns and new listing bias infer with the results. Additionally, the buy-and-hold method assumes a constant risk over the holding period, which may not reflect the changing market conditions and the firm's risk profile over time. It thus might provide less accurate risk-adjusted returns.

Due to this, Fama (1998) and Mitchell and Stafford (2000) strongly advocates the Jensen's Alpha calendar-time method. First of all, monthly returns are less prone to the bad model problem. Secondly, by utilizing monthly calendar time-portfolios, all cross-correlations of event firms are removed (Mitchell & Stafford, 2000). Thirdly, this method offers a dynamic risk adjustment, calculating the expected return for each month and considering changing risk factors. This ability to adapt to changing market conditions allows for a more accurate portrayal of the long-term impact of events. Lastly, the distribution of the alpha is better resembled by the normal distribution than the abnormal returns in the

buy-and-hold method, allowing for classic statistical inference.

On the other hand, since the discount offered in a repair issue is a one-time event that occurs at a specific point in time, it is not possible to incorporate it in the Jensen's alpha calendar-time portfolio method, which is based on expected returns over a period of time. The Jensen's alpha calendar-time portfolio method requires a continuous stream of returns to calculate the abnormal returns, and it assumes that any abnormal returns are due to factors that affect the expected return over the entire period, not just at a single point in time. Thus, when we account for the discount offered, we will utilize the buy-and-hold method.

6.2 Jensen's Alpha Calendar-Time Method

It was Jaffe (1974) and Mandelker (1974) who introduced the calendar-time portfolio method. In this method, you track the performance of an either equally- or value-weighted portfolio in calendar time relative to an explicit asset-pricing model. In this thesis we will use an equally weighed portfolio. As for the benchmark asset pricing model, we will utilize the Fama-French three-factor model. The reasoning for this and explanation of the model will be discussed in further detail in section 6.2.1.

The event portfolio includes all companies that have completed an repair within n periods. In this thesis, we will explore a range of periods spanning from 20 days to 60 months. The 20-day period is based on daily Fama-French factors, whereas all the remaining periods employ monthly factors. Companies enter the portfolio on the first possible trading day after the subscription period for the repair issue has ended, and stay in the portfolio for a pre-determined period of time, or until delisting. The portfolio is reblanced monthly as firms enter and exit the portfolio. Cross-sectional correlations between the individual event firm returns are automatically accounted for in the portfolio variance at every point in time by constructing event portfolios. Then, you estimate the abnormal returns, the α_P, by regressing the monthly portfolio excess returns on the three Fama French factors. Inference is drawn from the estimated α_P and its statistical significance.

We believe starting the calendar-time portfolio period on the first trading day after the repair issue subscription period ends is a reasonable approach for several reasons. First, the subscription right can be considered akin to an option with time value until the

period's conclusion. Typically, the subscription period lasts for 1 week, during which the investors evaluate their options. If an investor subscribes on day one and subsequently experiences a market price drop below the subscription price, they would incur a loss. As a result, the subscription right holds value only when the market price exceeds the subscription price.

Furthermore, after the subscription period concludes, investors who intended to subscribe have done so, and the company publicly announces the details concerning the proceeds and the number of new shares in the repair issue. We contend that following this announcement, no additional public information is communicated by the firm about the private placement or the repair issue. This allows for a cleaner analysis of the firm's performance, as investors have had the opportunity to respond to the subscription rights, and the market possesses all available information pertaining to the company's actions during the equity issuances. By beginning the analysis on the first trading day after the subscription period ends, the study can focus on the long-term performance of the firm without being confounded by the short-term fluctuations and market reactions during the subscription period.

For the purpose of clarity, we have presented all the specific details of the test design for Jensen's alpha used in this thesis in the table shown below as table 6.1.

Table 6.1: Details of Jensen's Alpha Test Design Specific to This Thesis

Variable	**Specification**
Event	Companies conducting repair issues
Event date	Last day of repair issue subscription
Capital market	The Oslo Stock Exchange
Portfolio period start	01.01.2012
Portfolio period ends	01.10.2022
Monthly rebalancing	Yes
Benchmark model	Fama-French three-factor model
Market return	OSEAX
Risk free rate	NIBOR
Stock enters portfolio	First available trading date after subscription period ends
Stock exits portfolio	At pre-determined date or by delisting
Equally-weighted portfolio	Yes
Value-weighted portfolio	No
Statistical test used	Conventional t-test

6.2.1 Choosing the Right Asset Pricing Model

Choosing the right expected return model is a challenge. Because of the voluminous evidence of abnormal returns using CAPM, its validity as a model of expected returns was thoroughly discredited (Kothari and Warner, 1997). It has also been demonstrated in studies that small-cap stocks and value stocks outperform comparable securities (Kothari and Warner, 1997). The search for a better model that incorporated these risk factors began. Eventually, as part of their extension of the traditional CAPM, Fama and French (1993) proposed a new and better model that incorporates size and value risk factors in addition to the traditional excess market return:

$$R_P - r_f = \alpha_P + \beta_P\ [R_m - r_f\ ] + s_P SMB_t + h_P HML_t + e_P t \tag{6.1}$$

Where,

R_p is the monthly return of the event portfolio P

r_f is the risk free rate. In this thesis we will use the The Norwegian Interbank Offered Rate (NIBOR)

$R_P - r_f$ is the exccess return of portfolio P

α_P is the the abnormal return of portfolio P

R_m is the market return. In this thesis we will use the Oslo Stock Exchange All Share Index (OSEAX)

$[R_m - r_f]$ is the excess market return

SMB_t is the difference between the portfolio return of small stocks and big stocks

HML_t is the difference betweeen the portfolio return of high value and low value stocks

β_P, s_P, and h_P are the betas of portfolio P to the risk factors

$e_P t$ is the noise of portfolio P in period t

As far as the literature is concerned, whether these factors represent equilibrium compensation for risk, or they are a sign of market inefficiency has not been satisfactorily resolved (the joint test problem). This flaw, however, is not fatal from the point of view of an event study analysis (Brav and Gompers, 1997). The two additional risk factors, SMB_t and HML_t, represent two zero-risk investment portfolios. The SMB_t portfolio consists of long positions in small-cap stocks that are financed by short positions in

large-cap stocks. The HML_t portfolio consists of a long position in high book-to-market (BM) stocks financed by a short position in low book-to-market stocks. We estimate the coefficients by regressing the excess return $R_P - r_f$ of the event portfolio P on the factors shown on the right-hand side of equation (1).

6.3 Buy-and-Hold Method

The buy-and-hold method, or also known as the reference-portfolio approach, has been widely used since the works of Spiess and Affleck-Graves (1999) and Lyon et al. (1999). The buy-and-hold method is conducted by taking the average return from an investment strategy that invests in all firms completing an event and sells them after a pre-determined holding period. Then the buy-and-hold returns (BHR) are compared to an identical strategy that invests in matching non-event firms, resulting in buy-and-hold abnormal returns (BHAR). The method is known to accurately represents investors' actual investment experience. Further, using the reference portfolio approach has the advantage of using an entire portfolio rather than a single matching firm. This increases the likelihood of picking firms with similar risk and, therefore, similar expected returns. Any inference based on BHAR depends on the validity of the assumption that event firms differ from nonevent firms only because they experience the event. The BHAR calculations is fairly straightforward. The formula for buy-and-hold returns for a single firm i is given by:

$$BHR_i\left(t_1, T\right) = \left[\prod_{t_1}^{T}\left(1 + R_{i,t}\right) - 1\right] \tag{6.2}$$

Where,

$R_{i,t}$ is the return of firm i in time t

t_1 is the start of the holding period

T is the end of the holding period

If an event involves a discount, the discount offered is accounted for by using

this formula:

$$BHR_P\,(t_1,\ T) = \left[\frac{P_O}{P_{t_1}}\right] \cdot \left[\prod_{t_1}^{T}(1 + R_{i,t}) - 1\right] \tag{6.3}$$

Where,

P_O is the offering price

$P_{t_1}$is the last available market price at t_1

To measure the buy-and-hold return of an equally weighted reference portfolio, we simply divide the sum of the returns by the number N firms:

$$BHR_{RP}\,(t_1, T) = \ \frac{1}{N}\sum_{i=1}^{N}\left[\prod_{t_1}^{T}(1 + R_{i,t}) - 1\right] \tag{6.4}$$

Finally a comparison is then made between the portfolio return and the reference portfolio return of non-event companies. From time t to time T, the BHAR is defined as follows:

$$BHAR_P\,(t_1, T) = BHR_P\,(t_1,\ T) -\ BHR_{RP}(t_1,\ T) \tag{6.5}$$

6.3.1 Constructing the Reference Portfolios

To create the reference portfolios in the buy-and-hold method, event-companies were screened based on four parameters: (1) listing on the OSEBX, (2) identical TRBC-code (activity code), (3) market capitalization deviation from the event-company of a maximum of 80%, and (4) book-to-market per share deviation of a maximum of 100% to ensure a maximum of twice the leverage. In cases where these parameters were too strict, the restrictions were altered in the following order: market capitalization, book-to-value per share, and, lastly, including companies listed on other stock exchanges. This may result in a higher risk of cross-sectional bias for event-companies with softer screening.

For event-companies that were privatized or acquired by other firms between the event and the day of data gathering, historical trading values were not available from Refinitiv. This implies that those observations were not included in the dataset, which could result in positive or negative selection bias if certain characteristics are attributed to the return of privatized or acquired companies.

6.3.2 Statistical Testing of the Buy-and-Hold Method

Lyon et al. (1999) documented that the reference-portfolio approach eliminates the new listing- and rebalancing bias from the BHARs. However, they also documented that BHARs are positively skewed, which leads to negative skewed t-statistics. In practice, this means that the significant levels for lower-tailed tests are inflated. Thus, the estimated p-values will be too large which increases the chance of type 1 errors. To eliminate this skewness, the bootstrapped skewness-adjusted t-statistic can be applied. In our analysis, we will use the bootstrapped skewness-adjusted t-statistic to test if the BHARs are statistically significant different from zero. How to conduct this test, as well as the conventional t-statistic, can be found in appendix A3.

6.3.3 Difference Between Participating and Non-Particpating Investors

In the buy-and-hold method, we separate our results into those for participating investors and non-participating investors. This allows us to compare the returns experienced by these two groups and to determine whether investors should subscribe to the repair issues and if the issuing firms generally generate abnormal returns. Participating investors are those who own shares in the company during the private placement and have subscription rights in the repair issue, allowing them to subscribe at the same discounted price as the private placement. This discount is relative to the trailing market price and is only considered a discount if it is below the market price.

Contrarily, non-participating investors are those who do not own any shares in the company at the time of the initial private placement and therefore have no subscription rights in the repair issue. Consequently, they are not offered the discount and must purchase shares at the prevailing market price.

6.3.4 Overview of Buy-and-Hold Test Design Specific to This Thesis

As with the Jensen's alpha method, to ensure transparency, we have presented all the specific details of the test design for the Buy-and-Hold method used in this thesis in

the table shown below as Table 6.2. The rationale for commencing the event period on the first trading day following the conclusion of the repair issue subscription period is consistent with the arguments presented for the buy-and-hold methods in Section 6.2 Jensen's Alpha Calendar-Time Method.

Table 6.2: Details of Buy-and-Hold Test Design Specific to This Thesis

Variable	**Specification**
Event	Companies conducting repair issues
Event date	Last day of repair issue subscription
Capital market	The Oslo Stock Exchange
Test period starts	01.01.2012
Test period ends	01.10.2022
Benchmark	Reference portfolio of non-event companies
Benchmark size	4-10 companies
Benchmark criteria 1	Listed on the Oslo Stock Exchange
Benchmark criteria 2	Same activity code (TRBC code)
Benchmark criteria 3	Mrkt. cap. deviation of maximum 80%
Benchmark criteria 4	Book-to-market deviation of maximum 100%
Stock bought	First available trading date after subscription period ends
Stock sold	At pre-determined date or by delisting
Statistical test used	Skewness-adjusted bootstrapped t-test

7 Analysis

In this section all the statistical results are presented and discussed. We start by presenting the results from the full sample analysis, first utilizing the Jensen's alpha calendar-time method, followed by the buy-and-hold reference-portfolio method. Subsequently, we delve into the individual sub-samples, where we assess the validity of our alternative hypotheses in line with the results from the respective methodologies. Finally, we share the outcomes of the probit regression analysis, offering insights into the variables that augment the likelihood of repair issue cancellations.

7.1 Full Sample

In this sub-section, we will present an analysis of our findings on abnormal returns regarding the full sample for both methodologies over short- and long-term time periods. This analysis will make it easier for us to see the main trends of abnormal returns related to repair issues. Albeit, it does not only give us a big-picture understanding of the situation, but also paves the way for the analysis on our sub-samples in the upcoming sections.

7.1.1 Full Sample: Jensen's Alpha Calendar-Time Portfolio

As seen in Table 7.1, we do not observe any significant alphas until the 24-month mark, at which point we find a monthly abnormal return of -2.09%, significant at the 10% level. In the subsequent test periods of 36- and 60-months, we find abnormal returns of -2.12% and -2.32%, respectively, both significant at the 5% level. These results indicate that in the short-term, there is no evidence of event firms performing differently from expectations, while in the long-term, these firms underperform according to the Fama-French three-factor model.

Regarding the factor betas, we observe that the event firms have a positive and significant exposure to the excess market return ($R_m - r_f$) across all periods, implying that the event firms' returns are highly sensitive to market movements. The SMB factor, which represents the size effect, is also positive and significant for all periods except the 20-day period, suggesting that the event firms tend to perform better when small-cap stocks outperform large-cap stocks.

Lastly, the HML factor, which represents the value effect, shows a negative and significant relationship with the event firms' returns for the 6-, 12-, 18-, and 24-month periods. This implies that the event firms tend to perform worse when value stocks outperform growth stocks during these periods. The HML factor is not significant for the 36- and 60-month periods, indicating that the value effect is less pronounced in these longer time-periods.

Table 7.1: Jensen's Alpha Calendar-Time Portfolio Results for the Full Sample

			Factor betas					
Period	α	t-statistic	$R_m - r_f$	t-statistic	SMB	t-statistic	HML	t-statistic
20-days	0.0527	1.32	1.3497	1.95	0.4765	1.05	-0.6944	-1.95
6-months	-0.0104	-0.74	1.1710	3.39***	0.7305	2.77***	-0.6011	-2.96***
12-months	-0.0126	-0.70	1.2738	2.84***	0.7917	2.37**	-0.7119	-2.74***
18-months	-0.0184	-1.59	1.3910	4.78***	0.6180	2.85***	-0.4799	-2.89***
24-months	-0.0209	-1.98*	1.3520	5.08***	0.5481	2.77***	-0.3788	-2.49**
36-months	-0.0212	-2.31**	1.3561	5.86***	0.4685	2.27***	-0.2280	-1.72
60-months	-0.0232	-2.56**	1.4135	6.19***	0.5149	3.03***	-0.2188	-1.67

Notes. The table reports the test statistic and significance levels in the two sided t-tests for abnormal returns in the *Full Sample*. The α and factor β's results from regressing the excess portfolio returns on the three Fama-French pricing factors $R_m - r_f$, SMB, and HML. The issuer portfolio is formed using equal-weights. The issuer's stock enters the portfolio at the first available trading date after the subscription period ends, and is held for 20-days, 6-months, 12-months, 18-months, 24-months, 36-months or 60-months. The 20-day period employ daily factors, while all other periods are determined using monthly factors. Event stocks are removed if they do a new equity issue within the test period. $^*p<0.10$,$^{**}p<0.05$,$^{***}p<0.01$.

Our findings align with earlier research, such as the study by Hertzel et al. (2002), which also report significantly negative alpha values using the Jensen's alpha calendar-time portfolio method and the same factor model as our study. They suggest that managers and investors may be excessively optimistic about firms that privately issue equity, followed by a long-term correction period. One could argue that such optimism may extend to firms that carry out subsequent repair issues, before eventually experiencing a long-term negative adjustment that corrects this over-optimism.

However, as we have not investigated announcement returns of the repair issues, we have no statistical basis to say that there is an initial optimism as a result of the announcement of the repair issue. One might argue that the market initially perceives the *implementation* of the repair issue as a positive signal, indicating that the management cares about all shareholders, however this is speculative. We have not examined the announcement returns of repair issues, as examining this would be of little value to us. This lack of relevance stems from the fact that the repair issue's announcement is made simultaneously with the initial private placement's announcement. Therefore, a study on this would

essentially be a study on announcement returns for private placements, which precedes the potential implementation of a repair issue by several months. Additionally, the execution of a repair issue could be derailed due to fluctuations in market prices. However, building on the announcement returns methodologies employed by researchers like Hertzel et al. (2002)[9], future studies could benefit from examining the return from three days prior to the end of the repair issue's subscription period until the first trading day after the subscription period, when the outcome of the repair issue has been announced. This event provides new information, such as the amount of new shares issued and total new proceeds, and might lead to changes in valuation of the stock.

Regarding our significant negative long-term findings, one obvious possible explanation is that investors learn the true value of the impact of the repair issue over time. Investors might overestimate the potential synergies and benefits from the M&A activities, or overestimate the effect of the capital injections to firms in liquidity issues. As time passes and a clearer understanding of the actual impact of the M&A or capital injection is known, investors reassess their valuation of the stock, and this could potentially result in long-term negative returns we have observed.

Adding to this line of reasoning, it is also possible that these observed negative long-term returns could be caused by the fact that firms may use repair issues strategically to secure approval for private placements, particularly when their initial justifications are not compelling. For instance, management might opportunistically take advantage of favorable market conditions to raise capital. This could involve, for example, issuing equity when the company's stock price is high, thereby raising a larger amount of funds for each share sold. Spiess and Affleck-Graves (1995) and Loughran and Ritter (1997) referred to this as managers taking advantage of "windows of opportunity". Yet, once more, when the true impact of the repair issue is known, it could potentially result long-term negative returns. We will delve further into the impact that the stated use of proceeds has on the returns more extensively in the subsequent sections of our analysis.

[9]Hertzel et al. (2002) used this formula to calculate the discount adjusted announcement return:

$$\left[\frac{1}{1-a}\right] \mathrm{AR} + \left[\frac{a}{l-a}\right]\left[\frac{Pb-Po}{Pb}\right]$$

Where AR is the announcement period abnormal stock return (day -3 to day 0) based on market model residuals, a is the ratio of shares placed to shares outstanding after the placement, Pb is the market price at the end of the month prior to the event, and Po is the placement price.

Furthermore, our results find supporting evidence in the work of other researchers as well. The results from our study mirrors the findings of Jegadeesh (2000) and Brav et al. (2000). These researchers also support the argument of overvaluation followed by an long-term negative correction, but they highlight that smaller firms tend to underperform their benchmarks substantially more than larger firms. This point is relevant to our study as the majority of companies we analyze are smaller in terms of market capitalization. However, these studies also argue that their findings could be attributed to the intrinsic biases of the factor model, a concern that is always present when investigating long-term returns.

Krishnamurthy et al. (2005) also report findings that align with ours. The authors argue that the discount given in the equity issuance is designed to reflect the anticipated future decrease in share price. In other words, the long-term negative returns we observe might be a natural market correction that was anticipated at the time of the equity issue. Thus, while non-participating shareholders see a decrease in their stock value, the participating investors could be insulated from this decrease due to the discount they received when buying the shares. This implies that subscribing to the shares when offered the opportunity could be a strategic move for shareholders.

However, it must be mentioned that Krishnamurthy et al. (2005) employ the Carhart four-factor model instead of the Fama-French three-factor model. Although both models yield similar results in this case, one might expect variations in outcomes when using these different models, as the Carhart four-factor model incorporates an additional momentum factor that could better explain certain stock returns. Despite the differences in the factor models used, the results may still be comparable as both models attempt to account for common risk factors in stock returns and provide a robust framework for evaluating abnormal performance. Therefore, the similarities in the results suggest that the conclusions drawn from their study are consistent and comparable to some extent.

Furthermore, all of the aforementioned studies focus on private placements and SEOs, which raises questions about their comparability to our study. In our case, since the test period begins on the first trading day after the repair issue subscription period concludes, the market has had more time to react, adjust, and gather information about the initial private placement. This could potentially hinder the comparison between our study

and previous ones. On the other hand, the extended reaction time might not affect the comparison, as the market may immediately incorporate the available information into stock prices.

Nonetheless, the core objective of SEOs, private placements and repair issues is to raise capital for the company, suggesting similar underlying motivations. This strengthens their comparability. However, investor profiles in these cases might differ. For example, private placement investors are often more professional, wealthier, and fewer in number compared to repair issue investors. This difference in investor profiles could potentially impact the comparability between the two types of studies. One might expect professional investors to conduct more thorough research compared to retail investors. Nevertheless, the shared interest in acquiring shares at a discount remains a common factor in both cases. Furthermore, Krishnamurthy et al. (2005) found no evidence of performance differences linked to the identity of the investor.

Lastly, the timing and mechanics of SEOs, private placements and repair issues might differ, yet the market's ability to efficiently process information and price securities remains a common factor in both scenarios. Therefore, we argue that the studies can be compared in terms of their insights into market efficiency and the ability of different factor models to explain abnormal returns. Additionally, both private placements and repair issues often involve the same regulatory requirements, such as offering price, and disclosure obligations, which implies that the informational environment surrounding these events is similar. This common context allows for a more meaningful comparison between the studies.

7.1.2 Full Sample: Buy-And-Hold

When using the buy-and-hold method and comparing against a size-and-book reference portfolio, we find some intriguing insights, as presented in Table 7.2. Somewhat surprisingly, we do not find any significant results for the non-participating investors, meaning that those who do not sign up for any discount in the repair issue neither underperform nor overperform compared to the reference portfolio. This is intriguing in two ways: firstly, because we were expecting this method, if any, to yield significant results due to its several biases. Most studies on SEOs utilizing both methods find significant results using

the buy-and-hold method, while it is less likely using the Jensen's alpha calendar-time portfolio method. This is because the buy-and-hold method tends to overstate positively skewed multiyear returns and since it ignores cross-sectional dependence of event-firms. Secondly, it is also interesting in itself that we do not find any evidence of abnormal returns, suggesting that the market efficiently incorporates the available information about the repair issues. These findings stands in contrast to the results we obtained earlier using the Jensen's alpha calendar-time portfolio method.

The disparity between our findings could be attributed to the contrasting sensitivities of the two methodologies to how information is absorbed by the market over time. The calendar-time portfolio method, despite its conservative nature often yielding insignificant results, might be more proficient at capturing a subtle yet consistent long-term effect. This method accounts for cross-correlation of individual securities within the portfolios. Furthermore, it provides a better dynamic risk adjustment by calculating the expected return for each month, considering changing risk factors.

The buy-and-hold method assumes that risk remains constant over the holding period, which might not always hold true, leading to less accurate risk-adjustment. Moreover, issues can arise from cross-sectional dependence of returns, violating the assumption of cross-sectional independence. Therefore, in our particular case, where the information from the repair issues looks like it is gradually incorporated into the market rather than causing abrupt significant price reactions, the Jensen's alpha calendar-time portfolio method might be better suited to detect these subtle long-term effects.

Nonetheless, when we examine the returns of the participating investors – those who sign up for the repair issue and receive the discount – we find significant results at the 1% level for the time periods of 20-days, 6-months, and 12-months. After this, we report no significant abnormal returns in the remaining test periods. We find this very interesting, as is seems that the effect of receiving a discount is most substantial at the beginning, but its influence gradually diminishes over time. Some possible explanations of the diminishing effect of the discount could be due factors such as company performance, industry trends, and overall market conditions. We will elaborate on these factors below.

Firstly, company performance could be a significant determinant of these decreasing returns. If the firm underperforms in the long run due to poor managerial decisions, unfavorable

operational outcomes, or lackluster financial results, the initial benefits obtained from the discounted shares could diminish. Secondly, industry trends also have an considerable influence. For instance, if the sector in which the company operates begins to decline or faces regulatory or technological challenges, it can negatively affect the firm's stock performance, irrespective of the initial boost participating investors experience from the repair issue discount. Lastly, the overall market conditions have a considerable influence on stock returns. Economic cycles, fluctuations in interest rates, or shifts in investor sentiment can all lead to general market downturns, affecting virtually all stocks, including those of the companies conducting the repair issues. Thus, the initially favorable returns due to the discount could fade over time as broader market trends take precedence.

However, it's somewhat surprising to see that the returns actually experience an increase from the 20-day mark until the 12-month period. One explanation for this might be that the participating investors are initially more optimistic about the firm's prospects, driving the stock price higher and generating higher returns over time. However, as the optimism fades and the true value of the investment becomes apparent, the returns begin to normalize.

Regarding previous studies, Krishnamurthy et al. (2005) finds results somewhat consistent with ours. They also identified significantly positive returns for investors participating within their one-year testing period. Interestingly, like our results, they observed these positive return transitioning into not significantly different from zero over longer periods. However, unlike us, they also find negative significant returns for non-participating investors in the private placement. They argue that this indicates, as mentioned in Section 3, that investors are being offered equity at a price that foresees the adjustments made by the market after the issue. Thus, this argument and these findings should encourage investors being offered a chance to subscribe to a repair issue to do so.

Table 7.2: Abnormal Buy-and-Hold Returns Full Sample

Panel A: Abnormal Buy-and-Hold Returns Non-Participating Investors

(1) 20-days		(2) 6-months		(3) 12-months		(4) 24-months		(5) 36-months		(6) 60-months	
BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic
-0.0152	-0.81	-0.0017	-0.04	0.0011	-0.01	-0.2135	-0.89	-0.3296	-1.1	-0.3234	-1.3

Panel B: Abnormal Buy-and-Hold Returns Participating Investors

(1) 20-days		(2) 6-months		(3) 12-months		(4) 24-months		(5) 36-months		(6) 60-months	
BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic
0.2373	5.17***	0.2623	4.41***	0.3722	2.35***	0.1362	0.38	-0.2238	-0.74	-0.1992	-0.8

Notes. The table reports the average buy-and-hold abnormal returns (BHAR) in the *Full Sample* for non-participating investors in the repair issue (Panel A) and participating investors (Panel B). In Panel A, we calculate returns assuming that the investor buys the non-discounted share on the first available trading day after subscription period ends and holds it for the respective holding periods of 20-days, 6-, 12-, 24-, 36-, and 60-months. The buy-and-hold returns (BHR) for each company are then compared to the BHR of a reference portfolio constructed of matching firms based on size and book-to-market ratios. In Panel B we calculate the return from the discount given in the repair issue (we use the discount-adjusted stock price to perfectly replicate the stock price investors paid to participate in the repair issue). The reported t-statistic is skewness-adjusted bootstrapped t-statistic. Event stocks are removed if they do a new equity issue within the test period. *p<0.10,**p<0.05,***p<0.01.

In conclusion, our results suggest that when investors are offered an invitation to participate in repair issues, it would be advisable for them to seize this opportunity, at least in the short term. These findings may be of significant interest for the OSE as repair issues serve not only as a means to counterbalance the dilution caused by private placements, but may also offer lucrative investment opportunities for investors. Furthermore, the results indicate that repair issues have no immediate negative impact on companies, and as a matter the equal treatment principle, it could be argued that they should be made mandatory.

7.2 Sub-Samples

In this section, we delve deeper into our research by focusing on sub-samples, exploring the use of proceeds in M&A activities, liquidity issues, and operational purposes. We also examine the share price discount given and the relative share fleet increase. This closer inspection will provide nuanced insights into the dynamics of abnormal returns in varying scenarios. Similar to the full sample, we will apply both methodologies across both short-term and long-term time periods.

7.2.1 Sub-Samples: Jensen's Alpha Calander-Time Portfolio

As shown in Table 7.3, we generally find little evidence of abnormal returns across different time frames and sub-samples. This indicates that there is no variation in firm performance, irrespective of the use of proceeds, offering price discount, or share fleet increase. Considering the significant results from the full sample, this also suggests that when we divide the samples, the significance vanishes. This could be attributed to factors such as a reduction in sample size, resulting in less statistical power, or the possibility that the sub-sample divisions neutralize the effect of specific factors, making it challenging to detect any significant differences.

Our findings appear to diverge from those reported by Autore et al. (2009). Specifically, they identified significant buy-and-hold abnormal returns in the recapitalization sub-sample, which is akin to our liquidity issues sub-sample, as well as in their general corporate purposes sample.

Nonetheless, in light of the results from the calendar-time portfolio method of Jensen's alpha, we must reject all our alternative hypotheses. This implies that the *long-term* abnormal returns for firms conducting private placements and subsequent repair issues, regardless of the intended use of proceeds, discount offered, or relative share increases, are not significantly different from zero. The long-term performance of these firms does not appear to deviate from the expected returns given the risk profile suggested by the Fama-French three factor model. Still, we argue that his finding has important implications.

The lack of significant abnormal returns across various samples underscores an efficiently operating market environment on the OSE. This implies that market participants swiftly and accurately incorporate information around private placements and subsequent repair issues. Consequently, no visible, systematic over or under-reaction seems to occur, leading to the absence of abnormal returns in the long term. In simpler terms, the use of proceeds, the discount offered, or the degree of share fleet increase do not seem to provide a reliable basis for generating abnormal returns. Furthermore, this absence of significant abnormal returns, regardless of the intended use of proceeds, the size of the discount, or the relative share increases, signifies a level playing field. All firms, irrespective of their specific

circumstances, appear to experience similar market responses to their private placement and repair issue activities, implying equal opportunities for all market participants.

Table 7.3: Jensen's Alpha Calendar-Time Portfolio Results for all the Sub-Samples

	(1) 20-days	(2) 6-months	(3) 12-months	(4) 24-months	(5) 36-months	(6) 60-months
	α	α	α	α	α	α
Panel A: Sub-samples Based On Different Intended Uses Of Proceeds						
M&A Activities	0.0459 (1.10)	0.0129 (0.66)	0.0028 (0.20)	-0.0097 (-0.85)	-0.0164 (-1.54)	-0.0201 (-1.58)
Liquidity Issues	0.0527 (1.32)	0.0060 (0.32)	0.0110 (0.62)	0.0055 (0.36)	0.0006 (0.05)	-0.0055 (-0.48)
Operational Pur.	0.0357 (0.61)	0.0016 (0.07)	-0.0119 (-0.57)	-0.0128 (-0.86)	-0.0103 (-0.79)	-0.0143 (-1.21)
M&A - Liq. Issues	0.0546 (1.28)	0.0127 (0.66)	0.0023 (0.20)	-0.0097 (-0.85)	-0.0147 (-1.38)	0.0110 (0.87)
Panel B: Sub-samples Based On Relative Offering Price Discounts (%)						
0-10%	0.0536 (1.75)	0.0509**(2.05)	0.0176 (1.69)	0.0011 (0.13)	0.0046 (0.62)	0.0043 (0.64)
10-35%	0.0445 (1.11)	0.0151 (0.81)	0.0159 (0.83)	0.0050 (0.32)	-0.0073 (-0.61)	-0.0212 (-1.85)
>35%	0.0133 (0.17)	-0.0262 (-0.97)	-0.0387 (-1.58)	-0.0191 (-0.73)	-0.0108 (-0.48)	-0.0130 (-0.61)
0-10%->35%	-0.0050 (-0.19)	0.0462**(2.19)	0.0259 (1.55)	0.0205 (1.30)	0.0144 (1.04)	0.0116 (0.81)
Panel C: Sub-samples Based On Relative Share Fleet Increases (%)						
0-15%	0.0437 (1.43)	-0.0027 (-0.12)	0.0017 (0.13)	-0.0091 (-1.01)	-0.0005 (-0.06)	-0.0008 (-0.11)
15-40%	-0.0111 (-0.34)	0.0259 (0.79)	0.0172 (0.92)	0.0066 (0.45)	0.0002 (0.01)	-0.0056 (-0.44)
>40%	0.0597 (1.00)	0.0275 (0.94)	0.0273 (1.10)	0.0174 (0.91)	0.0029 (0.21)	0.0008 (0.07)
0-15%->40%	-0.0123 (-0.47)	0.0214 (1.13)	0.0097 (0.58)	-0.0193 (-1.02)	-0.0235 (-1.65)	-0.0286**(−2.11)

Notes. The table reports the test statistic and significance levels in the two sided t-tests (t-statistics in parentheses) for abnormal returns in the sub-samples *Use of Proceeds*, *Relative Price Discount*, and *Relative Share Increase*. The α results from regressing the excess portfolio returns on the three Fama-French pricing factors *Excess market return*, SMB, and HML. The issuer portfolio is formed using equal-weights. The issuer's stock enters the portfolio at the first available trading date after the subscription period ends, and is held for 20-days, 6-months, 12-months, 18-months, 24-months, 36-months or 60-months. The 20-day period employ daily factors, while all other periods are determined using monthly factors. Event stocks are removed if they do a new equity issue within the test period. $^{*}p<0.10$,$^{**}p<0.05$,$^{***}p<0.01$.

7.2.2 Sub-Samples: Buy-And-Hold

Similar to the findings reported from the Jensen's alpha calendar-time portfolio method, we do not find any evidence of abnormal returns in any testing periods or sub-samples for non-participating investors, as shown in Panel A of Table 7.5. This indicates that there is no significant difference in firm performance, regardless of the use of proceeds, offering price discount, or share fleet increase.

This leads us to once again reject our alternative hypotheses. Notably, the same explanations and implications previously discussed in the context of Jensen's alpha calendar-time portfolio method hold true here as well. The absence of any significant abnormal returns, irrespective of the sub-sample criteria, suggests the market's efficiency in absorbing the information related to the private placements and subsequent repair issues.

Table 7.4: Abnormal Buy-and-Hold Returns Sub-Samples

Panel A: Abnormal Buy-and-Hold Returns Non-Participating Investors

	(1) 20-days		(2) 6-months		(3) 12-months		(4) 24-months		(5) 36-months		(6) 60-months	
Sample	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic
Panel A1: Sub-Samples - Use of Proceeds												
M&A Activites	0.0083	0.27	0.0061	0.07	0.0381	0.45	-0.0163	-0.05	-0.1492	-0.34	0.5958	0.77
Liquidity Issues	-0.0561	0.92	0.0252	0.42	0.1147	0.82	0.0771	0.41	-0.0121	0.39	-0.7445	-4.53
Operational Pur.	0.0257	-2.08	-0.0260	-0.4	-0.1077	-0.7	-0.5283	-1.16	-0.6992	-1.04	-0.1360	-0.31
Panel A2: Sub-Samples - Relative (%) Share Price Discount												
0-10%	-0.0232	-0.98	-0.0453	-0.94	-0.228	-1.57	-0.7688	-1.61	-0.8665	-1.37	-0.3498	-0.8
10-35%	-0.0308	-1.22	-0.0075	-0.09	0.127	1.38	0.1914	0.87	0.1697	0.57	-0.0303	-0.05
>35%	0.0173	0.34	0.0693	0.75	0.180	0.79	0.0564	0.27	-0.1389	-0.48	-0.6724	-3.09
Panel A3: Sub-Samples - Relative (%) Share Fleet Increase												
0-15%	0.0191	0.62	-0.0279	-0.79	-0.2213	-1.07	-0.6687	-1.06	-0.6915	-0.95	0.1982	0.45
15-40%	-0.0351	-1.27	-0.0586	-0.49	0.0614	0.5	-0.4633	-1.07	-0.7605	-0.8	0.1107	0.47
>40%	-0.0235	-0.82	0.0356	0.66	0.1016	0.83	0.0949	0.48	-0.0326	-0.02	-0.5869	-1.76

Panel B: Abnormal Buy-and-Hold Returns Participating Investors

	(1) 20-days		(2) 6-months		(3) 12-months		(4) 24-months		(5) 36-months		(6) 60-months	
Sample	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic	BHAR	*t*-statistic
Panel B1: Sub-Samples - Use of Proceeds												
M&A Activites	0.2678	3.65**	0.2324	2.53**	0.3481	3.02**	0.5700	0.09	-0.1251	-0.36	0.3761	0.61
Liquidity Issues	0.4408	5.02***	0.4610	4.16***	0.7638	2.27***	1.4100	0.73	0.0358	0.26	-0.6730	-3.63
Operational Pur.	0.0683	1.09	0.1189	1.33	0.0582	0.2	-0.7600	-0.34	-0.5010	-0.75	0.1429	0.32
Panel B2: Relative (%) Share Price Discount												
0-10%	0.0975	1.93	0.0805	1.25	-0.071	-0.47	-0.6879	-1.39	-0.8335	-1.28	-0.3654	-0.98
10-35%	0.0830	1.26	0.0845	1.04	0.202	2.13**	0.2308	1.04	0.2338	0.76	0.0880	0.18
>35%	0.6419	4.89***	0.7581	4.22***	1.259	2.53***	1.0688	1.58	0.1048	0.53	-0.3352	-1.56
Panel B3: Relative (%) Share Fleet Increase												
0-15%	0.1068	1.8	0.0580	0.95	-0.0980	-0.48	-0.5941	-0.94	-0.6856	-0.95	0.0526	0.19
15-40%	0.0968	1.61	0.0372	0.32	0.2012	1.51	-0.4241	-0.94	-0.6945	-0.7	0.3256	1.12
>40%	0.3598	4.47***	0.4563	4.61***	0.7022	2.79***	0.6773	1.78	0.1197	0.6	-0.3971	-1.11

Notes. The table reports the average buy-and-hold abnormal returns (BHAR) in the sub-samples $Use of Proceeds$, $Relative Price Discount$, and $Relative Share Increase$ for non-participating investors in the repair issue (Panel A) and participating investors (Panel B). In Panel A, we calculate returns assuming that the investor buys the non-discounted share on the first available trading day after subscription period ends and holds it for the respective holding periods of 20-days, 6-, 12-, 24-, 36-, and 60-months. The buy-and-hold returns (BHR) for each company are then compared to the BHR of a reference portfolio constructed of matching firms based on size and book-to-market ratios. In Panel B we calculate the return from the discount given in the repair issue (we use the discount-adjusted stock price to perfectly replicate the stock price investors paid to participate in the repair issue). The reported t-statistic is skewness-adjusted bootstrapped t-statistic. Event stocks are removed if they do a new equity issue within the test period. $^{*}p<0.10$,$^{**}p<0.05$,$^{***}p<0.01$.

However, the results from Panel B of Table 7.5 report some significant findings. In the use of proceeds sub-samples, we observe significant results for participating investors in both the M&A activities and liquidity issues categories. In the M&A activities sub-sample, we find significant abnormal returns of 26.78% over the 20-day period, 23.24% over the 6-month period, and 34.81% over the 12-month period, all at the 5% significance level. In the liquidity issues sub-sample, there are significant abnormal returns of 44.08% over the 20-day period, 46.10% over the 6-month period, and 76.38% over the 12-month period, all at the 1% significance level.

In the relative share price discount sub-sample, we find significant results for the >35% discount group. Participating investors in this group experience significant abnormal returns of 64.19% over the 20-day period, 75.81% over the 6-month period, and 125.9% over the 12-month period, all at the 1% significance level.

Lastly, in the share fleet increase sub-sample, we observe significant results for the >40% share fleet increase group. In this group, participating investors enjoy significant abnormal returns of 35.98% over the 20-day period, 45.63% over the 6-month period, and 70.22% over the 12-month period, all at the 1% significance level.

The significant results found for participating investors in the M&A activities, liquidity issues, >35% discount, and >40% share fleet increase sub-samples point to a few important implications.

First, these findings further emphasizes the positive findings from the participating investors in the full sample. Similar to these previous observations, we notice a consistent trend where the influence of the discount vanishes post the 12-month mark. Further, these findings suggest that there are indeed benefits for participating investors in these specific scenarios. The significant positive abnormal returns indicate that investors who participate in private placements and subsequent repair issues related to M&A activities, liquidity issues, high share price discount, or substantial share fleet increase are able to earn above-average returns over both the short and medium term.

In the case of the use of proceeds sub-sample, the significant results for M&A activities and liquidity issues suggest that the market may be underestimating the value of these transactions, allowing participating investors to benefit from the eventual correction of these underestimations.

As for the relative share price discount sub-sample, the significant results for the >35% discount group indicate that high discounts may lead to above-average returns for participating investors. This might be expected, as larger discounts naturally have a greater potential to generate substantial short-term returns. It also reflects the difficulties faced by issuers in setting the ideal discount. Determining the perfect compensation for investors, to account for the perceived risk or dilution associated with the repair issue, is challenging. Given these observations, it appears that firms offering the most substantial

discounts may potentially be providing a larger discount than necessary. This, again, may be to compensate for the associated risk and uncertainty of future cash flows, mentioned above.

Furthermore, since the discount is initially established for private placement investors, the actual deviation from the market price during the repair issue, typically 2 months later, might be larger. This could be due to changes in market conditions or firm-specific factors during this interim period, which further complicates the setting of an appropriate discount.

Lastly, in the case of the share fleet increase sub-sample, the significant results for the >40% share fleet increase group imply that large share fleet increases, despite the potential dilution effect, may provide an opportunity for investors to realize substantial gains. This can be attributed to the possibility of such firms experiencing significant growth, leading to improved performance and consequently, higher stock prices. Moreover, as evidenced in Section 5, repair issues associated with the most considerable share increases also tend to offer the largest discounts. Therefore, the reasoning discussed above regarding the potential for large discounts leading to abnormal returns similarly applies in this context.

In summary, these findings provide valuable insights for both the OSE and investors considering participation in a repair issue. They underscore the potential for substantial short to medium-term returns in certain categories of repair issues, particularly those involving M&A activities, liquidity issues, large discounts, or significant share fleet increases.

7.3 Probit Regression Analysis: Determinants of Repair Issue Completion or Cancellation

In our pursuit to provide a robust and comprehensive examination of the factors influencing repair issues, we extend our analysis beyond the examination of abnormal returns. To complement our return-based analyses and provide a richer understanding of the dynamics surrounding private placements and repair issues, we introduce a probit regression model into our analytical framework to investigate the determinants of repair issue completion or cancellation.

A probit regression model is particularly useful in our context as it allows us to estimate the probability of a specific event occurring - in our case, the probability of a repair issue following a private placement. By employing this statistical tool, we can explore the relationships between various firm-specific variables and the likelihood of a subsequent repair issue. Key explanatory variables such as a share loan, the discount, and the use of proceeds are included in our model to shed light on their potential influence in predicting the occurrence of repair issues. In doing so, we aim to deepen our insights and provide a more holistic view of repair issues.

The dependent variable, *Repair Issue*, is a binary outcome representing whether a repair issue is held (coded as 1) or if it is canceled (coded as 0). The first explanatory variable, *Use of Proceeds*, is a categorical variable representing the purpose for which the funds raised through the repair issue are intended to be used. It includes three categories coded as follows: 1 = M&A activities, 2 = Liquidity Issues, and 3 = Operational Purposes. In our analysis, Operational Purposes are used as the reference group, which means that the effects of M&A activities and Liquidity Issues will be compared to Operational Purposes in the regression model. Understanding the role of the intended use of proceeds in the decision-making process can provide insights into how different funding needs influence the likelihood of completing or canceling a repair issue.

The second explanatory variable, *Price Discount*, refers to the percentage discount of the offering price compared to the market price of the shares. This variable captures the potential financial incentive for investors to participate in the repair issue. Examining the impact of the offering discount on the probability of repair issue completion or cancellation can help us understand the importance of pricing in attracting investors and ensuring the success of the repair issue.

Lastly, the *Loan Agreement* variable is a binary variable representing the presence or absence of a loan agreement in conjunction with the repair issue. It is coded as 1 if a loan agreement is present and 0 if it is not present. This variable can provide information about the role of external financing and the potential influence of lenders on the decision to hold or cancel a repair issue.

Table 7.5: Probit Regression Analysis: Determinants of Repair Issue Completion or Cancellation

Variable	**Estimate**	**Std.error**	***t*-statistics**	**P-value**
Intercept	-0.98	0.17	-5.76	0.00
Loan Agreement Dummy	0.19	0.21	0.90	0.37
Price Discount	0.40	0.19	2.08	0.08
Use of Proceeds: M&A Activities	0.41	0.21	1.97	0.10
Use of Proceeds: Liquidity Issues	0.04	0.03	1.33	0.18

Notes. This table presents probit regression estimates based on 243 events in the full sample. The dependent variable, *Repair Issue*, is a binary outcome representing whether a repair issue is held (0) or canceled (1). The independent variables include a loan agreement dummy variable, the percentage price discount, and categorical variables representing the use of proceeds. All independent variables are assumed to be normally distributed, and the estimates should be interpreted in terms of the z-score changes in the predicted probability of the dependent variable for a one-unit increase in the respective predictor variable, ceteris paribus. P-values less than 0.10 are considered statistically significant at the 10% level, less than 0.05 at the 5% level, and less than 0.01 at the 1% level.

The *Loan Agreement* dummy variable estimate is not statistically significant at any thresholds, indicating that we can not be confident the observed effect is not due to chance. Thus, based on the current regression analysis, the presence of loan agreements does not appear to have a statistically significant impact on the likelihood of a repair issue being canceled. As this is a very new phenomenon, we have very few observations on the loan agreements, therefore we find the the absent significant effect naturally. However, it would be very interesting to perform a similar regression in a few years time to see whether the outcome had changed.

The *Price Discount* variable has an estimate of 0.40, suggesting a positive relationship between the size of the discount and the likelihood of a repair issue being canceled. However, with a p-value of 0.08, this relationship is marginally significant at the 10% level, and not significant at stricter thresholds like 5% or 1%. This suggests there may be an effect, but further research would be needed to confirm.

For the *M&A Activities* variable, the estimate of 0.41 denotes a positive relationship between the funds being earmarked for M&A activities and the probability of canceling a repair issue, compared to when the funds are intended for Operational Purposes. This relationship, however, with a p-value of 0.10, falls short of reaching statistical significance at the 5% level but does so at the 10% level. This could indicate a potential effect, albeit with a degree of uncertainty attached to it.

Lastly, the *Liquidity Issues* variable's estimate is statistically insignificant at conventional levels. This indicates that our regression analysis fails to provide conclusive evidence that the use of repair issue proceeds for addressing liquidity issues significantly influences the probability of the repair issue being canceled.

In conclusion, our probit regression analysis reveals that none of the independent variables, including the presence of loan agreements, the discount of the offering price, and the specific uses of the proceeds, provide a prediction of the cancellation of a repair issue. While the variables *Price Discount* and *M&A Activities* show marginal significance at the 10% level, they do not meet the more stringent significance thresholds, indicating a degree of uncertainty around these effects. This lack of strong significant effects may be attributed to the fact that decisions about discounts and the use of proceeds are made several months prior to any eventual cancellation. Therefore, a multitude of other factors and information not captured in our model could potentially intervene and play a crucial role in determining the outcome of the repair issue. Thus, while our model provides a starting point for understanding the dynamics of repair issue cancellation, it also underscores the potential influence of various latent factors. Future research, possibly with a broader range of variables and a larger sample size, could shed more light on this complex issue.

8 Conclusion

This thesis aims to evaluate the performance of firms on the OSE that conducted a repair issue after a private placement. Our motivation arose from the surging number of private placements on the OSE in the past decade, the discriminatory character of private placements that may dilute non-participating shareholders, and the Norwegian phenomenon of repair issues. By employing conventional long-term event study methodologies coupled with a probit regression, our analysis is predicated on a compilation of 243 events, each representing private placements accompanied by proposed repair issues. Our sample spans across a pool of 133 distinct companies in the time frame from January 2012 to October 2022.

The results from the analysis on the full sample shows, according to the Jensen's alpha calendar-time portfolio method, that the event firms show increasingly negative returns in the 24-, 36- and 60-month time period, statistically significant at the 5% threshold. This is in line with several previous studies (Jegadeesh, 2000; Brav et al., 2000; Hertzel et al., 2002; Krishnamurthy et al., 2005).

Conversely, in the application of the buy-and-hold reference-portfolio methodology on the full sample, we observe results that appear to challenge our earlier findings. We suggest that such conflicting outcomes could stem from certain inherent biases in this method, such as issues of cross-sectional independence and a less robust adjustment for market risks. Despite these potential limitations, this approach offers valuable insights by facilitating the straightforward integration of the discounts offered to participating investors. Employing this method, we find significant results at the 1% level for time intervals of 20 days, 6 months, and 12 months. Beyond these time periods, however, we do not find any significant abnormal returns. We find this pattern interesting, as it appears to suggest that the impact of obtaining a discount is most potent initially but tends to recede gradually over time.

Additionally, as we narrow our analysis to specific sub-samples for the purpose of testing our four hypotheses, we fail to detect any significant returns for non-participating investors using both methodologies. Consequently, we reject all our alternative hypotheses. This infers that the long-term abnormal returns for companies undertaking private placements

followed by repair issues, regardless of the intended use of proceeds, the discount granted, or the magnitude of relative share increases, do not significantly deviate from zero. The long-term performance trajectory of these companies does not seem to diverge from the expected returns commensurate with the risk profile stipulated by the Fama-French three-factor model or the reference-portfolios.

However, we once again identify significant results for participating investors, particularly in the sub-samples associated with M&A activities, liquidity issues, discounts exceeding 35%, and share fleet increases surpassing 40%. These findings further underscore the positive returns identified for participating investors in the full sample, hinting at potential advantages for investors who participate under these specific circumstances.

Further, our probit regression analysis indicates that the variables *Price Discount* and *M&A Activities* have a significant influence on the probability of a repair issue cancellation. However, given that the regression estimates are only significant at the 10% level, the observed effects carry a measure of uncertainty. While our model provides an insightful starting point for studying the factors that influence the cancellation of repair issues, we argue that the lack of strong significance in the effects could be due the fact that decisions surrounding discounts and the allocation of proceeds are finalized several months before the potential cancellation of a repair issue. This allows for many other factors to potentially intervene and influence the final decision.

We posit that our findings offer meaningful insights to the OSE. Our results imply that repair issues are not merely instruments to mitigate the dilution effect emanating from private placements but might also present rewarding investment opportunities for participants. Moreover, our analysis suggests that there is no short-term negative effect on firms executing repair issues. Considering the principle of equal treatment, it could be proposed that the execution of repair issues should be made compulsory.

For upcoming studies, it could be intriguing to delve deeper into the impact of loan agreements provided in the initial private placements. For example, a comparison could be made between the announcement returns of private placements with loan agreements and those without such arrangements, to check if the market reacts differently to these situations.

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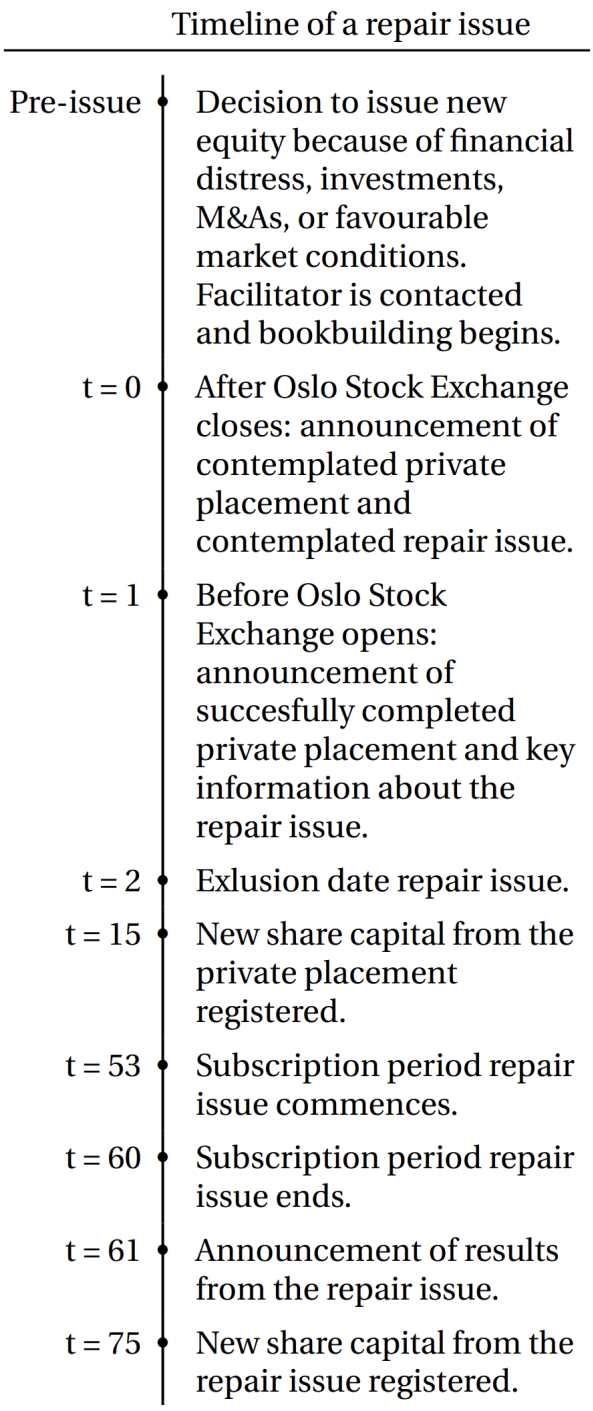
Appendix

A1 Timeline - From Decision to Issue Equity to Completed Repair Issue

Below we have included what, in our view, is the typical repair issue timeline. As we see from figure A1.1, it all starts with the company's decision to issue new equity. This decision could be based on very many different reasons, however the most repetitive reasons the firms announce themselves is financial distress, M&A activities, or operational purposes. It is worth noting that there is a significant time lag between the private placement announcement and the registration of the new share capital, taking approximately 14 days, as well as between the private placement and the start of the repair issue subscription period, which spans about 53 days. This extended timeline highlights the potential for stock price fluctuations and the impact it could have on the success of the repair issue. On the other hand, the extended period could also work in favor of the repair issue, as the initial reactions to the private placement may have subsided, allowing the share price to reflect the fair value of the company.

Figure A1.1: The Typical Repair Issue Timeline



A2 How the loan agreement in private placements hedges downside risk

Below we will describe how the investors are using the loan agreement to hedge against a continuous fall in the market share price $P_{M,t}$ in the period after the private placement.

We will assume that the trailing market prices in the period after the private placement is below the subscription price P_S: $P_S > P_{M,\,t=1}$ and $P_S > P_{M,\,t=15}$

At t = 0:

Subscribe for N_L number of shares to a subscription price of P_S in the private placement.

The value and cost of this position is $P_S \cdot N_L$

At the same time borrow N_S number of shares.

Note that N_L is always greater than N_S

At t = 1:

Liquidate your borrowed position at the trailing market price $P_{M,\,t=1}$

Receive $P_{M,\,t=1} \cdot N_S$

At t = 15:

Close the short position with the new registered long shares.

The value and cost of your position will be:

$P_{M,\,t=15} \cdot (N_L - N_S) + P_{M,\,t=1} \cdot N_S - P_S \cdot N_L$

Without the loan-agreement the value and cost of your position will be:

$P_{M,\,t=15} \cdot N_L - P_S \cdot N_L$

If put the value of the position with loan agreement equal to the value of the position without the loan agreement we have:

$P_{M,\,t=15} \cdot (N_L - N_S) + P_{M,\,t=1} \cdot N_S - P_S \cdot N_L = P_{M,\,t=15} \cdot N_L - P_S \cdot N_L$

Since the costs of the positions is equal we have:

$P_{M,\,t=15} \cdot (N_L - N_S) + P_{M,\,t=1} \cdot N_S = P_{M,\,t=15} \cdot N_L$

We know that $N_L > N_S$.

Further, if $P_{M,\,t=1} = P_{M,\,t=15}$ both sides of the equation is equal.

Thus, the property of $P_{M,\,t=1}$ decides which side of the equation is most valuable.

If $P_{M,\,t=1} > P_{M,\,t=15}$ we have:

$P_{M,\,t=15} \cdot (N_L - N_S) + P_{M,\,t=1} \cdot N_S > P_{M,\,t=15} \cdot N_L$

We see that we reduce the loss with the loan agreement compared to without the loan

agreement.

If $P_{M,\,t=1} < P_{M,\,t=15}$ we have:
$P_{M,\,t=15} \cdot (N_L - N_S) + P_{M,\,t=1} \cdot N_S < P_{M,\,t=15} \cdot N_L$
We see that we increase the loss with the loan agreement compared to without the loan agreement.

A3 Statistical Testing of BHARs

A3.1 The Conventional t-statistic

To test the null hypothesis that the mean abnormal buy-and-hold returns are equal to zero for the sample n of event firms, we first use the conventional t-statistic:

$$t = \frac{\overline{BHAR_t}}{\sigma BHAR_t/\sqrt{n}} \tag{.1}$$

Where,
$\overline{BHAR_t}$ is the mean of the abnormal returns from the sample n

$\sigma\left(BHAR_t\right)/\sqrt{n}$ is the cross sectional standard deviation of the abnormal retuns from the sample n

We reject the H_0: $\overline{BHAR_t} = 0$ if the absolute value of the t-statistic is above the critical value.

A3.2 The Bootstrapped Skewness-Adjusted t-statistic

Lyon et al. (1999) documented that the reference-portfolio approach eliminates the new listing- and rebalancing bias from the BHAR's. However, they also documented that BHAR's are positively skewed, which leads to negative skewed t-statistics. In practice, this means that the significant levels for lower-tailed tests are inflated. Thus, the estimated p-values will be too large which increases the chance of type 1 errors. To eliminate this

skewness the skewness-adjusted t-statistic can be applied:

$$t_{sa} = \sqrt{n}\left(S + \frac{1}{3}\hat{\gamma}S^2 + \frac{1}{6n}\hat{\gamma}\right) \tag{.2}$$

Where,

$$S = \frac{\overline{BHAR}_t}{\sigma\left(BHAR_t\right)} \quad and \quad \hat{\gamma} = \frac{\sum_{i=1}^{N}\left(BHAR_{it} - \overline{BHAR}_t\right)^3}{n\sigma\left(BHAR\right)^3} \tag{.3}$$

We see that the $\hat{\gamma}$ is an estimate of a coefficient, while $\sqrt{n}\cdot S$ is the conventional t-statistic.

Sutton (1993) documents that this skewness-adjusted t-statistic is better than the conventional t-statistic when the sample distribution is asymmetrical, which often is the case in event studies, and this decreases the chances of type 1 errors. However, only bootstrapped application of the skewness-adjusted t-statistics yields well-specified tests. Bootstrapping is done by:

Step 1. Draw 10,000 new samples from the original sample. Each new sample have the size of n_b. Empirical studies suggests that $n_b = \frac{n}{4}$ Lyon et al. (1999).

Step 2. In every new sample calculate t_{sa}^b by using the formula:

$$t_{sa}^b = \sqrt{n_b}\left(S^b + \frac{1}{3}\hat{\gamma}^b S^{b2} + \frac{1}{6n_b}\hat{\gamma}^b\right) \tag{.4}$$

Where,

$$S^b = \frac{\overline{BHAR}_t^b - \overline{BHAR}_t}{\sigma^b\left(BHAR_t\right)} \quad and \quad \hat{\gamma}^b = \frac{\sum_{i=1}^{n_b}\left(BHAR_{it}^b - \overline{BHAR}_t^b\right)^3}{n_b\sigma^b\left(BHAR_t\right)^3} \tag{.5}$$

Step 3. Calculate the critical values x_l^* and x_u^* on a α significance level by

using the formula:

$$Pr[t^b_{sa} \leq x^*_l] = Pr\left[t^b_{sa} \geq \ x^*_u\right] = \frac{\alpha}{2} \tag{.6}$$

Step 4. Reject H_0: $\overline{BHAR}^b_t = 0$ if $t_{sa} < x^*_l$ or if $t_{sa} > x^*_u$

A4 Examples of NewsWeb announcements

Following is screenshots from NewsWeb regarding the private placement and subsequent repair issue undertaken by Komplett ASA. We wanted to chose a company that is ***not*** a part of our data sample in order to avoid any companies feeling hung out. The picking of Komplett ASA was totally random. Further, as repair issues is a Norwegian phenomenon, we do believe these screenshots have a certain value to possible non Norwegians readers of this thesis.

The screenshots below are screenshots from NewsWeb regarding Komplett ASA's private placement and subsequent repair issue. In order to avoid any companies feeling they were unfairly exposed, we wanted to pick a company that was ***not*** a part of our sample. It was just at random that we picked Komplett ASA. Nonetheless, as repair issues are a Norwegian phenomenon, we think these screenshots might be of some use to readers who are not Norwegian.

Figure A4.1: Contemplated Private Placement Announcement

The Private Placement

Through the contemplated Private Placement, the Company will satisfy the above condition precedent, and the Company will use the net proceeds from the Private Placement and funds to be made available under the New Facilities to repay the NOK 1,500 million bridge loan, which was obtained in connection with the Company's combination with NetOnNet AB, announced 9 February 2022, and which matures in April 2023. The New Facilities will replace the Company's existing overdraft facilities of NOK 500 million, as well as its two existing revolving credit facilities of NOK 500 million and SEK 650 million.

Canica Invest AS ("Canica Invest") (owner of approx. 40.30 per cent of the shares in the Company) and SIBA Invest Aktiebolag ("SIBA Invest") (owner of approx. 32.78 per cent of the shares in the Company) have committed to subscribe for Offer Shares for a combined amount of at least NOK 800 million in the Private Placement, of which Canica Invest for at least NOK 500 million and SIBA Invest for NOK 300 million. Canica Invest will be allocated Offer Shares for at least an amount required to ensure than it will maintain an ownership of more than 40 per cent (taking into account potential dilution from the Subsequent Offering (as defined below)) and SIBA Invest will have the right to be allocated the number of Offer Shares required for them to maintain their 32.78 per cent ownership following the Private Placement.

Members of the Company's management and Board of Directors have indicated an intention to subscribe for an aggregate of NOK 7.4 million. This includes Lars Olav Olaussen (CEO), Krister Pedersen (CFO) and Jo Lunder (Chairman of the Board).

Lars Olav Olaussen, CEO of Komplett, commented: "We are pleased to have reached a good, long-term solution which provides us with a robust financial position and enables us to refinance the bridge loan following the combination with NetOnNet. In parallel with our actions to improve net working capital, reduce slow-moving inventory, realise cost synergies with NetOnNet and maintain an industry-leading cost position, the combination of long-term debt financing and the contemplated private placement will ensure that the Komplett group remains well-positioned for long-term value creation."

Figure A4.2: Completed Private Placement Announcement

Komplett ASA: Private Placement Successfully Placed

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Sandefjord/Oslo, 15 November 2022: Reference is made to the stock exchange notice published by Komplett ASA (the "Company") on 15 November 2022 (the "Announcement") regarding the contemplated private placement of new shares in the Company to raise gross proceeds of NOK 1,000 million (the "Private Placement"). The Company hereby announces that it has allocated 67,800,000 new shares (the "Offer Shares") in the Private Placement at a subscription price of NOK 14.75 per share (the "Offer Price"), raising gross proceeds of NOK 1,000,050,000.

ABG Sundal Collier ASA ("ABGSC"), Carnegie AS ("Carnegie") and Nordea Bank Abp, filial i Norge ("Nordea") and Skandinaviska Enskilda Banken AB (publ), Oslo branch ("SEB") acted as Joint Bookrunners (the "Managers") in connection with the Private Placement.

The Company will use the net proceeds from the Private Placement and funds to be made available under the New Facilities (as defined in the Announcement) to repay the NOK 1,500 million bridge loan which was obtained in connection with the Company's combination with NetOnNet AB.

Settlement of the Private Placement is divided into two tranches, whereas Tranche 1 of the Private Placement consists of 27,500,000 Offer Shares and Tranche 2 of the Private Placement consist of 40,300,000 Offer Shares.

Figure A4.3: Key Info About The Contemplated Repair Issue Announcement

In accordance with the continuing obligations of companies listed on the Oslo Stock Exchange, the following key information is given with respect to the Subsequent Offering:

-Date on which the terms and conditions of the repair issue were announced: 15 November 2022

-Last day including right: 15 November 2022

-Ex-date: 16 November 2022

-Record date: 17 November 2022

-Date of approval: 8 December 2022

-Maximum number of new shares: up to 3,390,000 new shares

-Subscription price: NOK 14.75

For further inquiries, please contact:

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Kristin.Hovland@komplett.com

Krister A. Pedersen, CFO
Krister.Pedersen@komplett.com

About Komplett ASA

Figure A4.4: Resolution to Commence The Repair Issue Announcement

Komplett ASA: Resolution to increase the share capital in connection with the subsequent offering

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Sandefjord/Oslo, 4 January 2023: Reference is made to the stock exchange announcement made by Komplett ASA (the "Company") on 15 November 2022 regarding the successful placing of a private placement in the Company raising gross proceeds of NOK 1,000,050,000 (the "Private Placement") and the potential subsequent offering of up to 3,390,000 new shares (the "Subsequent Offering"), as well as the stock exchange announcement made on 8 December 2022 where the Company among other announced that the general meeting had resolved to grant the board of directors an authorization to increase the Company's share capital by up to NOK 1,356,000, by the issuance of up to 3,390,000 new shares, each with a nominal value of NOK 0.40, in connection with the Subsequent Offering.

In accordance with the authorization granted by the extraordinary general meeting 8 December 2022, the board of directors has today resolved to increase the share capital by a minimum of NOK 0.40 and a maximum of NOK 1,356,000, through the issuance of a minimum of 1 new share and a maximum of 3,390,000 new shares, each with a nominal value of NOK 0.40 and with a subscription price of NOK 14.75.

Figure A4.5: Commencement of The Repair Issue Announcement

Komplett ASA: Commencement of subscription period for subsequent offering

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Sandefjord/Oslo, 6 January 2023: Reference is made to the stock exchange announcement made by Komplett ASA (the "Company") on 4 January 2023 regarding the board of directors' resolution to carry out the subsequent offering of up to 3,390,000 new shares in the Company, each with a nominal value of NOK 0.40, at a subscription price of NOK 14.75 (the "Subsequent Offering").

Reference is further made to the stock exchange announcement of 4 January 2023 regarding the approval by the Financial Supervisory Authority of Norway (Nw. Finanstilsynet) of the prospectus prepared by the Company (the "Prospectus") for (i) the listing of unlisted shares in connection with the private placement placed on 15 November 2022 (the "Private Placement") on Oslo Stock Exchange and (ii) the offering and listing of new shares in the Subsequent Offering.

The Subsequent Offering consists of an offer by the Company to issue up to 3,390,000 new shares (the "Offer Shares"), each with a nominal value of NOK 0.40, at a Subscription Price of NOK 14.75 per Offer Share, being equal to the subscription price in the Private Placement. Subject to all Offer Shares being issued, the Subsequent Offering will result in NOK 50,002,500 in gross proceeds to the Company.

The subscription period for the Subsequent Offering will commence today, 6 January 2023, at 09:00 hours (CET) and expire on 20 January 2023 at 16:30 hours (CET) (the "Subscription Period").

Figure A4.6: Last Day of Subscription Period of The Repair Issue Announcement

Komplett ASA - Last day of the subscription period in the subsequent offering

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Sandefjord/Oslo, 20 January 2023: Reference is made to the stock exchange announcement made by Komplett ASA (the "Company") on 6 January 2023 regarding the subsequent offering of up to 3,390,000 new shares ("Offer Shares") in the Company, each with a nominal value of NOK 0.40, at a subscription price of NOK 14.75 (the "Subsequent Offering"). Reference is further made to the prospectus prepared by the Company which was approved by the Financial Supervisory Authority of Norway (Nw.: Finanstilsynet) on 4 January 2023 (the "Prospectus") for (i) the listing of unlisted shares in connection with the private placement placed on 15 November 2022 on Oslo Stock Exchange and (ii) the offering and listing of new shares in the Subsequent Offering.

The subscription period for the Subsequent Offering (the "Subscription Period") will expire today, 20 January 2023 at 16:30 hours (CET).

Correctly completed subscription forms must be received by one of the managers of the Subsequent Offering, ABG Sundal Collier ASA, Carnegie AS, Nordea Bank Abp, filial i Norge or Skandinaviska Enskilda Banken AB (publ), Oslo branch (the "Managers"), or in the case of online subscriptions, be registered by the expiry of the Subscription Period.

Subscription Rights that are not used to subscribe for Offer Shares before the expiry of the Subscription Period will have no value and will lapse without compensation to the holder.

Further information about the Subsequent Offering and the subscription procedures is included in the Prospectus, which is available on the Company's website at https://www.komplettgroup.com/investor-relations.

Figure A4.7: Final Result of The Repair Issue Announcement

Komplett ASA: Final result of subsequent offering and allocation of offer shares successfully completed

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Sandefjord/Oslo, 24 January 2023: Reference is made to the stock exchange announcement made by Komplett ASA (the "Company") on 6 January 2023 regarding the subsequent offering of up to 3,390,000 new shares ("Offer Shares") in the Company, each with a nominal value of NOK 0.40, at a subscription price of NOK 14.75 (the "Subsequent Offering").

The subscription period in the Subsequent Offering expired on friday 20 January 2023 at 16:30 hours (CET). The final results show that the Company has received valid subscriptions for a total of 43,582 Offer Shares. Hence, 43,582 Offer Shares will, subject to timely payment, be issued in the Subsequent Offering.

Notifications of allocated Offer Shares in the Subsequent Offering and the corresponding amount to be paid by each subscriber will be set out in a separate allocation letter to each subscriber. The allocation letters are expected to be sent today. The deadline for payment for the Offer Shares is 26 January 2023, in accordance with the payment instructions set out in the Company's prospectus dated 4 January 2023 (the "Prospectus").

The Offer Shares may not be transferred or traded until they are fully paid and the share capital increase pertaining to the Subsequent Offering has been registered with the Norwegian Register of Business Enterprises (Nw.: Foretaksregisteret). Subject to timely payment of the Offer Shares subscribed for and allocated in the Subsequent Offering, the issuance and delivery of the Offer Shares pertaining to the Subsequent Offering is expected to be completed on or about 31 January 2023. The Offer Shares are expected to commence trading on the Oslo Stock Exchange on 1 February 2023. The managers (as listed below) may be contacted for information regarding allocation, payment and delivery of the Offer Shares.

A5 The Full Sample of Event Companies

Figure A5.1: Full Sample Data

Company	Offering price	Cancelled	Day of announcement	Last day of subscription	Shares offered	Repair subscriptions	Fullfillment rate	Money raised (NOK)
Seabird Exploration	3	No	28.07.2022	26.09.2022	2 000 000.00	N/A	N/A	N/A
Ads Maritime Holding	2.1	No	22.07.2022	20.09.2022	34 190 476.00	N/A	N/A	N/A
Atlantic Sapphire ASA	20.5	No	28.06.2022	27.08.2022	9 000 000.00	N/A	N/A	N/A
Shelf Drilling	13	Yes	23.06.2022	N/A	3 800 000.00	N/A	N/A	N/A
Nordic Unmanned ASA	22	No	02.06.2022	28.08.2022	1 363 636.00	716 832	52.6 %	15 770 304
Flyr	1.2	Yes	05.05.2022	N/A	62 500 000.00	N/A	N/A	N/A
Norwegian Block Exchange	5	Yes	05.05.2022	N/A	3 350 864.00	N/A	N/A	N/A
PGS ASA	3.7	No	04.05.2022	15.07.2022	38 155 803.00	38 155 803	100.0 %	141 176 471
Argeo AS	5	Yes	08.04.2022	N/A	2 000 000.00	N/A	N/A	N/A
Nortel AS	18	No	08.04.2022	19.05.2022	833 333.00	64 485	7.7 %	1 160 730
Pryme B.V	10	No	07.04.2022	16.06.2022	3 000 000.00	2 582 352	86.1 %	25 823 520
Arribatec Group ASA	0.5	No	06.04.2022	12.07.2022	20 000 000.00	3 625 153	18.1 %	1 812 577
Norway Royal Salmon ASA	202	No	31.03.2022	30.05.2022	1 500 000.00	N/A	N/A	N/A
Borgestad ASA	2	No	01.03.2022	08.04.2022	50 000 000.00	39 401 693	78.8 %	78 803 386
Nordic Nanovector ASA	14	No	19.01.2022	11.03.2022	3 571 429.00	57 100	1.6 %	799 400
Seabird Exploration	2.25	No	14.01.2022	13.05.2022	3 500 000.00	3 500 000	100.0 %	7 875 000
Northern Ocean Ltd.	4.45	No	13.01.2022	28.03.2022	8 000 000.00	6 796 378	85.0 %	30 243 882
Horisont Energi AS	65	No	12.01.2022	08.02.2022	769 230.00	769 230	100.0 %	49 999 950
SoftOx Solutions AS	55	Yes	15.12.2021	N/A	218 000.00	N/A	N/A	N/A
Scana ASA	1.4	Yes	15.12.2021	N/A	50 000 000.00	N/A	N/A	N/A
Endur ASA	0.75	Yes	16.11.2021	N/A	40 000 000.00	N/A	N/A	N/A
Nordic Halibut AS	27.5	Yes	08.11.2021	N/A	N/A	N/A		N/A
Klaveness Combination Carriers	49	Yes	03.11.2021	N/A	434 500.00	N/A	N/A	N/A
Elop AS	4	Yes	01.10.2021	N/A	250 000.00	N/A	N/A	N/A
KMC Properties	8	No	16.09.2021	27.10.2021	1 875 000.00	1 875 000	100.0 %	15 000 000
poLight ASA	110	No	13.09.2021	20.10.2021	170 455.00	116 396	68.3 %	12 803 560
Seabird Exploration	4.5	No	30.06.2021	06.12.2021	1 750 000.00	330 095	18.9 %	1 485 428
Cloudberry Clean Energy ASA	12.5	No	01.06.2021	02.07.2021	2 000 000.00	2 000 000	100.0 %	25 000 000
Black Sea Property	3	No	28.05.2021	14.07.2021	1 666 667.00	485 163	29.1 %	1 455 489
Carbon Transition ASA	0.1	No	03.05.2021	08.07.2021	200 000 000.00	200 000 000	100.0 %	20 000 000
Avance Gas Holding Ltd	43	Yes	08.04.2021	N/A	644 950.00	N/A	N/A	N/A
Salmon Evolution	6	Yes	11.03.2021	N/A	8 333 333.00	N/A	N/A	N/A
Nordic Unmanned ASA	39.5	Yes	05.03.2021	N/A	317 000.00	N/A	N/A	N/A
Nordic Mining	2.5	Yes	24.02.2021	N/A	7 000 000.00	N/A	N/A	N/A
Nordic Nanovector ASA	22.75	No	23.02.2021	25.03.2021	2 699 280.00	2 699 280	100.0 %	61 408 620
DLTX ASA	5.04	No	17.02.2021	26.04.2021	1 800 000.00	1 800 000	100.0 %	9 072 000
Golden Ocean Group Limited	53	No	17.02.2021	26.04.2021	2 710 377.00	2 710 377	100.0 %	143 649 981
PetroNor E&P Limited	1.1	No	12.02.2021	07.09.2021	60 000 000.00	N/A	N/A	N/A
Panoro Energy ASA	15.5	No	10.02.2021	15.03.2021	5 500 000.00	5 500 000	100.0 %	85 250 000
BW Energy	27	Yes	21.01.2021	N/A	2 200 000.00	N/A	N/A	N/A
Norske Skog ASA	34	Yes	13.01.2021	N/A	1 764 705.00	N/A	N/A	N/A
Saga Pure ASA	4.1	No	29.12.2020	27.01.2021	4 800 000.00	828 592	17.3 %	3 397 227
Saga Pure ASA	2.9	No	21.12.2020	27.01.2021	4 900 000.00	4 900 000	100.0 %	14 210 000
SoftOx Solutions AS	55	No	16.12.2020	03.03.2021	181 818.00	181 818	100.0 %	9 999 990
KMC Properties	7	No	14.12.2020	18.02.2021	981 233.00	981 233	100.0 %	6 868 631
Saga Pure ASA	2.1	No	14.12.2020	27.01.2021	4 000 000.00	4 000 000	100.0 %	8 400 000
Storm Real Estate ASA	7	No	14.12.2020	18.02.2021	4 285 714.00	981 233	22.9 %	6 868 631
Axactor SE	8	No	09.12.2020	19.02.2021	26 750 000.00	26 750 000	100.0 %	214 000 000

(a) Event 1-48

DLTX ASA	4	Yes	03.12.2020	N/A	1 900 000.00	N/A	N/A	N/A
AqualisBraemar LOC ASA	6.1	No	23.11.2020	29.04.2021	5 163 934.00	3 375 000	65.4 %	20 587 500
Endur ASA	1.2	Yes	11.11.2020	N/A	20 833 333.00	N/A	N/A	N/A
Scatec Solar ASA	230	Yes	21.10.2020	N/A	2 065 248.00	N/A	N/A	N/A
Hofseth Biocare ASA	8.1	No	16.10.2020	18.12.2020	4 938 271.00	2 930 671	59.3 %	23 738 435
Targovax	7.25	Yes	14.10.2020	N/A	1 500 000.00	N/A	N/A	N/A
Rec Silicon	10.8	Yes	14.10.2020	N/A	18 518 518.00	N/A	N/A	N/A
Solstad Offshore ASA	2.8	No	29.09.2020	28.11.2020	1 336 973.00	1 336 973	100.0 %	3 743 524
Nordic Nanovector ASA	17.5	Yes	23.09.2020	N/A	2 285 714.00	N/A	N/A	N/A
Borr Drilling Limited	4.9	No	22.09.2020	23.11.2020	10 000 000.00	10 000 000	100.0 %	49 394 222
Arribatec Group ASA	0.94	No	08.09.2020	19.11.2020	32 855 000.00	N/A	N/A	N/A
Zwipe AS	15	No	07.09.2020	27.10.2020	1 000 000.00	1 000 000	100.0 %	15 000 000
Norwegian Property ASA	11.3	No	23.08.2020	08.12.2020	2 492 143.00	2 492 143	100.0 %	28 161 216
Aqua Bio Technology ASA	5	No	17.08.2020	10.09.2020	505 200.00	505 200	100.0 %	2 526 000
Thin Film Electronics ASA	0.15	No	23.07.2020	15.09.2020	66 666 666.00	66 666 666	100.0 %	10 000 000
Cloudberry Clean Energy ASA	12	Yes	10.07.2020	N/A	800 000.00	N/A	N/A	N/A
MPC Container Ships ASA	1	No	06.07.2020	20.08.2020	35 000 000.00	35 000 000	100.0 %	35 000 000
Endur ASA	1.5	Yes	30.06.2020	N/A	13 300 000.00	N/A	N/A	N/A
Nel ASA	18.45	Yes	15.06.2020	N/A	10 840 109.00	N/A	N/A	N/A
NEXT Biometrics Group ASA	2	No	28.05.2020	06.07.2020	10 000 000.00	5 382 887	53.8 %	10 765 774
Kongsberg Automotive ASA	0.1	No	20.05.2020	24.07.2020	3 000 000 000.00	3 000 000 000	100.0 %	300 000 000
BerGenBio ASA	37.5	No	04.05.2020	03.07.2020	1 500 000.00	534 178	35.6 %	20 031 675
Thin Film Electronics ASA	0.11	No	28.04.2020	29.06.2020	63 636 363.00	63 636 363	100.0 %	7 000 000
poLight ASA	55	No	16.04.2020	16.06.2020	181 818.00	181 818	100.0 %	9 999 990
BRAbank ASA	0.5	Yes	05.03.2020	N/A	60 000 000.00	N/A	N/A	N/A
Navamedic ASA	19	No	18.02.2020	11.06.2020	526 000.00	347 337	66.0 %	6 599 403
Magseis Fairfield ASA	3.4	Yes	13.02.2020	N/A	13 600 000.00	N/A	N/A	N/A
NRC Group ASA	37	Yes	13.02.2020	N/A	1 891 892.00	N/A	N/A	N/A
BerGenBio ASA	18	No	29.01.2020	12.03.2020	1 500 000.00	6 397	0.4 %	115 146
Nordic Mining	2	Yes	28.01.2020	N/A	10 000 000.00	N/A	N/A	N/A
Targovax ASA	8	Yes	22.01.2020	N/A	N/A	N/A	N/A	N/A
NEL C	9.5	No	21.01.2020	07.04.2020	N/A	N/A	N/A	N/A
PGS ASA	17.48	Yes	21.01.2020	N/A	5 120 000.00	N/A	N/A	N/A
Arribatec Group ASA	1.2	No	20.01.2020	16.03.2020	25 000 000.00	7 116 814	28.5 %	8 540 177
Black Sea Property	2	No	18.12.2019	18.02.2020	2 300 000.00	2 194 073	95.4 %	4 388 146
Northern Drilling Ltd.	49	No	03.12.2019	20.02.2020	1 872 659.00	75 686	4.0 %	3 708 614
Borgestad ASA	20	No	27.11.2019	12.02.2020	1 000 000.00	27 597	2.8 %	551 940
Norwegian Air Shuttle ASA	40	Yes	05.11.2019	N/A	7 000 000.00	N/A	N/A	N/A
AF Gruppen ASA	175.1	No	25.10.2019	28.11.2019	1 925 944.00	490 170	25.5 %	85 828 767
Nordic Nanovector B	22	Yes	17.10.2019	N/A	N/A	N/A	N/A	N/A
XXL	15	No	15.10.2019	11.03.2020	6 666 667.00	6 666 667	100.0 %	100 000 005
Axxis Geo Solutions ASA	6	No	10.10.2019	21.11.2019	8 333 333.00	11 071	0.1 %	66 426
Voss Veksel og Landmandsbank	156	No	01.10.2019	22.11.2019	128 205.00	128 205	100.0 %	19 999 980
Bakkafrost	500	No	27.09.2019	05.11.2019	1 000 000.00	869 756	87.0 %	434 878 000
BRAbank ASA	1.25	No	29.08.2019	07.10.2019	7 600 000.00	291 760	3.8 %	364 700
Norwegian Energy Company	185	No	09.08.2019	23.08.2019	1 768 648.00	1 768 648	100.0 %	327 199 880
Hofseth Biocare ASA	4	No	24.07.2019	16.09.2019	1 500 000.00	1 500 000	100.0 %	6 000 000
Arribatec Group ASA	1	No	18.07.2019	25.09.2019	2 850 000.00	1 748 027	61.3 %	1 748 027
Hunter Group ASA	3.65	Yes	17.07.2019	N/A	19 045 400.00	N/A	N/A	N/A

(b) Event 49-97

Pareto Bank	37	No	05.06.2019	12.07.2019	1 081 081.00	421 232	39.0 %	15 585 584
Belships ASA	7	No	29.05.2019	12.07.2019	1 603 128.00	558 541	34.8 %	3 909 787
Hunter Group ASA	3.65	Yes	22.05.2019	N/A	19 045 400.00	N/A	N/A	N/A
Data Respons	27	No	13.05.2019	19.08.2019	1 800 000.00	1 800 000	100.0 %	48 600 000
Seabird Exploration	1.2	Yes	11.04.2019	N/A	25 000 000.00	N/A	N/A	N/A
Rec Silicon	0.67	Yes	09.04.2019	N/A	50 000 000.00	N/A	N/A	N/A
Targovax	7	No	21.03.2019	24.05.2019	2 104 394.00	142 457	6.8 %	997 199
Awilco Drilling PLC	31.8	Yes	11.03.2019	N/A	800 000.00	N/A	N/A	N/A
Napatech A/S	1.5	No	22.02.2019	10.05.2019	16 666 667.00	16 666 667	100.0 %	25 000 001
Nel ASA	5.45	No	30.01.2019	09.04.2019	12 500 000.00	12 500 000	100.0 %	68 125 000
Nordic Nanovector ASA	45	No	25.01.2019	06.03.2019	777 777.00	69 051	8.9 %	3 107 295
NEXT Biometrics Group ASA	8	No	24.01.2019	11.03.2019	3 500 000.00	3 500 000	100.0 %	28 000 000
Black Sea Property	0.2	No	20.12.2018	28.01.2019	19 750 000.00	19 750 000	100.0 %	3 950 000
Aqua Bio Technology ASA	2.5	No	04.12.2018	28.02.2019	220 500.00	120 896	54.8 %	302 240
Induct AS	5	No	28.11.2018	11.01.2019	656 350.00	333 062	50.7 %	1 665 310
Instabank ASA	1.55	No	23.11.2018	22.02.2019	30 000 000.00	27 642 039	92.1 %	42 845 160
Solon Eiendom ASA	30	No	22.11.2018	28.01.2019	1 413 079.00	1 413 079	100.0 %	42 392 370
SpareBank 1 Østlandet	86	No	08.11.2018	21.01.2019	1 619 250.00	105 024	6.5 %	9 032 064
Magseis ASA	16.95	No	08.11.2018	04.01.2019	7 392 330.00	2 019	0.0 %	34 222
Panoro Energy ASA	16.1	Yes	07.11.2018	N/A	N/A	N/A	N/A	N/A
Seabird Exploration	1.9	No	11.07.2018	17.09.2018	10 000 000.00	1 166 791	11.7 %	2 216 903
Seabird Exploration	0.19	No	11.07.2018	09.09.2018	100 000 000.00	N/A	N/A	N/A
Napatech A/S	5	Yes	10.07.2018	N/A	1 200 000.00	N/A	N/A	N/A
NEL B	3.12	No	28.06.2018	18.09.2018	15 000 000.00	15 000 000	100.0 %	46 800 000
Hofseth Biocare ASA	2.25	No	19.06.2018	10.09.2018	8 888 889.00	6 600 298	74.3 %	14 850 671
Seabird Exploration	0.16	No	24.05.2018	15.08.2018	156 250 000.00	156 250 000	100.0 %	25 000 000
Hunter Group ASA	3.2	No	16.05.2018	06.07.2018	16 250 000.00	16 250 000	100.0 %	52 000 000
Odfjell Drilling Ltd	36	No	19.04.2018	04.07.2018	3 775 162.00	46 302	1.2 %	1 666 872
Black Sea Property	0.4	No	18.04.2018	28.05.2018	5 000 000.00	5 000 000	100.0 %	2 000 000
Solon Eiendom ASA	24.1	No	09.04.2018	08.06.2018	396 040.00	396 040	100.0 %	9 544 564
Vistin Pharma ASA	11.2	No	22.03.2018	25.05.2018	4 464 286.00	503 942	11.3 %	5 644 150
NEXT Biometrics Group ASA	42	No	21.03.2018	20.05.2018	200 000.00	3 713	1.9 %	155 946
Norwegian Air Shuttle ASA	155	No	20.03.2018	25.06.2018	1 290 323.00	1 290 323	100.0 %	200 000 065
Awilco Drilling PLC	27.35	No	28.02.2018	18.06.2018	1 400 000.00	1 400 000	100.0 %	38 290 000
Polarcus	1.3	No	26.01.2018	05.04.2018	30 769 231.00	30 769 231	100.0 %	40 000 000
Magseis ASA	18	Yes	26.01.2018	N/A	N/A	N/A	N/A	N/A
Eidesvik Offshore ASA	5	No	08.01.2018	19.03.2018	6 000 000.00	6 000 000	100.0 %	30 000 000
Nordic Mining	3.2	No	14.12.2017	26.01.2018	3 000 000.00	3 000 000	100.0 %	9 600 000
Bank2 ASA	9.5	No	06.12.2017	06.02.2018	526 316.00	203 339	38.6 %	1 931 721
DOF ASA	0.6	No	28.11.2017	14.02.2018	336 666 667.00	336 666 667	100.0 %	202 000 000
Hugo Games	2.4	No	21.11.2017	15.01.2018	1 476 000.00	970 868	65.8 %	2 330 083
Monobank ASA	3.7	No	23.10.2017	30.11.2017	12 162 162.00	52 528	0.4 %	194 354
Melhus Sparebank	117	No	20.10.2017	04.12.2017	213 675.00	213 675	100.0 %	24 999 975
Nel ASA	2.5	No	27.09.2017	20.11.2017	10 000 000.00	N/A	N/A	N/A
Seabird Exploration	0.1	No	15.09.2017	19.11.2017	50 000 000.00	50 000 000	100.0 %	5 000 000
Insr Insurance Group ASA	7	No	29.08.2017	13.12.2017	5 714 285.00	1 027 071	18.0 %	7 189 497
Cxense	40	Yes	24.08.2017	N/A	150 000.00	N/A	N/A	N/A
Targovax ASA	20	No	09.06.2017	14.07.2017	2 000 000.00	323 268	16.2 %	6 465 360
Bergen Group ASA	2.7	Yes	01.06.2017	N/A	1 481 481.00	N/A	N/A	N/A

(c) Event 98-146

Awilco LNG ASA	3.5	No	19.05.2017	03.07.2017	5 715 000.00	2 246 684	39.3 %	7 863 394
African Petroleum Corporation	7.75	Yes	03.05.2017	N/A	5 550 000.00	N/A	N/A	N/A
SpareBank 1 Ringerike Hadeland	185	No	27.04.2017	14.06.2017	378 378.00	157 196	41.5 %	29 081 260
Grong Sparebank	106	No	30.03.2017	29.05.2017	188 679.00	169 545	89.9 %	17 971 770
Magseis ASA	15	No	24.03.2017	11.04.2017	2 830 800.00	401 377	14.2 %	6 020 655
Archer Limited	10	No	01.03.2017	19.04.2017	16 800 000.00	4 925 171	29.3 %	49 251 710
Nel ASA	2.72	Yes	27.02.2017	N/A	10 000 000.00	N/A	N/A	N/A
Flex LNG Ltd	11.5	No	17.02.2017	01.06.2017	7 200 000.00	37 977	0.5 %	436 736
Farstad Shipping ASA	0.35	No	13.02.2017	21.03.2017	142 857 142.00	142 857 142	100.0 %	50 000 000
Norwegian Finans Holding ASA	76.75	Yes	13.02.2017	N/A	1 302 931.00	N/A	N/A	N/A
Polarcus	0.33	No	10.02.2017	05.04.2017	122 000 000.00	3 447 789	2.8 %	1 137 770
Induct AS	17	Yes	03.02.2017	N/A	N/A	N/A	N/A	N/A
Insr Insurance Group ASA	7	No	02.02.2017	09.05.2017	4 000 000.00	828 981	20.7 %	5 802 867
Badger Explorer ASA	0.5	No	02.02.2017	20.03.2017	80 000 000.00	60 735 150	75.9 %	30 367 575
S.D. Standard Drilling Plc	0.9	Yes	24.01.2017	N/A	22 200 000.00	N/A	N/A	N/A
Reach Subsea	1.75	No	12.01.2017	10.03.2017	6 399 070.00	3 388 560	53.0 %	5 929 980
S.D. Standard Drilling Plc	0.9	Yes	05.01.2017	N/A	11 900 000.00	N/A	N/A	N/A
Havila Shipping	0.125	No	14.12.2016	20.03.2017	240 000 000.00	240 000 000	100.0 %	30 000 000
S.D. Standard Drilling Plc	0.65	No	08.12.2016	20.01.2017	9 500 000.00	5 514 718	58.0 %	3 584 567
S.D. Standard Drilling Plc	0.65	No	08.12.2016	20.01.2017	9 500 000.00	5 514 718	58.0 %	3 584 567
Badger Explorer ASA	0.125	No	05.12.2016	27.02.2017	80 000 000.00	80 000 000	100.0 %	10 000 000
Petroleum Geo-Services ASA	22.5	No	23.11.2016	05.01.2017	13 500 000.00	13 500 000	100.0 %	303 750 000
Solon Eiendom ASA	0.15	No	21.11.2016	12.01.2017	666 666 666.00	666 666 666	100.0 %	100 000 000
Questerre Energy Corporation	3	No	02.11.2016	03.02.2017	3 000 000.00	1 414 835	47.2 %	4 244 505
Bergen Group ASA	1.2	No	27.10.2016	31.03.2017	4 401 736.00	4 401 736	100.0 %	5 282 083
Helgeland Sparebank	70	No	24.10.2016	08.12.2016	314 285.00	314 285	100.0 %	21 999 950
Avance Gas Holding Ltd	17	No	21.10.2016	10.11.2016	2 500 000.00	2 500 000	100.0 %	42 500 000
Tysnes Sparebank	105	No	18.10.2016	28.11.2016	100 000.00	55 174	55.2 %	5 793 270
Axactor	2.6	No	13.10.2016	12.12.2016	50 000 000.00	50 000 000	100.0 %	130 000 000
LINK Mobility Group ASA	150	No	29.09.2016	02.12.2016	166 666.00	166 666	100.0 %	24 999 900
Hofseth Biocare ASA	1.5	No	20.09.2016	17.10.2016	13 333 334.00	1 027 494	7.7 %	1 541 241
Solstad Offshore ASA	12.5	No	09.09.2016	27.10.2016	1 600 000.00	45 639	2.9 %	570 488
Komplett Bank	16	No	15.08.2016	20.09.2016	910 579.00	339 126	37.2 %	5 426 016
Oxxy Group Plc	1.5	No	25.07.2016	15.08.2016	1 000 000.00	999 913	100.0 %	1 499 870
Prosafe SE	0.25	No	13.07.2016	31.10.2016	504 000 000.00	504 000 000	100.0 %	126 000 000
Induct AS	19	No	05.07.2016	08.08.2016	410 205.00	96 716	23.6 %	1 837 604
Rem Offshore ASA	0.87	No	29.06.2016	08.08.2016	22 988 505.00	N/A	N/A	N/A
Solstad Offshore ASA	12.5	No	22.06.2016	27.10.2016	3 188 811.00	3 188 811	100.0 %	39 860 138
Funcom N.V.	0.55	No	26.05.2016	25.07.2016	15 000 000.00	15 000 000	100.0 %	8 250 000
Hofseth Biocare ASA	2	Yes	05.05.2016	N/A	6 676 440.00	N/A	N/A	N/A
NEXT Biometrics Group ASA	133	No	04.05.2016	25.07.2016	200 000.00	200 000	100.0 %	26 600 000
Norske Skogindustrier ASA	2.24	No	21.04.2016	07.06.2016	31 512 247.00	25 588 655	81.2 %	57 318 587
Induct AS	10	No	07.04.2016	02.05.2016	500 000.00	500 000	100.0 %	5 000 000
Bank Norwegian AS	50	No	06.04.2016	13.06.2016	800 000.00	800 000	100.0 %	40 000 000
Norwegian Finans Holding ASA	50	No	05.04.2016	13.06.2016	800 000.00	800 000	100.0 %	40 000 000
Magseis ASA	12.5	No	01.04.2016	18.05.2016	1 200 000.00	1 200 000	100.0 %	15 000 000
Songa Offshore	0.15	No	15.03.2016	30.05.2016	1 418 100 000.00	1 418 100 000	100.0 %	212 715 000
Melhus Sparebank	107.5	No	11.03.2016	02.05.2016	393 116.00	372 488	94.8 %	40 042 460
Birdstep Technology ASA	2.2	No	09.03.2016	25.07.2016	678 108.00	678 108	100.0 %	1 491 838

(d) Event 147-195

Pareto Bank	21.5	No	04.02.2016	18.03.2016	N/A	2 191 162	N/A	47 109 983
Bionor Pharma	0.71	No	27.01.2016	01.03.2016	22 978 865.00	22 978 865	100.0 %	16 314 994
Nickel Mountain Group	1	No	16.10.2015	11.12.2015	60 000 000.00	60 000 000	100.0 %	60 000 000
NRC Group	27	No	22.06.2015	18.08.2015	370 370.00	370 370	100.0 %	9 999 990
Spectrum	32	No	02.06.2015	23.07.2015	1 500 000.00	122 478	8.2 %	3 919 296
SpareBank 1 Østfold Akershus	105	No	21.05.2015	30.06.2015	273 930.00	N/A	N/A	N/A
Hofseth Biocare ASA	3	Yes	04.05.2015	N/A	N/A	N/A	N/A	N/A
Dolphin Group	2.05	Yes	21.04.2015	N/A	N/A	N/A	N/A	N/A
DNO	13.25	Yes	09.03.2015	N/A	N/A	N/A	N/A	N/A
Asetek	10	No	24.02.2015	10.04.2015	2 000 000.00	480 029	24.0 %	4 800 290
African Petroleum Corporation	0.35	No	09.02.2015	01.04.2015	54 285 714.29	11 604 331	21.4 %	4 061 516
Nel ASA	1.3	No	28.11.2014	22.01.2015	10 000 000.00	10 000 000	100.0 %	13 000 000
Polarcus	1.4	Yes	06.10.2014	N/A	25 000 000.00	N/A	N/A	N/A
Aqualis	2.55	No	03.02.2014	28.03.2014	2 000 000.00	2 000 000	100.0 %	5 100 000
Crudecorp ASA	5.5	No	02.12.2013	04.02.2014	3 878 922.00	1 000	0.0 %	5 500
Songa Offshore	2.5	No	25.11.2013	24.02.2014	61 000 000.00	61 000 000	100.0 %	152 500 000
Melhus Sparebank	110	No	31.10.2013	17.12.2013	545 455.00	181 123	33.2 %	19 923 530
Norwegian Energy Company	0.1	No	21.10.2013	13.01.2014	1 000 000 000.00	1 000 000 000	100.0 %	100 000 000
Bionor Pharma	2.75	No	12.09.2013	22.10.2013	7 500 000.00	7 500 000	100.0 %	20 625 000
Crudecorp ASA	6.4	Yes	23.08.2013	N/A	1 100 000.00	N/A	N/A	N/A
Sparebanken Møre	185	No	13.06.2013	29.08.2013	540 541.00	540 541	100.0 %	100 000 085
CellCura ASA	0.2	No	13.06.2013	13.09.2013	25 000 000.00	22 946 032	91.8 %	4 589 206
Sparebanken Møre	185	No	13.06.2013	29.08.2013	540 541.00	540 541	100.0 %	100 000 085
Agasti Holding ASA	1.35	No	27.05.2013	26.07.2013	14 814 814.81	N/A	N/A	N/A
Reach Subsea	3.2	No	03.05.2013	11.07.2013	704 240.00	352 579	50.1 %	1 128 253
Nel ASA	0.6	No	07.03.2013	23.04.2013	11 666 666.00	4 575 078	39.2 %	2 745 047
Crudecorp ASA	6.4	Yes	05.03.2013	N/A	1 500 000.00	N/A	N/A	N/A
Intercoil Exploration & Production	1	No	05.03.2013	09.04.2013	7 882 500.00	4 138 145	52.5 %	4 138 145
Nordic Mining	0.7	No	26.02.2013	08.04.2013	18 547 000.00	6 068 697	32.7 %	4 248 088
Scana Industrier ASA	0.3	No	29.01.2013	14.05.2013	226 357 331.00	129 978 427	57.4 %	38 993 528
Biotec Pharmacon ASA	4.25	No	10.01.2013	27.02.2013	2 500 000.00	1 340 357	53.6 %	5 696 517
Havila Shipping	24	No	10.12.2012	12.02.2013	950 000.00	436 156	45.9 %	10 467 744
Seabird Exploration	7.5	No	28.11.2012	13.02.2013	1 500 000.00	1 500 000	100.0 %	11 250 000
CellCura ASA	0.46	No	25.10.2012	12.12.2012	10 869 565.00	1 019 600	9.4 %	469 016
Norwegian Energy Company	3.7	No	28.09.2012	13.11.2012	18 918 918.00	1 038 010	5.5 %	3 840 637
Birdstep Technology ASA	1	No	19.09.2012	05.11.2012	5 000 000.00	619 831	12.4 %	619 831
Prospector Offshore Drilling S.A.	9.5	No	18.09.2012	05.12.2012	4 700 000.00	2 202 948	46.9 %	20 928 006
Renewable Energy Corporation	1.5	No	22.06.2012	03.09.2012	250 000 000.00	250 000 000	100.0 %	375 000 000
Songa Offshore	18	Yes	19.04.2012	N/A	N/A	N/A	N/A	N/A
Dolphin Group	4.6	No	06.03.2012	12.04.2012	3 000 000.00	3 000 000	100.0 %	13 800 000
Algeta	143	No	14.02.2012	15.03.2012	350 000.00	53 576	15.3 %	7 661 368
BWG Homes	11.5	No	14.02.2012	10.04.2012	3 478 260.00	3 062 825	88.1 %	35 222 488
Norwegian Car Carriers	1.85	No	13.02.2012	25.05.2012	3 243 200.00	1 029 406	31.7 %	1 904 401
North Energy ASA	10	No	09.02.2012	19.03.2012	1 500 000.00	589 055	39.3 %	5 890 550
Codfarmers	2	No	08.02.2012	10.04.2012	15 000 000.00	9 358 976	62.4 %	18 717 952
Höegh LNG Holdings Ltd.	53	No	02.02.2012	22.03.2012	636 552.00	226 536	35.6 %	12 006 408
Bridge Energy ASA	10	No	19.01.2012	09.03.2012	4 200 000.00	140 855	3.4 %	1 408 550
CellCura ASA	1.2	No	18.01.2012	01.02.2012	3 500 000.00	1 049 451	30.0 %	1 259 341

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