The Performance of Buyout-Backed IPOs

Evidence From the Nordic Stock Markets

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Abstract:

This study investigates the post-IPO performance of 108 buyout-backed IPOs in the Nordic stock markets, listed between 2010 and 2022. Using buy-and-hold abnormal returns (BHAR), the study examines whether buyout-backed IPOs generate abnormal returns, whether they outperform venture capital- and non-private capital-backed IPOs, and whether pre-IPO holding period and IPO market conditions explain return variation. The results show positive BHAR for buyout-backed IPOs, especially over three years, but limited evidence that they outperform venture capital- and non-private capital-backed IPOs. Longer holding periods are associated with weaker three-year BHAR, with the effect mainly driven by firms held for more than seven years. Additionally, favourable IPO market conditions are also strongly linked to shorter holding periods. These findings are mainly attributed to buyout sponsors' active governance, firm selection, market timing, reputation considerations, and holding period dynamics, where holding period is defined as the time between the initial buyout transaction and the subsequent IPO.

Keywords:

Buyout-backed, Private equity, Post-IPO performance, Holding period, IPO timing

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1. Introduction

Initial public offerings (IPOs) have long had a central position in financial markets as they challenge the views of market efficiency. IPOs are commonly associated with short-run underpricing, as Ritter (1991) documents that newly listed firms may underperform comparable listed firms in the long run. The long-run stock performance of IPOs is therefore relevant not only for investors, but also to understand whether issuers successfully time markets and whether post-IPO prices reflect other factors than fundamental values. This makes post-IPO performance a useful setting for studying the relation between ownership structure, market timing, and long-run performance.

Within the broader IPO literature, buyout (BO)-backed IPOs represent a distinct pre-IPO ownership group. Unlike traditional IPOs, BO-backed IPOs have typically undergone a period of concentrated ownership, active monitoring, leverage, and operational restructuring before listing. The BO model is closely related to Jensen's (1989) agency-theory argument that debt and concentrated ownership can discipline management and reduce inefficient use of funds. Kaplan & Strömberg (2009) similarly describe BOs as transactions in which specialised investment firms acquire mature companies using relatively little equity and substantial debt. If this ownership model improves firm quality pre-IPO, BO-backed IPOs may not exhibit the same long-run underperformance documented in the broader IPO literature.

At the same time, BO-backed IPOs might raise a different concern. Because an IPO is an exit option for the BO sponsor, post-IPO performance may depend not only on firm quality, but also on BO sponsor exit dynamics. If the BO sponsor brings a firm public after operational improvements have been realised, the public market may receive a more mature and financially disciplined company. Conversely, if the IPO is driven by market conditions, fund-life pressure, or reduced remaining value-creation potential, post-IPO performance may be weaker. This connects BO-backed IPOs to both the broader IPO timing literature (Ritter, 1991) and BO-specific evidence on holding period and exit timing (Cao & Lerner, 2009; Cao, 2011).

1.1 Motivation and tests

Within Private Equity (PE), the Nordic market provides a relevant setting for studying post-IPO returns, as the region combines active public equity markets, developed institutional investor bases, and a strong BO presence. The Economist (2025) describes Stockholm as Europe's new 'capital of capital', highlighting the role of Nasdaq Stockholm, EQT[1], and the

[1] As of 2025, EQT is the second largest global PE sponsor by fundraising amount over the last five years (U.S. News, 2025).

broader Nordic equity and debt markets. Simultaneously, Spliid (2013) argues that Nordic PE differs from US and UK settings that dominate much of the existing BO-backed IPO literature, particularly in terms of market size, credit-market structure, and management culture.

This study therefore examines BO-backed IPOs listed on the Nordic stock markets between 2010 and 2022. More specifically, it aims to answer three research questions. First, it tests whether Nordic BO-backed IPOs generate positive buy-and-hold abnormal returns (BHAR), and if they outperform Venture Capital (VC)- and non-Private Capital (PC)-backed IPOs. Second, if the BO holding period explains variation in post-IPO BHAR, where holding period is defined as the time between the initial buyout transaction and the subsequent IPO. Third, if favourable IPO market conditions are linked with shorter holding periods, potentially being consistent with the market timing hypothesis[2] (Cao, 2011).

Accordingly, the final sample consists of 470 IPOs across three pre-IPO ownership groups: 108 BO-backed IPOs, 68 VC-backed IPOs, and 294 non-PC-backed IPOs. Stock returns are measured using one- and three-year BHAR with country-specific return indices used as benchmarks. The empirical analysis first compares BHAR across BO-, VC-, and non-PC-backed IPOs using both mean comparisons and dummy variable regressions while controlling for firm size and IPO market conditions. Second, within the BO sample, the relationship between holding period and BHAR is examined using both linear and dummy variable regressions while controlling for firm size, transaction history, and IPO timing. Finally, holding period is used as the dependent variable to test whether IPO timing, measured as the number of Nordic IPOs in the previous three months in line with Cao (2011), is associated with shorter BO holding periods while controlling for firm size and transaction history.

1.2 Empirical findings and implications

The findings provide partial support for the view that BO-backed IPOs constitute a relatively strong IPO group. BO-backed IPOs exhibit positive BHAR over both one- and three-year horizons, while also generating the highest mean BHAR among the three pre-IPO ownership groups across both horizons. The strongest evidence is observed over three years, where BO-backed IPOs generate a mean three-year BHAR of 31.13%, which is weakly statistically significant. In the dummy variable regressions, BO-backed IPOs exhibit economically stronger long-run performance relative to VC-backed IPOs and modestly stronger performance relative to non-PC-backed IPOs at the three-year horizon, although not statistically significant. Overall,

[2] The market timing hypothesis refers to the notion that BO sponsors tend to shorten the BO restructuring process under more favourable external conditions for new issuance (Cao, 2011).

the results suggest that BO-backed IPOs differ from other pre-IPO ownership groups, but do not exhibit consistent statistical outperformance.

This study further finds evidence that holding period matters for post-IPO performance. Longer BO holding periods are associated with weaker three-year BHAR, with the effect primarily driven by firms held for more than seven years. Specifically, firms with holding periods above seven years exhibit a statistically significant 43.92 percentage points lower three-year BHAR relative to the benchmark group of a four-to-seven-year holding period. These findings suggest that Nordic public markets may value BO-backed IPOs differently depending on how long firms have been held prior to listing. While longer holding periods are not necessarily unfavourable, the results indicate that sufficiently long holding periods may be associated with lower remaining upside, fund-life pressure, or weaker IPO readiness. This interpretation is consistent with prior literature on BO exit timing and fund structure dynamics. (Kaplan & Strömberg, 2009; Cao & Lerner, 2009; Cao, 2011; Arcot et al., 2015).

Additionally, this study also finds that favourable IPO market conditions are significantly associated with shorter BO holding periods. More specifically, an increase of one IPO in the IPO timing measure is associated with a reduction in the holding period of around 10 days, while moving from the 25th to the 75th percentile of the IPO timing measure corresponds to a decrease in holding periods of around 6-7 months. The finding supports the market timing hypothesis, consistent with Cao (2011) and Jenkinson & Sousa (2015), who argue that BO sponsors respond to favourable market conditions. However, the moderate economic magnitude suggests that timing is not the only explanation for the holding period. Although not empirically tested, governance, sponsor reputation, and operating maturity remain important when discussing what explains BO holding periods (Cao & Lerner, 2009; Cao, 2011).

More broadly, the interpretation of abnormal IPO returns also relates to the distinction between behavioural and risk-factor explanations discussed by Ritter & Welch (2002). This study does not empirically test these competing explanations, but put relatively greater attention on behavioural aspects, consistent with previous BO-backed IPO literature (Ritter, 1991; Degeorge & Zeckhauser, 1993; Cao, 2011). Nevertheless, risk-factor explanations remain relevant, especially since Levis (2011) uses Fama-French factor (FF3) tests and finds that BO-backed IPOs still exhibit abnormal returns, reinforcing the need to consider behavioural perspectives.

Collectively, this study's findings and implications are suggested to be relevant for both institutional investors and BO sponsors. For institutional investors, BO-backed IPOs should not be treated within the regular IPO long-run underperformance group seen in literature. For

BO sponsors, while IPO remains a relevant Nordic exit option, longer holding periods and IPO timing may introduce trade-offs between quick exits, long-run returns, and reputational risk.

1.3 Literature and future research

This study contributes to the literature in three ways. First, it provides updated evidence on BO-backed IPO performance in the Nordic market, including the unusually active IPO year of 2021. Second, it distinguishes between BO-, VC-, and non-PC-backed IPOs, and shows that sponsor-backed IPOs should not be treated as one homogeneous group. Third, it links post-IPO performance to holding period and IPO market conditions, thereby connecting stock performance to BO sponsors' exit timing decisions.

While this study aims to provide a broad analysis of BO-backed IPO performance, it does not examine risk-factor exposure, operational performance, post-IPO sponsor ownership, or fund vintage. These areas provide natural extensions for future research.

2. Literature Review

This literature review presents the prior research most relevant to BO-backed IPOs and demonstrates the foundation for this study. It begins with a general overview of BO-backed IPO performance and then reviews the main areas relevant to the analysis. Specifically, the following subsections focus on BO-backed IPO performance, holding period, BO vs. VC- and non-PC-backed IPO returns, IPO timing, transaction history, risk-based and behavioural interpretations of BHAR, and research gap.

2.1 BO-backed IPO performance

One of the first studies in the sponsor-backed IPO field is Muscarella & Vetsuypens (1990), who examine how Reversed Leveraged Buyouts (RLBOs[3]) affect accounting performance. They find that firms experience significant improvements in profitability and operational efficiency during the period of private ownership prior to the IPO.

Earlier research has examined BO-backed IPOs and their subsequent stock performance. One of the first such studies is Degeorge & Zeckhauser (1993), who analyse the post-IPO performance of RLBOs in relation to traditional IPOs in the United States (U.S.). Evaluating long-run stock performance, the study uses cumulative abnormal returns (CAR) relative to market benchmarks. They hypothesize that managers on average are trying to time the market

[3] RLBOs occur when a firm is taken private through a Public-to-Private transaction, held under BO ownership, and later re-listed on a stock exchange through a new IPO.

to manipulate performance, and that, because of the selection effect, stronger performing BOs are more likely to enter public markets. Specifically, the selection effect implies that sponsors may be reluctant to raise outside equity when the portfolio company's debt is severely risky, implying that weaker candidates are less likely to be taken public. By measuring performance up to three years post-IPO, the results provide weak evidence that RLBOs outperform both conventional IPOs and the market.

Additionally, a similar approach is taken by Mian & Rosenfeld (1993), who investigate 85 RLBOs in the U.S. from 1983-1988. Their study evaluates both short-run and up to three years stock market performance, primarily using CAR and starting at closing price on the first day of trading. Their findings suggest that RLBOs do outperform the market, especially around two and three years. Additionally, in most cases above 12 months CAR, RLBOs perform stronger than comparable publicly listed firms, which the authors mostly attribute to takeover activity.

Moreover, Holthausen & Larcker (1996) provide an analysis of 90 BO-backed IPOs in the U.S. from 1983-1988, examining both stock market and accounting performance following the IPO. Their analysis considers long-run horizons of up to five years following the first day closing price of the IPO. The results indicate that BO-backed IPOs are less mispriced (first day) than the average IPO. Additionally, using BHAR, Holthausen & Larcker (1996) do not find evidence of the IPO underperformance documented by Ritter (1991). While Holthausen & Larcker's (1996) results are consistent with the governance benefits of BO ownership, their stock-return evidence remains inconclusive.

Taken together, these early studies establish the empirical foundation for BO-backed IPOs and subsequent stock returns, even though the majority only focus on RLBOs.

Furthermore, several studies closer in time have examined BO-backed IPOs. One of these studies is conducted by Cao & Lerner (2009), who analyse the performance of 526 BO-backed IPOs in the U.S. between 1981 and 2003, comparing them with other IPOs and other listed firms. Long-run stock performance is evaluated using BHAR over one, three, and five years. Across the sample, the authors find that BO-backed IPOs do not exhibit the long-run underperformance typically associated with traditional IPOs, and in some cases perform slightly better than other IPOs. They implicitly attribute the contradicting findings of the IPO underperformance view to active monitoring and governance by BO sponsors.

Additionally, Katz (2009) examines how PE sponsorship affects earnings quality and long-run post-IPO performance. Using a U.S. sample of 123 PE-backed IPOs between 1980-2005, the study compares majority PE-backed and minority PE-backed IPOs in the five years pre- and post-IPO. Using BHAR analysis, the author hypothesizes that PE sponsors improve

reporting quality and post-IPO outcomes. The results show higher earnings quality and superior long-run stock performance for majority PE-owned firms, attributed to professional ownership, tight monitoring, and reputational considerations.

Across the literature, the evidence is relatively consistent in suggesting that BO involvement may positively influence post-IPO performance. However, despite several studies examining BO-backed IPOs, Nordic evidence remains limited.

2.2 Holding period

The holding period, in this case the time between the initial BO transaction and the IPO of the BO-backed firm, has received some attention in the literature. Kaplan & Strömberg (2009), using a global pre-Global Financial Crises (GFC) BO sample, report a median holding period of around six years, while Strömberg & Thomann (2025) document a similar median holding period of six years using more recent global BO data. Although consistent median across periods, holding period varies with market conditions, fund-life constraints, and available exit opportunities (Kaplan & Strömberg, 2009; Strömberg & Thomann, 2025).

In relation to IPO performance, Cao & Lerner (2009) address the role of holding periods and test whether it can explain returns, measured using BHAR primarily over three years. Accordingly, by splitting the sample by above and below median (2.83 years holding period), and above and below quick flip (below 12 months holding period), they find no strong relationship, even though their initial hypothesis suggests that rushing firms to market (quick flips) should result in underperforming returns. However, when reducing the sample size to 213 (from 526) by including ownership and capital structure as new independent variables and using the wealth relative measure as the dependent variable, they arrive at a different conclusion. Specifically, they find a significant and negative relationship with holding period, and a significant and negative relationship with quick flip IPOs pre-1995, supporting their initial quick flip hypothesis.

A more direct analysis is provided by Cao (2011), who investigates IPO timing, BO duration (holding period), and post-IPO performance for 594 BO-backed IPOs in the U.S. between 1981 and 2006. Rather than purely focusing on stock returns, the study also examines operating performance, using BO duration as a proxy for restructuring effort. The article finds that longer BO duration is positively related to some post-IPO operating performance metrics, while quick flips exhibit greater operating deterioration and higher delisting risk. This suggests that shorter holding periods may reflect market timing opportunities rather than completed value creation (Strömberg & Thomann, 2025), as BO sponsors appear to shorten the

restructuring process when IPO market conditions are favourable. As for post-IPO BHAR, Cao (2011) finds that longer holding periods are associated with weaker stock performance on a three-year horizon, albeit statistically insignificant.

Overall, the evidence on holding periods remains inconclusive. Some studies suggest that shorter holding periods reflect market timing rather than value creation, some find longer holding periods to have a negative relationship with returns, while others find no robust relationship. Notably, the relationship between holding period and stock returns in the Nordic market has received limited empirical attention, especially closer in time.

2.3 BO-backed vs. VC- and non-PC-backed IPO return

Comparing BO-backed IPOs with VC- and non-PC-backed IPOs provides a relevant benchmark for understanding if ownership structure matters for long-run returns. One contribution is provided by Levis (2011), who examines 1,595 UK IPOs between 1992 and 2005, of which 204 are BO-backed, 250 VC-backed, and 1,141 non-PC-backed. Long-run performance is measured using BHAR over one, three, and five years after the IPO. The results suggest that BO-backed IPOs outperform both VC- and non-PC-backed IPOs for two and three years using equal- and value-weighted methods. Levis (2011) also finds that BO-backed IPOs are considerably less underpriced than other IPOs. The author links this to BO-backed IPOs being larger, more profitable, more leveraged, and relatively more fairly priced at issue. Additionally, Levis (2011) notes that further investigation is needed to fully explain the drivers of these results. This evidence suggests that BO-backed IPOs may differ from other IPOs not only because they are sponsor-backed, but because they represent a more operationally developed and professionally owned group pre-IPO, in line with Jensen's (1989) view of active ownership and monitoring. In this sense, Levis (2011) provides an important basis for treating BO-backed IPOs as a distinct IPO group rather than grouping them together with other IPOs.

The VC literature provides a useful benchmark for the BO literature. Brav & Gompers (1997) examine 934 VC-backed IPOs from 1972-1992 and compare them with 3,407 non-VC-backed IPOs from 1975-1992. They test whether VC backing affects the long-run underperformance typically associated with IPOs and find that VC-backed IPOs outperform non-VC-backed IPOs using equal-weighted (EW) returns. However, value-weighting (VW) reduces the return difference, as the underperformance of non-VC-backed IPOs is concentrated among smaller IPOs, which the authors link to possible investor sentiment and incomplete information. Importantly, they also show that the underperformance is not exclusively an IPO effect, but partly reflects the broader performance of small, low book-to-market firms.

A related contribution is Gompers (1996), who develops and tests the grandstanding hypothesis[4] in the VC industry. The core argument is that younger VC sponsors may take portfolio companies public earlier than older VC sponsors to build reputation and raise new funds. Empirically, he finds that firms backed by younger VC sponsors are themselves younger and more underpriced at IPO. This introduces a fundamental distinction between BO- and VC-backed IPOs, as VC-backed IPOs may in some cases reflect earlier-stage and less mature firms being listed, which can also be connected to the notion of weak performance of smaller IPOs from Brav & Gompers (1997), explaining that information asymmetry may be relevant in IPO performance discussions.

Connecting the sponsor literature, Gompers (1996) and Katz (2009) suggest that reputational capital is important for both VC- and BO sponsors, but through different lenses. While Gompers (1996) links reputation to earlier IPO timing in the VC setting, Katz (2009) takes the BO perspective and associates the importance of maintaining the BOs reputation with tighter monitoring, higher earnings quality, and stronger post-IPO quality.

Overall, the literature suggests that BO-, VC-, and non-PC-backed IPOs differ in firm maturity, ownership structure, information asymmetry, and long-run performance. While evidence points to BO- and VC-backed IPOs performing better than traditional IPOs, the evidence indicates that BO-backed IPOs may constitute the stronger pre-IPO ownership group in the longer-run. At the same time, direct evidence comparing these ownership groups remains limited, especially in the Nordic context.

2.4 IPO timing

IPO timing has long been discussed as one of central explanatory factors for post-IPO stock performance. The pioneering studies by Ibbotson & Jaffe (1975) and Ritter (1984) introduce the concept of hot issue markets, showing that IPO activity can be unusually strong in periods of high investor demand. Moreover, Ibbotson & Jaffe (1975) define hot issue markets as periods in which the average first-month aftermarket performance of new issues is abnormally high. Furthermore, Ritter (1984) develops this further by measuring IPO timing through monthly average initial returns and IPO volume. These studies suggest that firms tend to go public when market conditions are favourable.

This argument is further developed by Ritter (1991), who examines 1,526 U.S. IPOs between 1975 and 1984. Using three-year BHAR relative to matched firms, the author finds

[4] The grandstanding hypothesis suggests that younger or less established VC-sponsors may take portfolio companies public earlier than optimal to signal investment ability, build reputation, and improve their ability to raise follow-on funds (Gompers, 1996).

that IPOs underperform in the long run, especially those issued during high-volume IPO periods. IPO timing is therefore captured through hot issue years and issuance volume, which are linked to poorer long-run performance. Ritter (1991) explains this with the initial hypothesis that firms exploit the 'windows of opportunity' by going public when investors are generally overoptimistic about the valuation and outlook of their industry.

This view is also supported by Benninga et al. (2005) and Alti (2005). Benninga et al. (2005) argue that firms go public when market conditions allow them to achieve more favourable pricing. Alti (2005), on the other hand, shows that IPO timing is driven by information spillovers, where stronger IPO outcomes reduce uncertainty and trigger waves of subsequent issues, resulting in concentrated hot markets. Taken together, Ritter (1991), Benninga et al. (2005), and Alti (2005) suggest a common factor in that favourable market windows encourage firms to go public when valuations are temporarily higher, which can improve exit conditions at IPO but potentially weaken subsequent long-run returns.

A more direct approach is taken by Cao (2011), measuring the market timing hypothesis and the belief that BO sponsors might bring portfolio companies public too fast to take advantage of a favourable IPO market. Specifically, IPO timing and IPO market condition is proxied by both average market underpricing in the last three months and number of IPOs in the last three months. The results significantly show that BO sponsors are more likely to take firms public in favourable IPO markets. Additionally, Cao (2011) studies the relationship between holding period and IPO market activity, and finds a negative and significant relationship, in line with the market timing hypothesis.

A similar interpretation is found in Bergström et al. (2006), who examine 152 UK and French BO-backed IPOs between 1994-2004 and relate IPO timing to market conditions at issue date, equivalent to the windows of opportunity hypothesis. Their findings suggest that BO sponsors may benefit from going public during favourable market windows, and that they outperform non-BO-backed IPOs across all time horizons.

Lastly, Jenkinson & Sousa (2015) explicitly analyse the role of windows of opportunity[5] in PE exit decisions. Analysing 1,022 European PE-backed exits between 2000-2014, they hypothesize that exit routes, including IPOs, are driven by prevailing market conditions. Their findings show that PE firms actively exploit favourable equity market windows when choosing IPO exits, supporting the market timing hypothesis.

[5] Windows of opportunity refer to periods when market conditions make a certain exit route, in this case the IPO, more attractive, allowing PE funds to choose the route that maximises exit value (Jenkinson & Sousa, 2015).

Overall, the literature suggests that IPO timing is commonly measured through hot issue markets and underpricing, with broader IPO evidence indicating that firms tend to go public in favourable markets and that such timing may be associated with weaker long-run returns. Concludingly, IPO timing appears to be a relevant factor in predicting both stock returns and holding period length, albeit not directly studied in relation to the Nordic market.

2.5 Transaction history

Another factor that has received attention in the literature is the transaction history prior to the IPO, in other words whether the BO originates from a public-to-private (P2P) transaction, a secondary buyout (SBO[6]), or other types of acquisitions. Early evidence is found by Mian & Rosenfeld (1993), who hypothesize that RLBOs should exhibit CAR above zero, primarily due to greater transparency and lower information asymmetry.

Furthermore, Cao & Lerner (2009) builds on this and examines transaction history by splitting the sample into RLBOs (public LBOs) and private LBOs pre-BO. The authors hypothesize that ownership status pre-BO affects post-IPO BHAR through differences in restructuring scope and information asymmetry but did not find any significant results.

More recent studies provide a clearer distinction within transaction history. Datta et al. (2015) hypothesize that BO-backed IPOs with a former P2P-transaction benefit from higher information availability than first IPOs, in line with Mian & Rosenfeld (1993). Using BHAR over several horizons, Datta et al. (2015) find that BO-backed IPOs with a prior P2P-transaction outperform BO- and non-BO-backed IPOs with a different transaction history.

In contrast, Arcot et al. (2015) and Degeorge et al. (2016) focus on SBOs and provide a different view of transaction history. Arcot et al. (2015) argue that SBOs can reflect pressure on BO funds to invest or exit, rather than purely value-maximising transactions. In particular, selling pressure increases as funds approach maturity and need to realise investments, return capital to investors, and support future fundraising. Arcot et al. (2015) find that pressured sellers are more likely to exit through SBOs, sell at lower multiples, and have shorter holding periods. Degeorge et al. (2016) provide related evidence from the buyers' side, showing that SBOs made late in a fund's investment period underperform other BOs, while SBOs made without pressure can perform similarly to other BOs. This suggests that SBOs are not inherently weak, but that their performance depends on whether the transaction is driven by fund-life pressure or pure value-creation potential.

[6] A Secondary Buyout (SBO) refers to a PE fund acquiring a company through an LBO from another PE fund (Strömberg & Thomann, 2025).

Alternatively, it also links transaction history to the holding period literature. If a BO-backed firm has been held for a long period, the eventual IPO might reflect fund-maturity dynamics rather than factors such as optimal IPO readiness.

Overall, the literature suggests that transaction history is a potential explanatory factor of BO-backed IPO performance. P2P transactions may benefit from higher information availability and stronger certification effects, while some SBOs may be associated with lower remaining value-creation potential or fund-life pressure, with further potential implications on holding periods. Concludingly, the evidence remains mixed, and Nordic evidence on transaction history and BO-backed IPO performance remains limited.

2.6 Risk-based vs. behavioural interpretations of BHAR

As this study examines BHAR, it is useful to distinguish between two broad interpretations of abnormal IPO returns. The first is a risk-factor explanation, where abnormal returns reflect systematic firm characteristics rather than mispricing (Fama & French, 1992). This perspective is supported by Levis (2011), who tests IPO performance using FF3-factor regressions. He finds that BO-backed IPOs is the only group producing abnormal returns, differing from VC- and non-PC-backed IPOs, suggesting that stronger BO-backed IPO performance is not fully explained by standard risk factors.

The second interpretation is behaviourally related. Ritter (1991) documents long-run IPO underperformance and attributes the findings to investor overoptimism around young growth firms and issuers exploiting temporary 'windows of opportunity'. Ritter & Welch (2002) later argue that long-run IPO performance remains controversial, with some articles supporting efficient-market explanations and others supporting behavioural explanations.

Within the broader IPO literature, Ritter & Welch (2002) identify several behavioural and institutional mechanisms that may explain abnormal IPO returns. The mechanisms most relevant to this study include investor sentiment, heterogeneous expectations, and short-sell constraints. Heterogenous expectations refers to the uncertainty and disagreement around the valuation of the IPO firm, and when combined with short-sell constraints, this implies that the most optimistic investors are more likely to buy the IPO. Over time, as opinions converge toward the mean valuation, prices may fall, contributing to long-run IPO underperformance (Ritter & Welch, 2002).

Within the BO-backed IPO literature, several factors can be interpreted as potential ways through which abnormal performance may arise. Collectively, previously discussed literature helps explain these returns, including concentrated ownership and monitoring (Jensen, 1989),

reputational capital at stake for BO sponsors (Michala, 2019), holding period dynamics (Cao & Lerner, 2009), and market timing considerations (Cao, 2011). This suggests that abnormal BO-backed IPO returns may reflect behavioural aspects beyond standard risk exposure.

Overall, the literature does not provide one clear explanation for abnormal IPO performance. However, research on this distinction remains limited in the Nordic setting.

2.7 Research gap & purpose of the study

Despite the prior literature on BO-backed IPOs, gaps do exist, which will be presented below. First, this study contributes to the literature by introducing a new sample of Nordic BO-backed IPOs, including the active IPO year of 2021.

Second, the relationship between holding period and subsequent stock performance has not been clearly established, particularly for BO-backed IPOs in the Nordic market, where empirical evidence remains largely absent. By also examining the relationship between holding period and IPO timing, this study provides additional insight into whether market conditions help explain BO sponsors' holding period considerations.

Additionally, this study investigates how BO-backed IPOs perform in the Nordic public markets, both in relation to VC-and non-PC-backed IPOs, but also to the market in general, which has received limited attention in Nordic literature recently.

To summarise, the overarching purpose of this study is to contribute to both academic research and practical decision-making from two perspectives. First, it aims to inform institutional investors and other market participants by improving the understanding of BO-backed IPOs as a pre-IPO ownership group. Specifically, their return characteristics in relation to other IPOs as well as the market, and how these relate to prior holding period, without proposing any trading strategy or suggestions in how to maximise investor wealth. Second, the study provides updated evidence for BO sponsors regarding exit decisions in the Nordics. In particular, it examines the risks and rewards associated with choosing an IPO as an exit route, and how information about holding periods, together with prevailing market conditions, can support more informed exit decisions.

3. Hypotheses

Drawing on the literature and the identified research gap, the following subsections will provide the rationale behind and present the testable hypotheses.

3.1 BHAR performance across pre-IPO ownership groups

The broader IPO literature has long documented that newly listed firms tend to underperform in the long run. Ritter (1991) is an early contribution to this literature, showing that U.S. IPOs underperform comparable listed firms over a three-year horizon. However, more recent literature suggests that BO-backed IPOs do not exhibit the same long-run underperformance as traditional IPOs and may even outperform in certain settings. Particularly, Levis (2011) documents that BO-backed IPOs generate stronger return than both VC- and non-PC-backed IPOs. Taken together, the prior research suggests that BO-backed IPOs may not only avoid the underperformance typically associated with IPOs (Holthausen & Larcker, 1996; Cao & Lerner, 2009; Katz, 2009) but also exhibit stronger returns than non-BO-backed IPOs (Levis, 2011). However, this comparison remains relatively underexplored in the Nordic context. Given this gap, the first hypothesis is proposed:

H1: *Buyout-backed IPOs exhibit positive BHAR and outperform venture capital- and non-private capital-backed IPOs.*

3.2 Holding period

Building on the expectation that BO-backed IPOs may exhibit strong post-IPO performance, a natural next step is to examine what drives these returns. One factor that has received some attention in the literature is the holding period. Cao & Lerner (2009) provide evidence of a negative relationship between holding period and BO-backed IPOs' BHAR, while Cao (2011) argues that holding periods may also reflect tensions in the BO model itself. Additionally, Arcot et al. (2015) suggest that exit pressure increases as BO funds approach maturity, and that longer holding periods may reflect fund-life constraints rather than optimal exit timing. Collectively, the literature suggests that holding period may affect BO-backed IPOs' BHAR, and that pressured exits may be concentrated among longer holding periods. At the same time, this relationship has received less attention in the Nordic market. This leads to the second hypothesis:

H2a: *The holding period of buyout-backed IPOs has a negative relationship with BHAR, with the effect primarily driven by longer holding periods.*

Building on the idea that the holding period may influence post-IPO BHAR, the literature also points to the importance of examining the market timing hypothesis, and whether prevailing IPO market conditions help explain variation in holding periods. Overall, prior research

indicates that IPO timing may be one factor through which holding periods become shorter and post-IPO BHAR affected (Cao, 2011). If BO sponsors respond to favourable market conditions by bringing firms public sooner, a negative relationship between holding period and IPO timing is suggested. Given the limited prior evidence on IPO timing in the Nordic BO context, the last hypothesis suggests the following:

H2b: *Buyout sponsors exploit favourable IPO market conditions, implying a negative relationship between IPO timing and holding period.*

4. Data & Methodology

This section outlines the data collection and sample construction process, followed by descriptive statistics and the empirical methodology employed in the analysis. Finally, the section discusses key data limitations relevant to the interpretation of the results.

4.1 Data collection and cleaning

4.1.1 Sample collection and cleaning

The IPO sample is primarily collected from SDC Platinum, which provides information on IPOs listed on Nordic exchanges between January 2010 and December 2022. The time horizon enables the calculation of one- and three-year returns for each IPO and captures the post-GFC period, thereby reducing the direct influence of the GFC on IPO performance. All IPOs listed on Nordic main regulated stock exchanges, including Nasdaq Stockholm, Oslo Stock Exchange (Oslo Børs), Nasdaq Copenhagen, and Nasdaq Helsinki, are included. In addition, firms listed on regulated secondary markets and multilateral trading facilities (MTFs), such as Oslo Axess, the Spotlight Stock Market, and Nasdaq First North Growth Market, are also included. Over-the-counter (OTC) listings are excluded due to limited comparability and liquidity. This results in a total sample of 662 Nordic IPOs over the period 2010-2022.

To split the IPOs into different groups based on pre-IPO ownership, SDC Platinum is used for an initial screening. This classification is subsequently verified using PitchBook, IPO prospectuses, and company websites. This results in a split with 132 BO-backed, 91 VC-backed, 37 other private capital (other PC)-backed, and 402 non-PC-backed IPOs. BO-backed IPOs have BO owners at IPO who acquired the firm through an LBO. VC-backed IPOs have received VC funding as their primary source of external equity financing and have VC owners

at IPO. Other PC-backed[7] IPOs have received private capital from sources other than BO and VC. The category other PC is not included in the main analysis in this study due to limited sample size and scope[8]. Non-PC-backed IPOs include the remaining firms that are not backed by PC investors at the time of the IPO. Table 1 presents the data cleaning steps and the construction of the final sample used in the analysis.

Table 1: Data cleaning and final sample

This table presents the steps to clean the final sample for the BO, VC, and non-PC groups. BO = Buyout, VC = Venture Capital, and PC = Private Capital.

	Buyout	VC	Non-PC	Other PC	Total
All Nordic IPOs	132	91	402	37	662
Exclusion criteria					
Limited stock data	5	9	59	-	73
Delisted within 3 years	19	8	40	-	67
Other exclusions	-	-	9	-	9
10% VC ownership threshold	-	6	-	-	6
Other PC excluded from main analysis	-	-	-	37	37
Final sample	**108**	**68**	**294**	**-**	**470**

Several steps are undertaken to ensure that the final sample is clean and comparable across the three pre-IPO ownership groups, as shown in Table 1. First, the sample is cleaned based on the availability of stock data from Compustat, where firms with missing values for share price and trading volume for two consecutive months are excluded. Second, firms delisted within three years of the IPO due to bankruptcy, acquisitions, or mergers are excluded to ensure a consistent three-year return horizon. While this may introduce survivorship bias, the related data limitations are discussed further in subsection 4.4. Third, eight SPACs are removed from the non-PC sample, along with the only Icelandic IPO in the dataset. Lastly, VC-backed IPOs for which no single VC fund held at least 10% of the total voting rights in the IPO firm prior to IPO are excluded to ensure the presence of a VC investor with a meaningful and influential ownership stake. These steps result in a final sample of 470 IPOs, of which 108 are BO-backed, 68 VC-backed, and 294 non-PC-backed IPOs[9]. A breakdown of the BO- and VC-backed subsamples is provided in Tables A1 and A2.

[7] Other PC refers to IPOs backed by PC investors that do not fit the BO or VC classification, including PC without a conventional BO or VC fund structure and PE-backed IPOs not originating from a BO. Classification requires the PC investor to hold at least 10% of the shares at the prospectus date prior to IPO. The other PC sample can be found in Table A3.

[8] The exclusion of the other PC group is in line with Levis (2011), where the author splits the sample into PE-, VC-, and Non-Backed (NB) IPOs.

[9] For the purpose of this study, the final sample of 108 BO-backed IPOs are referred to as the 'BO group', the final sample of 68 VC-backed IPOs as the 'VC group', and the final sample of 294 non-PC-backed IPOs as the 'non-PC group'. Collectively, these groups are referred to as the 'pre-IPO ownership groups', consisting of 470 IPOs.

Furthermore, the holding period for all BOs is determined using data from PitchBook, press releases, and sponsor websites to identify the LBO entry date and the IPO date. The holding period is then calculated as the difference between the entry date and the IPO date. Additionally, the IPO timing variable is measured as the number of Nordic IPOs during the previous three months, following Cao (2011). The full Nordic IPO sample of 662 IPOs, prior to data cleaning and sample exclusions, is used to calculate the IPO timing measure.

Market capitalisations are calculated using Compustat data as the closing price on the first trading day multiplied by the number of shares outstanding. Exchange rates obtained from the European Central Bank are used to convert market capitalisations from SEK, NOK, and DKK into EUR. Transaction history is further collected from PitchBook, press releases, and sponsor websites and classified as SBO if the prior transaction was an LBO, as P2P if the prior transaction was a P2P, and as Other if neither SBO nor P2P applies.

4.1.2 BHAR collection

Total returns (including dividends) for the final sample are collected from Compustat's daily security data. To calculate BHAR, the methodology follows established approaches in the literature (Ritter, 1991; Cao & Lerner, 2009; Levis, 2011), shown in Equation (1).

$$BHAR_{i,h} = \prod_{t=1}^{h}(1 + R_{i,t}) - \prod_{t=1}^{h}(1 + R_{benchmark,t}) \quad (1)$$

Where i denotes the IPO firm, t denotes the daily return period within the investment horizon, and h denotes the investment horizon (one- or three-years).

To construct the benchmark, country-specific Nasdaq OMX All-Share Gross Return Indices are used for Sweden, Denmark, and Finland, while the Oslo Børs All-Share Gross Return Index is used for Norway. While more granular indices (small-cap or exchange-specific indices) or style-adjusted benchmarks could better account for differences in firm characteristics and risk exposures (Brav & Gompers, 1997), data limitations and the need for consistency across countries motivate the use of broad market indices. Each IPO firm is benchmarked against its respective country index to reduce currency-related distortions and improve comparability across markets. BHAR is calculated from the closing price on the first day of trading over one- and three-year horizons to capture both short-and longer-term dynamics, consistent with prior literature (Ritter, 1991; Cao & Lerner, 2009; Levis, 2011).

4.2 Descriptive statistics

The aim of this subsection is to portray and describe the sample data used in this study. Accordingly, Nordic IPO activity is outlined to understand the IPO landscape over time, while the final sample is presented more in depth to illustrate the data underlying the analysis.

4.2.1 Descriptive statistics of total Nordic IPO activity

Table 2: All Nordic IPOs across pre-IPO ownership groups

This table presents the annual distribution of all Nordic IPOs during 2010-2022 across pre-IPO ownership groups. BO = Buyout, VC = Venture Capital, and PC = Private Capital.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
BO	5	3	-	3	12	18	10	15	11	7	10	36	2	**132**
VC	2	2	-	2	2	6	8	17	4	5	8	28	7	**91**
Other PC	1	1	-	1	-	5	3	2	4	3	4	13	-	**37**
Non-PC	24	12	4	10	18	22	24	37	31	12	39	128	41	**402**
Total	**32**	**18**	**4**	**16**	**32**	**51**	**45**	**71**	**50**	**27**	**61**	**205**	**50**	**662**

During the period of analysis in this study, Nordic IPO activity has seen a somewhat increasing trend, with a total of 662 IPOs (Table 2). Non-PC is the most common pre-IPO ownership group, accounting for 402 IPOs, followed by BO-backed IPOs with 132 IPOs and VC-backed IPOs with 91 IPOs. 2021 saw a surge in the number of IPOs, being the main outlying year in the dataset, potentially exposed to the market timing hypothesis (Cao, 2011).

4.2.2 Descriptive statistics of final sample

As the prior Table 2 captures the entire IPO activity in the Nordics during 2010-2022, the following segment covers the final sample, differing from the entire Nordic IPO dataset by performing the cleaning steps outlined in Table 1. The final sample consists of 470 IPOs.

4.2.2.1 Pre-IPO ownership groups

Table 3: Final sample across pre-IPO ownership groups

This table presents the annual distribution of the final sample during 2010-2022 across pre-IPO ownership groups. BO = Buyout, VC = Venture Capital, and PC = Private Capital.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
BO	5	2	-	1	10	17	7	12	10	7	8	28	1	**108**
VC	1	1	-	2	2	6	7	13	3	4	6	18	5	**68**
Non-PC	8	9	2	9	15	21	18	29	22	9	32	97	23	**294**
Total	**14**	**12**	**2**	**12**	**27**	**44**	**32**	**54**	**35**	**20**	**46**	**143**	**29**	**470**

Furthermore, by splitting the final sample based on pre-IPO ownership, a similar distribution can be found as compared to the larger IPO set (Table 2). Non-PC-backed IPOs constitute the

largest group, comprising 294 IPOs, followed by BO-backed IPOs with 108 IPOs and VC-backed IPOs with 68 IPOs (Table 3). Notably, 2021 IPO activity is disproportionally large with 143 IPOs, while 2012 shows low activity with only two IPOs.

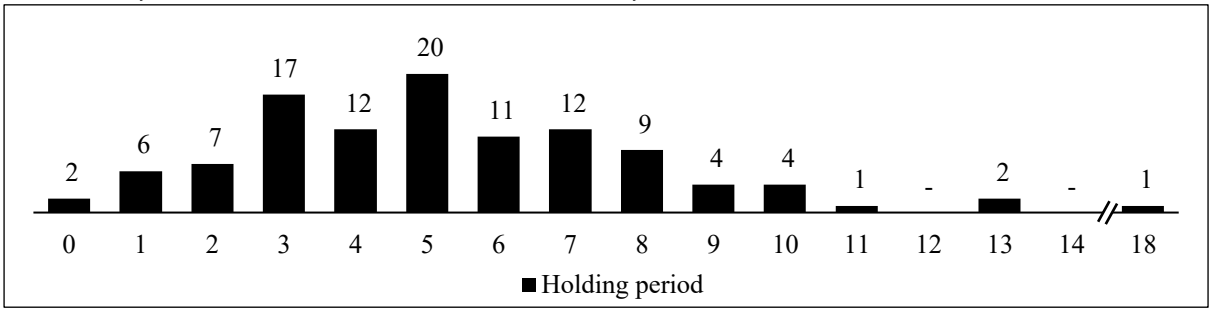
4.2.3 Descriptive statistics of the BO group

The final sample displayed in the prior segment consists of all pre-IPO ownership groups. As this study will primarily focus on the Nordic BO-backed IPOs, a deeper understanding of the BO group within the final sample is displayed below.

4.2.3.1 Holding period

Figure 1: BO holding period distribution

This figure presents the distribution of holding periods within the buyout (BO) sample. Holding periods are measured in years and rounded down to the nearest whole year.



Notably, holding periods of three to seven years represent the largest share of the sample, with five years being the most frequent category. The distribution is right-skewed, as IPO frequency increases from shorter holding periods up to a peak around five years, before gradually declining as holding periods lengthen. Holding periods beyond ten years remain uncommon in the sample, consistent with a typical BO fund life of around ten years.

The BO sample has an average and median holding period of 5.8 and 5.5 years, respectively, in line with Kaplan & Strömberg (2009) and Strömberg & Thomann (2025), who identify a median holding period of around six years in pre- and post-GFC samples.

Table 4: BO holding period distribution across years

This table presents the annual distribution of IPOs within the buyout (BO) sample across holding period groups during 2010-2022.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
<1 year	-	-	-	-	-	-	-	-	1	-	-	1	-	**2**
1-4 years	2	-	-	-	2	6	2	2	3	3	4	6	-	**30**
4-7 years	3	1	-	1	1	3	2	8	4	1	4	14	1	**43**
>7 years	-	1	-	-	7	8	3	2	2	3	-	7	-	**33**
Total	**5**	**2**	**-**	**1**	**10**	**17**	**7**	**12**	**10**	**7**	**8**	**28**	**1**	**108**

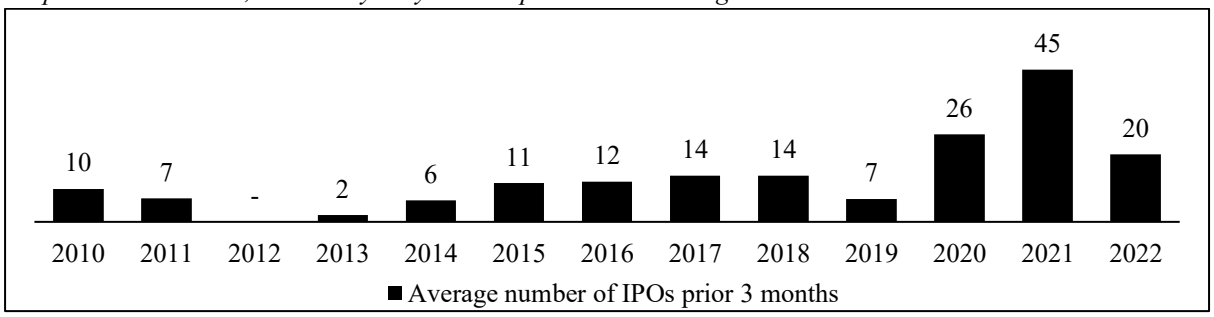
Further, by dividing holding period into groups, Table 4 illustrates the variation per year and within groups. The holding period groups are defined to align with both prior literature, practitioner input[10], and the distribution of the sample. Following Cao & Lerner (2009), holding periods below one year are classified as 'quick flips'. The four-to-seven-year group serves as the central benchmark, as it closely aligns with the sample median (5.8 years) and mean (5.5 years), and is consistent with post-GFC evidence (Strömberg & Thomann, 2025). The one-to-four-year group captures shorter holding periods below the mid-range, while the above seven years group represents longer holding periods.

Further, below one-year holding period is uncommon, with two IPOs during the period. Conversely, the other groups are fairly evenly split, with four-to-seven-years having the highest number of IPOs (43).

4.2.3.2 IPO timing

Figure 2: Average BO IPO timing across years

This figure presents the average number of Nordic IPOs in the preceding three months for the buyout (BO) sample, aggregated by year. For each BO-backed IPO, the measure counts the number of all Nordic IPOs (662 IPOs) in the prior three months, while the yearly value represents the average across BO-backed IPOs.



As seen in Figure 2, the IPO timing measure based on Cao (2011) exhibits some variation. Notably, the variable follows a similar pattern to Table 2 and 3, with 2021 being the most active IPO timing year. Additionally, the average number that the IPO timing variable takes is around 21 IPOs, with the 25th percentile being around nine IPOs, and the 75th percentile being around 29 IPOs. The IPO timing measure for the VC and non-PC samples follows a similar pattern and can be found in Table A4.

[10] Practitioner input refers to an informal expert interview with a partner at the global BO sponsor Bridgepoint Group Plc., in which the holding period groups were considered practically reasonable.

4.2.3.3 Market capitalisation

Table 5: BO market capitalisation distribution across years

This table presents the annual distribution of IPOs within the buyout (BO) sample across market capitalisation groups during 2010-2022. Market capitalisation is measured in EURm and calculated as the closing price on the first trading day multiplied by the number of shares outstanding.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
0-100	-	1	-	-	2	3	1	3	6	2	1	5	-	**24**
100-500	3	1	-	-	4	9	5	6	1	5	5	14	1	**54**
500-1,000	-	-	-	1	1	4	-	1	1	-	-	4	-	**12**
>1,000	2	-	-	-	3	1	1	2	2	-	2	5	-	**18**
Total	**5**	**2**	**-**	**1**	**10**	**17**	**7**	**12**	**10**	**7**	**8**	**28**	**1**	**108**

Further, by looking at a market capitalisation split, the lower middle segment (EUR 100m-500m) represents the largest number of BO-backed IPOs at 54. The ten largest BO-backed IPOs constitute around 48% of the total BO market capitalisation. Similarly, the ten largest non-PC-backed IPOs constitute 47% of total non-PC market capitalisation, while the ten largest VC-backed IPOs constitute 57% of total VC market capitalisation. The corresponding splits for the VC and non-PC groups are shown in Tables A5 and A6, where both VC- and non-PC-backed IPOs are largely tilted towards smaller firms, in line with Levis (2011).

4.2.3.4 Transaction history

Table 6: BO transaction history distribution across years

This table presents the annual distribution of IPOs within the buyout (BO) sample across transaction history groups during 2010-2022. Transaction history refers to the last type of transaction prior to the BO. The group 'Other' includes all transaction types other than secondary buyouts (SBOs) and public-to-privates (P2Ps).

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
SBO	-	-	-	-	3	11	1	6	2	2	2	9	-	**36**
P2P	-	1	-	-	2	1	1	1	-	-	2	1	-	**9**
Other	5	1	-	1	5	5	5	5	8	5	4	18	1	**63**
Total	**5**	**2**	**-**	**1**	**10**	**17**	**7**	**12**	**10**	**7**	**8**	**28**	**1**	**108**

In Table 6 the sample is split by transaction history in line with Cao & Lerner (2009). Specifically, SBOs and Other are more prevalent with 36 and 63 IPOs, respectively. P2Ps are relatively uncommon, representing around 8% of the sample. However, this exceeds the global BO dataset in Strömberg & Thomann (2025), where P2Ps represent only 4% of the transactions, while remaining in line with Cao & Lerner (2009), where P2Ps correspond to 8% of the sample.

4.2.4 BHAR overview

As the previous subsections have described the characteristics of the final sample, this subsection presents BHAR across different sample characteristics. Furthermore, it examines returns within the BO group and compares BHAR across the pre-IPO ownership groups.

4.2.4.1 BHAR overview

Table 7: BHAR summary overview

This table presents summary statistics for one- and three-year BHAR across buyout (BO) characteristics within the BO sample during 2010-2022. The final section additionally reports BHAR summary statistics for venture capital (VC)- and non-private capital (PC)-backed IPOs. Market capitalisation is measured in EURm and calculated as the closing price on the first trading day multiplied by the number of shares outstanding. Holding period groups are measured in years. HP = Holding period, Y = Year, Market Cap = Market capitalisation, SBO = Secondary buyout, P2P = Public-to-private, EW = Equal weight, and VW = Value weight.

Group	n	EW Mean	VW Mean	Median	Std Dev	Min	Max
BO Summary							
1Y BHAR							
All BO	108	4%	-12%	3%	46%	-85%	211%
3Y BHAR							
All BO	108	31%	3%	-3%	134%	-100%	712%
Holding Period							
1Y BHAR							
HP <1	2	16%	39%	16%	36%	-9%	42%
HP 1-4	30	10%	-26%	3%	61%	-85%	211%
HP 4-7	43	3%	-1%	4%	45%	-83%	168%
HP >7	33	-1%	-3%	2%	30%	-60%	57%
3Y BHAR							
HP <1	2	14%	8%	14%	9%	7%	21%
HP 1-4	30	58%	-4%	35%	145%	-99%	610%
HP 4-7	43	30%	11%	-5%	165%	-100%	712%
HP >7	33	9%	9%	-7%	67%	-89%	158%
Market Cap							
1Y BHAR							
0-100	24	20%	24%	13%	59%	-64%	211%
100-500	54	0%	4%	-4%	41%	-69%	168%
500-1,000	12	-2%	-1%	-3%	32%	-49%	44%
>1,000	18	-3%	-21%	2%	45%	-85%	82%
3Y BHAR							
0-100	24	77%	109%	7%	201%	-78%	642%
100-500	54	21%	19%	-6%	121%	-99%	712%
500-1,000	12	9%	10%	6%	69%	-93%	158%
>1,000	18	16%	-7%	9%	82%	-100%	222%

Transaction History							
1Y BHAR							
SBO	36	10%	-20%	6%	42%	-59%	168%
P2P	9	-7%	5%	-11%	40%	-59%	82%
Other	63	2%	-10%	2%	49%	-85%	211%
3Y BHAR							
SBO	36	40%	-9%	35%	103%	-82%	378%
P2P	9	-5%	-6%	-7%	59%	-83%	78%
Other	63	31%	19%	-3%	157%	-100%	712%
Pre-IPO Ownership							
1Y BHAR							
BO	108	4%	-12%	3%	46%	-85%	211%
VC	68	-6%	-12%	-24%	56%	-85%	194%
Non-PC	294	4%	6%	-12%	77%	-93%	614%
3Y BHAR							
BO	108	31%	3%	-3%	134%	-100%	712%
VC	68	-2%	-22%	-40%	110%	-96%	418%
Non-PC	294	19%	29%	-32%	180%	-119%	1210%

Starting with All BOs, the EW mean exhibits a 31% three-year BHAR, while the VW mean is lower at 3%, suggesting that smaller firms have better performance. This interpretation is supported by the market capitalisation split, where smaller firms consistently exhibit higher returns than larger firms across both horizons and weighting schemes. BHAR split by market capitalisation for VC- and non-PC-backed IPOs are presented in Tables A7 and A8.

Notably, the holding period split indicates that the above seven-year group exhibits the lowest returns for EW and among the lowest for VW across both horizons, suggesting a potential negative relationship between longer holding periods and post-IPO performance.

Furthermore, three-year BHAR is generally higher than one-year BHAR across most splits and weighting schemes, implying that returns for BO-backed IPOs tend to materialise over a longer horizon.

Additionally, transaction history exhibits notable differences between weighting schemes, with SBOs performing best under EW but comparatively weaker under VW, indicating that smaller SBO-backed firms outperform larger ones.

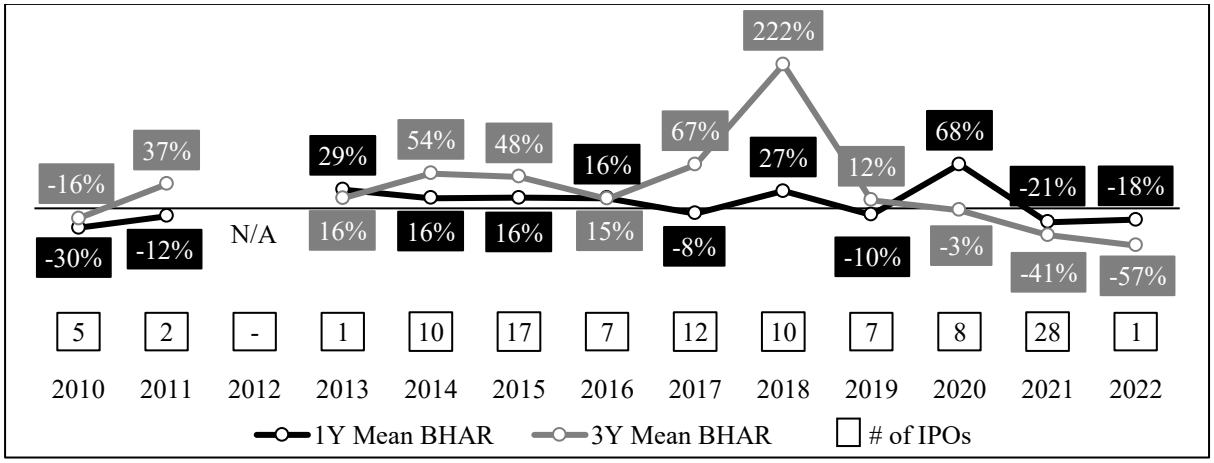
Comparing pre-IPO ownership groups, BO-backed IPOs exhibit the highest EW three-year BHAR, while VC-backed IPOs exhibit the lowest. However, VW BHARs are substantially lower for both BO- and VC-backed IPOs, suggesting comparatively weaker performance among larger firms within these groups. In contrast, non-PC-backed IPOs exhibit the highest three-year VW mean BHAR. Across both horizons, VC-backed IPOs generally display the weakest BHAR.

Finally, BO sample split by industry is reported in Table A9. Due to the limited number of observations within each industry, the analysis has limited analytical relevance in this study compared to prior literature such as Cao & Lerner (2009), which uses a larger sample and industry fixed effects (FE). Similarly, BO sample split by country is presented in Table A10 but is not included in the main analysis due to limited observations, although country fixed effects (FE) are used by Jenkinson & Sousa (2015). BO BHAR split by industry and country is reported in Table A11.

4.2.4.2 BO sample - yearly BHAR distribution

Figure 3: BO BHAR distribution across IPO years

This figure presents the average one- and three-year BHAR by IPO year for the buyout (BO) sample during 2010-2022. Returns are grouped by IPO issue year, meaning that all IPOs completed during the same calendar year are assigned to the same yearly cohort.



BHAR varies substantially across IPO years, especially over the three-year horizon. Specifically, three-year BHAR is negative for the 2010 IPO cohort, before turning positive between 2011 and 2018, peaking for the 2018 IPO cohort. Thereafter, performance declines, with negative three-year returns observed for the 2020, 2021, and 2022 IPO cohorts. One-year BHAR exhibits a less pronounced pattern, where returns are generally positive between 2013 and 2020, with the strongest performance observed for the 2020 IPO cohort, before turning negative for the 2021 and 2022 cohorts.

The number of observations varies across years, and the overall trend suggests weaker post-IPO performance in more recent periods. This pattern may be related to changing market conditions, including increased IPO activity in 2021 and the subsequent market correction, potentially influenced by the ongoing global uncertainties.

4.3 Methodology

4.3.1 IPO BHAR performance

To test whether BO-backed IPOs exhibit positive BHAR and outperform VC- and non-PC-backed IPOs, regression analysis is employed. An Ordinary Least Squares (OLS) model applied to cross-sectional data serves as the primary empirical framework to test H1. Equation (2) presents the constant-only model estimated separately for BO-, VC-, and non-PC-backed IPOs. Equation (3) presents the dummy variable regression, estimated both with and without IPO year FE, where non-PC-backed IPOs serve as the reference group. When year FE are included, the IPO timing variable is omitted due to high correlation with the year FE.

$$BHAR_{i,h} = \alpha_h + \varepsilon_{i,h} \tag{2}$$

$$BHAR_{i,h} = \alpha_h + \beta_1 BO_i + \beta_2 VC_i + \gamma_1 ln(Size_i) + \gamma_2 IPOtiming_i + \varepsilon_{i,h} \tag{3}$$

Where i denotes the IPO firm, h denotes the investment horizon (one- or three-years), and BHAR (defined in Equation (1)) as the dependent variable.

In Equation (2), the intercept represents the average BHAR for each pre-IPO ownership group estimated separately. In Equation (3), the coefficients on the BO- and VC dummy variables capture the average difference in BHAR relative to the omitted reference category of non-PC-backed IPOs.

BHAR is regressed both on a one-year and three-year horizon in line with prior literature (Ritter, 1991; Levis, 2011). Furthermore, the models use cluster-robust standard errors at the IPO-quarter level, allowing for heteroskedasticity and within-period correlation in error terms, which may arise from common market conditions affecting IPOs within the same issuance period (Wooldridge, 2020). These standard errors are therefore robust to both heteroskedasticity and intra-cluster dependence and work with the inclusion of FE (Wooldridge, 2020).

Further, Equation (3) is estimated with and without IPO year FE to control for time-specific unobserved factors affecting all IPOs in a given year, thereby allowing for a different intercept across time periods and reducing potential omitted variable bias (Wooldridge, 2020). The inclusion of control variables in Equation (3) aims to isolate the effect of BO and VC pre-IPO ownership on BHAR.

Additionally, as robustness checks, each model is estimated using heteroskedasticity-robust (HC3) standard errors. Further, alternative specifications using winsorized BHAR are

estimated. Both models are also estimated using VW regressions in line with Levis (2011). The VW estimations apply winsorized first-day market capitalisation weights through Weighted Least Squares (WLS). Equation (3) is also estimated using only size as the control variable. The corresponding robustness check results are reported in Appendix B. Additionally, to assess potential multicollinearity, the variance inflation factors (VIF) are calculated and reported in Appendix C for each model with a threshold range of 5-10 based on Menard (2001) and Wooldridge (2020).

4.3.2 Holding period

To test the relationship between BO holding period and BHAR, OLS regressions are estimated. Both models are estimated using cross-sectional data at the firm level, with each observation corresponding to an individual IPO. The relationship is tested using two different models, being one linear regression (Equation (4)) and one dummy variable regression (Equation (5)). Both models are estimated with and without IPO year FE, and when year FE are included, the IPO timing variable is removed due to high correlation between the two variables.

$$BHAR_{i,h} = \alpha_h + \beta_1 HP_i + \gamma_1 ln(Size_i) + \gamma_2 SBO_i + \gamma_3 IPOtiming_i + \varepsilon_{i,h} \quad (4)$$

$$BHAR_{i,h} = \alpha_h + \beta_1 D_i^{1-4y} + \beta_2 D_i^{>7y} + \gamma_1 ln(Size_i) + \gamma_2 SBO_i + \gamma_3 IPOtiming_i + \varepsilon_{i,h} \quad (5)$$

Where i denotes the IPO firm, h denotes the investment horizon (one- or three-years), and BHAR (defined in Equation (1)) as the dependent variable.

As in H1, cluster-robust standard errors based on IPO quarters are employed. Additionally, robustness checks using HC3 standard errors, winsorized BHAR, and specifications with only size as a control variable are conducted, with the corresponding results reported in Appendix B. VIF values are reported in Appendix C.

The logic behind the models is to test the relationship between holding period and BHAR using both linear and non-linear specifications. In Equation (4), holding period is included as a continuous variable measured in years. Equation (5) allows for a non-linear relationship between holding period and BHAR. The four-to-seven-year holding period group serves as the omitted benchmark category, while dummy variables are included for one-to-four-year and above-seven-year holding periods. Holding periods below one year are excluded in the dummy variable regression due to a small sample size (two observations) and because they should be treated as a separate quick-flip group (Cao & Lerner, 2009).

The inclusion of control variables aims to isolate the partial effect of holding period on BHAR. The estimated coefficients therefore capture differences in BHAR relative to the benchmark holding period group. When interpreting the relationship between holding period and BHAR, the average BO-backed IPO is of primary interest, which implies that the VW specifications are of less importance. In line with Cao & Lerner (2009) and Cao (2011), this study focuses on the average BO-backed IPO.

4.3.3 IPO timing

To test the relationship between IPO timing and BO holding period, OLS regressions on cross-sectional data are estimated, using an IPO timing measure defined as the number of IPOs during the previous three months, in accordance with Cao (2011). Equation (6) presents the model including all control variables and the model is also estimated without control variables.

$$HP_i = \alpha + \beta_1 IPOtiming_i + \gamma_1 ln(Size_i) + \gamma_2 SBO_i + \varepsilon_i \quad (6)$$

Where i denotes the IPO firm and HP (holding period) in years is the dependent variable.

As in H1 and H2a, cluster-robust standard errors based on IPO quarters with HC3 standard errors is used as an additional robustness check. Further, robustness checks are conducted using winsorized holding periods and specifications including only size as the control variable. The corresponding robustness check results are reported in Appendix B. Year FE is not included in any specification due to high correlation with the IPO timing variable. VIF values are also calculated and reported in Appendix C.

4.3.4 Control variables

Table 8: Control variable definitions

This table presents the control variables included in Equations (3), (4), (5), and (6). SBO = Secondary buyout.

Variable	Description
ln(Size$_i$)	Natural logarithm of market capitalisation at the close of the first trading day
SBO$_i$	Dummy variable equal to 1 if the transaction prior to the IPO was an SBO, and 0 otherwise
IPO timing$_i$	Number of IPOs in the Nordic market during the three months prior to firm's IPO

Controlling for size is standard practice in the literature on IPO performance (Ritter, 1991; Cao & Lerner, 2009; Levis, 2011). Consistent with Cao & Lerner (2009), this study uses the natural logarithm of market capitalisation on the first day of trading, ultimately ensuring that long-run stock return is not driven by size-related return patterns (Ritter, 1991).

Transaction history is another important factor in the literature, particularly regarding prior P2P transactions (Mian & Rosenfeld, 1993; Cao & Lerner, 2009; Datta et al., 2015) and SBOs (Arcot et al., 2015; Degeorge et al., 2016). Given the limited number of prior P2P observations (nine in the BO sample), it is more appropriate to use an SBO dummy variable.

IPO timing is measured in accordance with Cao (2011), and has been used to explain post-IPO stock performance in the literature (Ritter, 1991; Benninga et al., 2005; Cao, 2011).

Finally, while the inclusion of control variables aims to reduce omitted variable bias, some bias may persist. These limitations are discussed further in the next subsection.

4.4 Data limitations

The main data limitations relate to the sample size of BO-backed (108) and VC-backed (68) IPOs, which is relatively smaller than in prior literature (213-526 BO-backed IPOs in Cao & Lerner, 2009; 204 BO- and 250 VC-backed IPOs in Levis, 2011). This limits statistical power and reduces the precision of estimated coefficients, particularly in sub-sample analyses.

Further, the sample results in 31 BO clusters, 29 VC clusters, 47 non-PC clusters, and 48 clusters in the combined sample. While there is no universally accepted threshold for the number of clusters, Cameron & Miller (2015) emphasise that what constitutes 'few' clusters depends on the empirical setting. As a rule of thumb, concerns typically arise when the number of clusters falls below 20-50. Accordingly, inference based on cluster-robust standard errors should be interpreted with caution.

Additionally, the relatively small sample size limits the statistical feasibility of including certain variables commonly used in prior literature, such as controls for prior P2P transactions (Mian & Rosenfeld, 1993; Cao & Lerner, 2009; Datta et al., 2015), industry FE (Brav & Gompers, 1997; Cao & Lerner, 2009; Cao, 2011), and country FE (Jenkinson & Sousa, 2015). The exclusion of such variables may introduce omitted variable bias if these factors are correlated with both the explanatory variables and the dependent variables.

A further limitation relates to survivorship bias, as firms delisted within three years due to bankruptcy, acquisitions, or mergers are excluded from the sample. While this ensures comparability in return horizons, it may bias estimated BHAR upwards by disproportionately excluding poorly performing firms. However, this bias is partly mitigated by also excluding firms delisted due to mergers or acquisitions, which are often associated with takeover premia and may otherwise inflate post-IPO returns (Mian & Rosenfeld, 1993). Further, out of the 19 excluded BO-backed IPOs, 16 are excluded due to acquisitions, two due to bankruptcy, and one due to a merger (Table A12). Additionally, in contrast to several U.S.-based IPO studies

relying on CRSP returns (Brav & Gompers, 1997; Ritter & Welch, 2002; Cao & Lerner, 2009), the global Compustat dataset used in this study lacks the delisting returns available in CRSP.

Data classification may be a concern, as the pre-IPO ownership, holding period, and transaction history data relies partly on manual verification. However, this is mitigated through cross-validation using PitchBook, IPO prospectuses, and company websites. Nevertheless, some degree of classification error cannot be fully ruled out.

Another limitation is the use of broad market indices instead of more granular benchmarks such as instance small-cap or exchange-specific indices, which could provide a closer benchmark alignment with firm characteristics. However, as discussed, data limitations and the need for cross-country consistency motivate this choice. This trade-off may introduce measurement error in BHAR calculations.

Alternatively, the empirical design is subject to endogeneity concerns, including omitted variable bias. Although control variables and FE are employed, unobserved firm characteristics, such as leverage (Levis, 2011), sponsor reputation (Katz, 2009), or operational financial metrics (Cao, 2011) may still influence both holding period decisions and post-IPO performance.

Finally, the study focuses on Nordic IPOs, reflecting the chosen empirical scope. Consequently, the findings may be less applicable to markets with different regulatory environments, market structures, or investor bases.

5. Results

Based on the final sample, this section presents the empirical results and evaluates whether they provide support for the proposed hypotheses (section 3).

5.1 BO, VC, and non-PC BHAR

Table 9: Mean BHAR across pre-IPO ownership groups

*This table reports one- and three-year BHAR across pre-IPO ownership groups during 2010-2022. The constant represents the average BHAR for each group. BO = buyout, VC = venture capital, and non-PC = non-private capital. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR			3-year BHAR		
	BO	VC	Non-PC	BO	VC	Non-PC
Constant	0.0400	-0.0637	0.0376	0.3113*	-0.0168	0.1904
	(0.73)	(-0.78)	(0.56)	(1.73)	(-0.11)	(1.28)
Observations (n)	108	68	294	108	68	294
Quarter clusters (n)	31	29	47	31	29	47

In Table 9, BO-backed IPOs exhibit positive BHAR over both horizons, with economically modest one-year BHAR (4.00%) and substantially stronger three-year BHAR (31.13%), which is weakly statistically significant. In contrast, VC-backed IPOs generate negative but statistically insignificant BHAR over both horizons, while non-PC-backed IPOs exhibit positive but weaker and statistically insignificant BHAR over both horizons.

Using HC3 standard errors, the statistical significance of the three-year BO-backed BHAR increases, while VC-backed IPOs remain statistically insignificant and non-PC-backed IPOs become weakly statistically significant (Table B1). However, the main specification relies on quarter-clustered standard errors, as IPOs issued within the same period may exhibit correlated error terms. Furthermore, winsorized BHAR yields insignificant means across groups, although BO-backed IPOs still exhibit positive and the strongest BHAR across horizons, while VC-backed IPOs exhibit negative BHAR and non-PC-backed IPOs exhibit positive but smaller returns (Table B2).

However, for the VW mean, non-PC-backed IPOs exhibit positive and statistically significant BHAR across horizons, while VC-backed IPOs remain negative. In contrast, BO-backed IPOs exhibit slightly negative one-year BHAR and positive but statistically insignificant three-year BHAR (Table B3). This suggests that BO-backed IPO performance is partly driven by smaller firms.

From an economic perspective, Table 9 results indicate that BO-backed IPOs outperform both VC- and non-PC-backed IPOs over longer horizons, consistent with Levis (2011). Overall, the findings provide partial support for H1, as BO-backed IPOs exhibit positive long-run BHAR and higher mean relative to the other pre-IPO ownership groups, although statistical significance remains limited across robustness tests. While Table 9 provides initial evidence on BHAR differences across pre-IPO ownership groups, the following dummy variable regression analysis controls for firm size and IPO timing to examine whether these differences persist.

Table 10: BHAR regressions across pre-IPO ownership groups

*This table reports dummy variable regressions with one- and three-year BHAR as dependent variables for the final sample during 2010-2022. BO = buyout, VC = venture capital, and non-PC = non-private capital. BO and VC are dummy variables equal to 1 if the IPO is BO-backed or VC-backed, respectively, and 0 otherwise, with non-PC-backed IPOs serving as the reference group. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. IPO timing = number of IPOs in the Nordics during the last three months. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		3-year BHAR	
	(1)	(2)	(1)	(2)
Constant	-0.4403	-0.6937***	1.0378	0.1017
	(-1.52)	(-2.58)	(0.85)	(0.11)
BO dummy	-0.0740	-0.0920	0.1120	0.0122
	(-1.20)	(-1.37)	(0.80)	(0.10)
VC dummy	-0.0959	-0.1512*	-0.1892	-0.2783*
	(-1.18)	(-1.68)	(-1.31)	(-1.80)
ln(Size)	0.0348**	0.0316**	-0.0291	-0.0111
	(2.34)	(2.09)	(-0.47)	(-0.22)
IPO timing	-0.0058***		-0.0132***	
	(-6.25)		(-4.26)	
Year fixed effects	No	Yes	No	Yes
Observations (n)	470	470	470	470
Quarter clusters (n)	48	48	48	48
R^2	0.043	0.137	0.032	0.155

Table 10 presents dummy variable regressions comparing BHAR across IPO groups, where non-PC-backed IPOs serve as the reference group. Consistent with the results in Table 9, BO-backed IPOs exhibit economically stronger BHAR than VC-backed IPOs across both horizons and specifications. The BO dummy is negative on the one-year horizon and positive on the three-year horizon. However, the BO dummy remains statistically insignificant across specifications, indicating limited statistical evidence that BO-backed IPOs outperform non-PC-backed IPOs after controlling for size and IPO timing. In contrast, the VC dummy is consistently negative and becomes weakly statistically significant in specifications with year FE, suggesting that VC-backed IPOs underperform relative to non-PC-backed IPOs. Additionally, Wald tests performed on the Table 10 regression coefficients do not indicate statistically significant differences between the BO- and VC groups.

Using HC3 standard errors, the overall results remain largely unchanged (Table B4). The BO dummy remains statistically insignificant across horizons and specifications, while the negative coefficient for VC-backed IPOs remains weakly statistically significant in specifications with year FE. Furthermore, winsorizing BHAR yields similar economical

results, although not statistically significant for the BO- and VC groups (Table B5). Additionally, controlling only for size and excluding year FE (Table B6) yields results similar to those in Table 10.

However, when applying VW BHAR, the VC dummy becomes strongly negative and statistically significant across horizons, while the BO dummy remains statistically insignificant but negative across horizons and specifications (Table B7). These results suggests that the weaker performance of VC-backed IPOs is partly driven by larger firms, while performance of BO-backed IPOs compared to non-PC-backed IPOs appears economically weaker when larger firms receive greater weight.

Taken together, the results provide partial support for H1. While the Table 9 results indicate that BO-backed IPOs exhibit stronger long-run BHAR than both VC- and non-PC-backed IPOs, the dummy variable regressions provide limited statistical evidence of BO-backed IPO outperformance. Although the BO dummy remains statistically insignificant across specifications, it becomes positive over the three-year horizon, suggesting economically higher BHAR for BO-backed IPOs compared to non-PC-backed IPOs. Additionally, the consistently negative VC dummy, which becomes weakly statistically significant in specifications with year FE, suggests weaker performance for VC-backed IPOs relative to non-PC-backed IPOs. Consequently, to further understand the drivers of BO BHAR, the following subsection examines the relationship between holding periods and post-IPO performance in line with Cao (2011).

5.2 Impact of holding period on BHAR

Table 11: Mean BHAR across BO holding period groups

*This table reports one- and three-year BHAR across buyout (BO) holding period groups during 2010-2022. The holding period group below one year contains only two observations and is therefore included only in the All BO group and not reported separately. The constant represents the average BHAR for each group. HP = Holding period. Y = years. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR				3-year BHAR			
	All BO	HP 1-4y	HP 4-7y	HP >7y	All BO	HP 1-4y	HP 4-7y	HP >7y
Constant	0.0400	0.0958	0.0343	-0.0107	0.3113*	0.5821*	0.3024	0.0873
	(0.73)	(0.85)	(0.44)	(-0.18)	(1.73)	(1.81)	(1.05)	(0.65)
Observations (n)	108	30	43	33	108	30	43	33
Quarter clusters (n)	31	20	20	20	31	20	20	20

As H2a addresses the relationship between holding period and BO-backed IPOs' BHAR, the sample is first split into holding period groups to illustrate the returns across different holding

periods. Focusing on the three-year horizon in Table 11, the strongest return is observed for the one-to-four-year holding period group, with a BHAR of 58.21%, which is also statistically significant. Further, the four-to-seven-year group remains positive, though smaller in magnitude and statistically insignificant. The above seven-year group exhibits a smaller positive and insignificant BHAR, suggesting weaker performance among the longest holding periods. A similar pattern is observed for the one-year BHAR, although magnitudes are smaller and no estimates are statistically significant across groups.

Overall, the results indicate that BHAR tends to be higher for relatively shorter holding periods and declines as holding periods increase. Table 11 is broadly consistent with a negative relationship between holding period and BHAR, as proposed in H2a.

Results remain similar when using HC3 standard errors, with slightly stronger statistical significance for the three-year BHAR in the one-to-four-year group (Table B8).

While statistical significance is not observed across all groups, the weaker performance of longer holding periods contributes to initial support for H2a. The following analysis therefore examines the relationship between holding period and BHAR using a regression framework.

Table 12: BHAR regressions within the BO sample

*This table reports linear regressions with one- and three-year BHAR as dependent variables within the buyout (BO) sample during 2010-2022. HP = Holding period. SBO = Secondary buyout. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. SBO dummy = 1 if the transaction prior to the BO was an SBO, and 0 otherwise. IPO timing = number of IPOs in the Nordics during the prior three months. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		**3-year BHAR**	
	(1)	(2)	(1)	(2)
Constant	0.4450	0.0849	1.7220*	0.5838
	(1.41)	(0.34)	(1.84)	(0.90)
HP	-0.0139	-0.0089	-0.0687*	-0.0589*
	(-0.91)	(-0.63)	(-1.87)	(-1.82)
ln(Size)	-0.0492	-0.0582	-0.1232	-0.0840
	(-1.29)	(-1.64)	(-1.30)	(-0.93)
SBO dummy	0.0882	0.1143	0.0779	0.1193
	(1.02)	(1.50)	(0.36)	(0.50)
IPO timing	-0.0038*		-0.0170**	
	(-1.76)		(-2.11)	
Year fixed effects	No	Yes	No	Yes
Observations (n)	108	108	108	108
Quarter clusters (n)	31	31	31	31
R^2	0.053	0.352	0.075	0.312

Table 12 reports the relationship between BHAR and holding period, controlling for firm size, SBO status, and IPO timing. Across specifications, holding period exhibits a negative relationship with BHAR, which is statistically significant at the three-year horizon. In economic terms, a one-year increase in the holding period is associated with a decrease in three-year BHAR of approximately 6-7 percentage points, depending on the inclusion of year FE. The one-year horizon shows a similar negative relationship, although the coefficients are not statistically significant, suggesting that short-run performance is less affected by the prior holding period.

Furthermore, firm size appears to be negatively related to BHAR, although the coefficients are statistically insignificant. Additionally, prior SBO status appears to be positively related to BHAR, but the effect remains statistically insignificant.

IPO timing exhibits a negative and significant relationship with BHAR at both horizons in the specification without year FE. This suggests that, on the margin, if the number of IPOs during the three months prior to the BO-backed firm's IPO increases by one, the three-year BHAR decreases by 1.70 percentage points, while the one-year BHAR decreases by 0.38 percentage points.

Moreover, the results remain similar when using HC3 standard errors (Table B9) and winsorized BHAR (Table B10), with the same variables remaining statistically significant. When only size is included as a control variable, holding period remains statistically significant only in the specification with year FE at the three-year horizon (Table B11).

Taken together, the results provide initial support for H2a, as BO-backed IPOs exhibit a negative linear relationship with BHAR on a three-year horizon across the two specifications in the Nordics between 2010-2022. Notably, as longer holding periods are associated with worse BHAR, the dynamics of the holding period are further explored by splitting the sample into holding period groups in line with Cao & Lerner (2009).

Table 13: BHAR regressions across BO holding period groups

*This table reports dummy variable regressions with one- and three-year BHAR as dependent variables within the buyout (BO) sample during 2010-2022. HP = Holding Period. SBO = Secondary buyout. HP 1-4 years and HP >7 years are dummy variables, with the four-to-seven-year holding period group serving as the reference category. Due to the limited sample size (two observations), holding periods below one year are excluded, reducing the sample to 106 observations. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. SBO dummy = 1 if the transaction prior to the BO was an SBO, and 0 otherwise. IPO timing = number of IPOs in the Nordics during the prior three months. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		**3-year BHAR**	
	(1)	(2)	(1)	(2)
Constant	0.4310*	0.1283	1.3615*	0.3626
	(1.70)	(0.63)	(1.77)	(0.67)
HP 1-4 years	0.0323	-0.0540	0.2076	0.1666
	(0.23)	(-0.44)	(0.56)	(0.57)
HP >7 years	-0.1075	-0.1296	-0.3958	-0.4392*
	(-1.25)	(-1.63)	(-1.38)	(-1.85)
ln(Size)	-0.0544	-0.0679*	-0.1178	-0.0979
	(-1.44)	(-1.96)	(-1.27)	(-1.00)
SBO dummy	0.1016	0.1370*	0.1091	0.1199
	(1.10)	(1.89)	(0.52)	(0.54)
IPO timing	-0.0050**		-0.0179**	
	(-2.06)		(-2.21)	
Year fixed effects	No	Yes	No	Yes
Observations (n)	106	106	106	106
Quarter clusters (n)	31	31	31	31
R^2	0.077	0.391	0.088	0.353

Table 13 examines the non-linear relationship by splitting holding periods into one-to-four-year, four-to-seven-year, and above-seven-year groups. The benchmark group corresponds to holding periods of four to seven years. Based on the three-year BHAR with year FE, a holding period of more than seven years is associated with a statistically significant negative coefficient. More precisely, firms with holding periods above seven years exhibit a 43.92 percentage points lower three-year BHAR compared to the benchmark group with four-to-seven-year holding periods, ceteris paribus. Additionally, the estimated coefficients imply an approximately 60.58 percentage point lower three-year BHAR for firms with holding periods above seven years relative to firms with one-to-four-year holding periods in the specification including year FE, ceteris paribus. However, the one-to-four-year coefficient is statistically insignificant and should thus only be economically interpreted. With IPO timing included instead of year FE, the magnitude is similar, but the coefficient is statistically insignificant. For the one-year horizon, the same direction is observed for the above-seven-year group, with a

weaker negative coefficient and no statistical significance. Furthermore, the one-to-four-year holding period group exhibits a positive but statistically insignificant coefficient relative to the benchmark group at the three-year horizon. These findings are broadly consistent with the mean BHAR estimates reported in Table 11, which, albeit weakly, indicate that BHAR tends to decline as holding periods increase.

The size variable exhibits a negative coefficient across specifications, with weak statistical significance in the one-year specification including year FE, suggesting that larger firms may be associated with lower BHAR, although the effect is not consistent across specifications. The SBO dummy is positive across specifications and statistically significant in the one-year specification including year FE, indicating that SBOs may be associated with higher BHAR, although this effect is likewise not consistently robust.

Additionally, results remain similar when using HC3 standard errors (Table B12), winsorized BHAR (Table B13), and when only size is included as the control variable (Table B14). In particular, the group with holding periods above seven years remains negative and statistically significant at the three-year horizon in the specifications with year FE. The above-seven-year group is also statistically significant and negative on the one-year horizon in the specification with year FE when using winsorized BHAR (Table B13).

Overall, the results provide support for H2a at the three-year horizon in the specification with year FE. More specifically, the findings suggest that the relationship between holding period and BHAR is non-linear, with the negative effect primarily driven by holding periods exceeding seven years. As the holding period seems to affect BHAR, IPO timing has also proven to be significant and negative across time horizons and models. In line with Cao (2011), market conditions and holding periods are closely linked, ultimately affecting BHAR in several ways. To investigate this relationship further, the interaction between IPO timing and holding period is examined in the following subsection.

5.3 Impact of IPO timing on holding period

Table 14: Holding period regressions within the BO sample

*This table reports linear regressions with holding period as the dependent variable within the buyout (BO) sample during 2010-2022. SBO = Secondary buyout. IPO timing = number of IPOs in the Nordics during the prior three months. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. SBO dummy = 1 if the transaction prior to the BO was an SBO, and 0 otherwise. Columns (1) and (2) report results without and with control variables, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	All BOs	
	(1)	(2)
Constant	6.3628***	9.2476***
	(17.52)	(6.07)
IPO timing	-0.0280***	-0.0274***
	(-3.32)	(-3.11)
ln(Size)		-0.4903**
		(-1.97)
SBO dummy		-0.4953
		(-1.13)
Year fixed effects	No	No
Observations (n)	108	108
Quarter clusters (n)	31	31
R^2	0.031	0.090

The results indicate that IPO timing has a statistically significant and negative relationship with holding period across both model specifications. Specifically, a marginal increase of one IPO in the three months period prior to the BO-backed IPO is associated with a decrease in the holding period of approximately 10 days.

To provide an economic perspective, moving from the 25th percentile of IPO timing (nine IPOs in the prior three months) to the 75th percentile (29 IPOs) would correspond to a reduction in the holding period, ceteris paribus, of around 6-7 months.

While the statistical significance of this relationship is strong, the economic magnitude is relatively modest. This suggests that although IPO timing influences holding periods and thereby indirectly affects BHAR, the economic impact on holding period remains relatively limited. Notably, this relationship also appears to have a direct effect on post-IPO performance, as Tables 12 and 13 show that IPO timing has a significant and negative effect on BHAR across horizons.

Furthermore, as shown in Table 14, firm size also has a statistically significant negative effect on holding period. In economic terms, a doubling of market capitalisation is associated with a reduction in the holding period of approximately four months.

Alternatively, the results remain similar, with the IPO timing variable remaining negative and statistically significant across specifications when using HC3 standard errors (Table B15), winsorized holding periods (Table B16), and a specification with only size as the control variable (Table B17).

To assess potential multicollinearity, VIF values are computed for all model specifications corresponding to Tables 10, 12, 13, and 14. The results, reported in Appendix C, indicate no evidence of problematic multicollinearity, with all values remaining below commonly used thresholds of 5 or 10 (Menard, 2001; Wooldridge, 2020).

Overall, the findings provide support for H2b, indicating that BO sponsors tend to exploit favourable IPO market conditions. This is consistent with the market timing hypothesis, suggesting that holding periods decrease in hot IPO markets.

5.4 Concluding remarks

Table 15: Summary of hypothesis testing

This table reports an overview of the study's hypotheses, the corresponding empirical findings, and the degree of support based on the regression results. The referenced tables indicate where the underlying results are reported.

H1	Buyout-backed IPOs exhibit positive BHAR and outperform venture capital- and non-private capital-backed IPOs	Partially supported	Tables 9, 10
H2a	The holding period of buyout-backed IPOs has a negative relationship with BHAR, with the effect primarily driven by longer holding periods	Supported	Tables 12, 13
H2b	Buyout sponsors exploit favourable IPO market conditions, implying a negative relationship between IPO timing and holding period	Supported	Table 14

Overall, the results provide mixed evidence for the proposed hypotheses. BO-backed IPOs exhibit positive and economically stronger long-run BHAR than both VC- and non-PC-backed IPOs, with weakly statistically significant three-year BHAR in the constant-only regressions. However, the dummy variable regressions provide only limited statistical evidence of BO-backed IPO outperformance. Consequently, H1 receives only partial support.

In contrast, there is support for H2a and H2b. Holding period exhibits a negative relationship with BHAR, particularly over the three-year horizon with the effect primarily driven by holding periods above seven years. Furthermore, IPO timing is negatively related to holding period, consistent with the market timing hypothesis.

These findings should be interpreted with caution given the relatively small sample size and sensitivity to model specifications. Nevertheless, the results suggest that both holding period dynamics and market conditions matter in shaping BO-backed IPO returns, which is further discussed in the following section.

6. Discussion

Below, a discussion of the results is outlined, focused on the impact and relation towards findings from other literature, as well as wider implications.

6.1 BHAR performance

As seen in Tables 9 and 10, the results provide partial support for H1. As a starting point, Nordic BO-backed IPOs exhibit positive BHAR over both one- and three-year horizons, with the strongest performance observed over three years. The three-year BO-backed BHAR of 31.13% is economically meaningful and weakly statistically significant in the main specification. However, the evidence becomes less robust when applying VW specifications, winsorized returns, and dummy variable regressions comparing different pre-IPO ownership groups. Consequently, the results suggest that BO-backed IPOs constitute a relatively strong pre-IPO ownership group, but not one that consistently outperforms VC- and non-PC-backed IPOs.

6.1.1 BO BHAR performance

The BO findings provide a useful nuance to Ritter (1991), who documents long-run underperformance among U.S. IPOs. In this study, such underperformance is not observed for BO- and non-PC-backed IPOs, while VC-backed IPOs confirm the thesis by Ritter (1991) by showing significant and negative BHAR. The BO-backed evidence is therefore more aligned with the BO-specific literature than with the broader IPO underperformance literature. Holthausen & Larcker (1996), Cao & Lerner (2009), Katz (2009), and Levis (2011) all suggest that BO-backed IPOs do not necessarily follow the long-run underperformance pattern typically associated with traditional IPOs. This supports the idea that BO-backed IPOs should not automatically be treated as regular IPOs, as they differ in ownership structure, maturity, governance (Jensen, 1989), and sponsor incentives (Michala, 2019).

One explanation is the role of BO ownership pre-IPO. Jensen's (1989) governance logic fits the BO-backed IPO setting, where BO sponsors usually acquire control and actively influence the firm before exit. Levis (2011) provides empirical support for this interpretation by showing that BO-backed IPOs are generally larger, more profitable, more leveraged, and less underpriced than other IPOs, suggesting that these firms are more operationally mature and financially disciplined at listing. Katz (2009) also supports this interpretation by showing that majority-owned BO-backed IPOs exhibit higher earnings quality and stronger long-run

stock performance, which the author links to professional ownership, monitoring, and reputational considerations. Similarly, Cao & Lerner (2009) and Holthausen & Larcker (1996) suggest that BO-backed IPO performance may be related to active ownership and governance during the private phase. In this sense, the positive BO-backed BHAR in Table 9 is consistent with the view that BO sponsors bring more mature and operationally developed firms to market than other owners.

However, the VW results show weaker BO-backed performance (Table B3), suggesting that the positive average return is partly driven by smaller BO-backed IPOs. This introduces a size-related interpretation. From a risk-factor perspective, Fama & French (1992) suggest that size and book-to-market characteristics can explain part of return differences. Therefore, some of the positive BO-backed BHAR may reflect firm characteristics rather than pure abnormal performance. At the same time, Levis (2011) tests BO-backed IPO performance using FF3-factor regressions and finds that BO-backed IPOs remain the only pre-IPO ownership group with abnormal returns, suggesting that standard risk factors do not fully explain the stronger returns of BO-backed IPOs. As this study does not conduct an FF3 analysis, this interpretation cannot be tested directly, and is, by choice of scope, treated as a limitation. Alternatively, the positive BO-backed BHAR may reflect behavioural and ownership-related mechanisms, such as governance mechanisms (Jensen, 1989) and reputational discipline (Michala, 2019).

6.1.2 BO BHAR vs. non-BO BHAR performance

The comparison with VC-backed IPOs adds further nuance. In Table 9, VC-backed IPOs exhibit negative BHAR over both horizons, while Table 10 shows that the VC dummy is consistently negative and becomes weakly statistically significant in specifications with year FE. This contrasts with Brav & Gompers (1997), who find that VC-backed IPOs outperform non-VC-backed IPOs, largely due to monitoring, certification, and lower information asymmetry. However, this study's findings (Table 9) are more consistent with the distinction highlighted by Levis (2011), where BO-backed IPOs outperform VC-backed IPOs over longer horizons. One suggested explanation is that VC-backed IPOs are typically younger and more growth-oriented (Levis, 2011; Brav & Gompers, 1997), consistent with the broader IPO mechanisms discussed by Ritter & Welch (2002). From a behavioural perspective, Ritter & Welch (2002) argue that IPO pricing can be affected by heterogeneous expectations, short-sale constraints, and investor sentiment. Applied to VC-backed IPOs, this may imply that optimistic investors have greater influence on the prices early on, while these are later corrected as uncertainty around future growth declines and becomes clearer as information asymmetry

decreases. By contrast, Levis (2011) shows that BO-backed IPOs are generally larger, more profitable and mature, which may reduce pricing uncertainty and make such behavioural mechanisms less pronounced.

Comparing BO- and non-PC-backed IPOs, BO-backed IPOs exhibit higher three-year BHAR than non-PC-backed IPOs in Table 9, but the BO dummy is not statistically significant in Table 10 when non-PC-backed IPOs serve as the reference group. The BO dummy also is insignificant across the robustness checks. Combined, the evidence does not conclusively show that BO-backed IPOs outperform non-PC-backed IPOs after controlling for size and IPO timing. Still, the positive three-year BO coefficient suggests an economically stronger direction. A potential interpretation is that non-PC-backed IPOs represent a broad ownership group, while BO-backed IPOs are more positively selected and sponsor-shaped, in line with the selection effect in Degeorge & Zeckhauser (1993)[11]. Specifically, because BOs are typically debt-heavy, sponsors may avoid taking weaker firms public when debt risk is high, making the selection effect relevant not only relative to non-PC-backed IPOs, but may also matter relative to VC-backed IPOs, where VC sponsors more often hold minority stakes and have less direct control over leverage. At the same time, the size and operational profile of BO-backed IPOs matter in accordance with Levis (2011), further indicating the potential need for risk-factor explanations rather than purely attributing the findings to behavioural aspects.

6.1.3 Summary and implications

From a practical perspective, the findings matter for both institutional investors and BO sponsors. For institutional investors, the absence of clear BO-backed IPO underperformance and even conditional overperformance unique to the BO group suggests that these IPOs should not automatically be treated as part of the broader IPO underperformance pattern. For BO sponsors, strong post-IPO performance supports reputational capital, which is critical for attracting future IPO investors and sustaining access to IPO exits. As emphasised by Michala (2019), reputational concerns discipline BO sponsor behaviour, ultimately suggesting that consistent post-IPO performance reinforces the IPO as a relatively strong exit option.

Overall, H1 is partially supported. BO-backed IPOs exhibit positive and statistically significant three-year BHAR and appear economically stronger than VC-backed IPOs, although the difference is not statistically significant. However, they do not exhibit statistically significant outperformance relative to non-PC-backed IPOs. This ambiguity is informative. It

[11] The selection effect refers to the fact that BO sponsors may be reluctant to raise outside equity if the debt of the portfolio company is severely risky, implying that stronger performing BO-backed firms may be more likely to go public according to Degeorge & Zeckhauser (1993).

suggests that BO-backed IPO BHAR cannot be explained by one mechanism alone. From a risk-factor perspective, size and operational characteristics may explain part of the BHAR. From a behavioural perspective, the results may also reflect governance improvements, sponsor reputation, information asymmetry, market timing, investor sentiment, and heterogeneous beliefs, with the latter two being more relevant to VC-backed IPOs. This interpretation is consistent with Ritter & Welch (2002), who argue that long-run IPO performance is difficult to attribute purely to either efficient-market or behavioural explanations. In the Nordic setting, the main implication is therefore not that BO-backed IPOs are substantially superior to non-BO-backed IPOs, but that they offer a different set of characteristics. In the following subsections, variation within the BO-backed sample, particularly holding period and IPO timing, is examined to understand whether these characteristics help explain BO return differences.

6.2 Holding period - a negative relationship to BO BHAR

As indicated by Tables 12 and 13, holding period matters for BO-backed IPO performance, with both the linear and dummy specifications pointing to a negative relationship. The negative relationship is concentrated in the three-year BHAR, while the one-year horizon remains insignificant. Moreover, Table 13 shows that the effect is primarily driven by the longest holding periods, and in particular for those above seven years. This result is further supported by specifications using winsorized BHAR (Table B13) and specifications including only size as a control variable (Table B14). This places the Nordic evidence closer to Cao & Lerner (2009), who find a negative linear relationship between holding period and post-IPO performance, and partly in line with Cao (2011), who also reports a negative, though weaker, linear relationship between holding period and subsequent stock returns.

6.2.1 Holding period and value creation

One potential interpretation of the negative relationship is that the value created during the BO ownership period is not consistently rewarded by the market. While BOs may create value through concentrated ownership, monitoring, leverage, and operational improvement (Jensen, 1989; Kaplan & Strömberg, 2009), these advantages is suggested to weaken in public market terms once the firm has remained under BO ownership for too long. Specifically for this study, when a BO-backed firm is held for more than seven years, public investors may increasingly view it as a company where much of the restructuring, governance and ultimately value-upside

has already been realised before the IPO. Further nuances in how to interpret the negative relationship will be presented below.

6.2.2 Longer holding period dynamics

At the same time, the literature provides an important nuance. Longer holding periods, over around six years (Kaplan & Strömberg, 2009; Strömberg & Thomann, 2025) are not necessarily a sign of poor quality or weak governance. Accordingly, longer holding periods might also reflect strong firm development, where the BO sponsor continues ownership since the asset performs well[12]. Consequently, the Nordic results do not necessarily imply that longer holding periods are inherently unfavourable. Instead, it suggests that sufficiently long holding periods can be associated with weaker long-run BHAR, and that the Nordic public markets appear to value BO-backed IPOs somewhat less as the holding period exceeds the regular value-creation cycle of around six years (Strömberg & Thomann, 2025).

Alternatively, there is also a fund-structure explanation. Kaplan & Strömberg (2009) emphasise that PE funds are closed-end vehicles with fixed lives, typically around ten years, while Cao (2011) notes that sponsors face increasing liquidity pressure to exit as funds mature, which may create tension. This is reinforced by Arcot et al. (2015), who show that selling pressure increases as funds approach the end of their lifetime and that pressured sellers are more likely to seek quicker exits in the form of SBOs. In the IPO context, such pressure may imply that a longer-held firm is brought public because the fund is pressured to exit, rather than solely because the firm is optimally IPO-ready. This interpretation also aligns with Strömberg & Thomann's (2025) argument that PE ownership is temporary because the marginal benefits of PE ownership eventually decline relative to its costs. Accordingly, if investors perceive the IPO as partly driven by exit pressure rather than full IPO readiness, valuation disagreement around the offering may increase. Ritter & Welch (2002) reinforce this, arguing that heterogeneous expectations can cause IPO prices to initially reflect optimistic investor beliefs before adjusting down as valuation disagreement diminishes. As a result, the negative three-year relationship between BHAR and holding period becomes easier to interpret, as by the time longer-held assets reach the public market, value may already have been captured, remaining upside may have diminished, the IPO may partly reflect fund-life pressure, or the BO sponsor's exit conditions may have become less favourable[13]. While fund-life dynamics may therefore

[12] This interpretation is supported by an informal expert interview with a partner at global BO sponsor Bridgepoint Group Plc.
[13] These potential explanations are supported by an informal expert interview with a partner at the global BO sponsor Bridgepoint Group Plc.

be relevant for understanding holding periods, this study does not examine fund vintage and its potential effects directly.

To build on the longer holding period dynamics, it might also strengthen the earlier discussion of reputational capital. If long holding periods are associated with weaker long-run BHAR, the cost to the BO sponsor's investors is not only lower returns, but also a potential deterioration in reputation among IPO investors. Cao & Lerner (2009) state that BO sponsors are repeat players in the IPO market and therefore suffer reputational losses if their IPO firms perform poorly post-IPO. Using this study's analysis, the implication is therefore more complex than pure return comparisons. Particularly, if a longer holding period reflects exit pressure or lower remaining value rather than optimal IPO readiness, it may be associated with both weaker post-IPO returns and reputational damage. Ultimately, this may affect how institutional investors perceive that particular BO sponsor's future IPOs.

6.2.3 Summary and implications

Overall, these findings provide support for H2a and offer an additional view to existing literature. For BO sponsors considering IPO exits in the Nordics, long-run returns appear to weaken with increased holding periods, with the negative relationship primarily driven by holding periods above seven years. While reputational capital is not empirically tested, the discussed implications can be connected with prior literature suggesting that weaker post-IPO performance may damage sponsor reputation (Cao & Lerner, 2009; Katz, 2009; Michala, 2019). This adds new evidence to a relatively underexplored literature and suggests that, beyond a certain point, the IPO as an exit option in the Nordics may become marginally less attractive when considering both return potential and reputational risk, making alternative exit routes (trade sale or SBO) increasingly more relevant to consider. At the same time, because the effect seems to be both statistically and economically meaningful, the next question is whether this is partly related to prevailing market conditions at the time of exit.

6.3 IPO timing - a negative relationship to BO holding period

As Table 14 provides supportive evidence, the results suggest that favourable market conditions shorten BO sponsors' holding period in the Nordics, ultimately supporting H2b. The coefficient on IPO timing is negative and significant across specifications when using HC3 standard errors (Table B15), using winsorized holding periods (Table B16), and when only using size as control variable (Table B17). This indicates that hotter IPO markets are associated with earlier exits. Economically, however, the effect is more modest, as moving from the 25th

to the 75th percentile of IPO activity reduces the expected holding period by around 6-7 months. The Nordic evidence therefore supports the market timing hypothesis (Cao, 2011), but with limited economic significance.

6.3.1 Interpretation from prior literature

This result is closely aligned with the broader IPO literature. Ibbotson & Jaffe (1975) first introduced the idea of 'hot issue' markets, and Ritter (1984) shows that IPO waves cluster in periods of unusually strong initial returns. Ritter (1991) then links these favourable issuance periods to weaker long-run aftermarket performance, interpreting them as 'windows of opportunity' in which firms exploit temporarily optimistic valuations. In that sense, the Nordic findings fit naturally into this. When the IPO market is hot, BO sponsors appear to be more willing to bring firms public, and earlier sections of the analysis show that such timing is also associated with weaker BHAR (Tables 12 and 13).

The most direct support comes from Cao (2011) and the market timing hypothesis. The author argues that BO sponsors shorten holding periods when external IPO conditions are favourable, even if operating efficiencies have not yet been fully realised. In line with this study (subsections 5.2 and 5.3), IPO timing affects BHAR in two ways. The first is directly, as hotter IPO markets are associated with weaker post-IPO BHAR, and indirectly, as favourable IPO conditions are associated with shorter holding periods. This reinforces Cao's (2011) view that market timing can accelerate IPO exits and potentially bring firms public before they are fully IPO-ready. Furthermore, Jenkinson & Sousa (2015) reinforce this interpretation from a European exit perspective, arguing that PE funds exploit windows of opportunity and that the optimal exit route varies with market conditions rather than with any single preferred exit option.

At the same time, the literature is not entirely one-sided. Levis (2011) finds that BO-backed IPOs in the UK are larger, more profitable, less underpriced, and superior in aftermarket performance, and further suggests that these differences are not simply driven by timing alone. Taken together, these studies suggest that favourable timing does not provide the entire answer. A reasonable interpretation, therefore, is that market conditions partly affect when BO sponsors choose to exit, while factors such as governance (Jensen, 1989) and firm quality (Levis, 2011) affect how well those IPOs perform. Further, this contributes to explaining why H2b is supported statistically, while its economic magnitude remains relatively limited, as other positive aspects of being BO-backed are suggested to have stronger economic effects (subsection 6.1).

A further nuance is that the hot market behaviour does not need to imply that BO sponsors perfectly predict peaks. Michala (2019) argues for the pseudo-market timing[14], suggesting that BO sponsors may simply follow favourable issuance environments rather than systematically exploit mispricing better than others. This interpretation fits the Nordic evidence well. The negative relationship between IPO timing and holding period suggests that BO sponsors respond to hot markets, but the economically limited size of the effect implies that they are not radically changing their exit horizons. In other words, Nordic BO sponsors appear strategic from the timing perspective, but not in an overly aggressive manner.

6.3.2 Summary and implications

From a broader perspective, the implications are important for both institutional investors and sponsors. For public-market investors, hotter IPO markets should be treated with caution, since the results indicate that they are associated not only with shorter holding periods, but also indirectly with weaker long-run BHAR. For BO sponsors, the implication is more strategic and long-term. A favourable market window may make IPO exits more attractive in the short run due to higher valuations, but if this timing shortens restructuring, IPO readiness (Cao, 2011) and lowers subsequent performance, it can also damage long-term reputational capital (Michala, 2019). Overall, the Nordic evidence supports H2b, as BO sponsors do exploit favourable IPO market conditions, but doing so appears to involve a trade-off between strong immediate exit opportunities and longer-run return.

7. Conclusion

7.1 Findings and conclusions

This study's findings provide partial support for H1. BO-backed IPOs exhibit positive BHAR, especially over the three-year horizon, and show economically stronger performance than VC- and non-PC-backed IPOs, although the statistical evidence of outperformance remains limited. Accordingly, the BO group appears to have distinct characteristics, however this study does not empirically separate behavioural explanations with risk-factor exposures. Furthermore, the results provide support for H2a and H2b. Longer holding periods are associated with weaker three-year BO-backed BHAR, mainly driven by firms held for more than seven years. Favourable IPO market conditions are also associated with shorter holding periods, consistent

[14] Pseudo-market timing refers to IPO clustering in favourable market conditions. Firms do not necessarily predict market peaks, but tend to go public after seeing high valuations or strong IPO activity among comparable firms Michala (2019).

with the market timing hypothesis, even though the economic magnitude is moderate. For institutional investors, the findings suggest that BO-backed IPOs should not automatically be treated as regular IPOs, as they do not exhibit the same underperformance as found in previous literature. For BO sponsors, IPO remains a relevant Nordic exit option, but may involve trade-offs between exit timing, fund dynamics, reputational risk, and long-run performance.

7.2 Future research

Several extensions follow naturally from this study. First, while this study focuses on stock market performance, it does not examine pre- or post-IPO operational performance. A useful next step would therefore be to analyse financial metrics in line with Cao & Lerner (2009) and Cao (2011), to assess whether the return patterns found in this study reflect any underlying operating quality.

Second, future research could examine post-IPO sponsor ownership, particularly comparing BO- and VC-backed IPOs. Analysing sponsor ownership at IPO, retained ownership post-IPO, and the speed of subsequent exits could potentially provide a clearer link between sponsor commitment, reputational incentives, and post-IPO outcomes.

Third, future research could analyse fund vintage and pressured exit dynamics as Arcot et al. (2015), but in an IPO context. This study considers holding period but does not examine where the BO fund is in its life cycle at the time of IPO. Including fund vintage could help determine whether longer holding periods reflect portfolio company value creation or exit pressure caused by fund maturity.

Fourth, future studies could examine whether BO-backed IPO returns remain abnormal after controlling for standard risk factors (Levis, 2011). This study does not conduct FF3 regressions, implying that it cannot fully separate abnormal performance from risk-factor exposure. Applying FF3 or other factor models would provide a clearer view of whether BO-backed IPO returns reflect systematic risk, behavioural effects, or a combination of both.

Finally, future studies could benefit from a larger and longer sample. Extending the Nordic dataset beyond 2022 would improve statistical power and allow for more precise analysis across countries, industries, and sponsor types. This would be valuable for testing whether the findings documented in this study are stable across time and market cycles, especially by capturing broader effects from the ongoing global uncertainties.

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Appendix

Appendix A

Table A1: Final BO sample

This table presents the final Nordic buyout (BO) sample during 2010-2022. DK = Denmark, FI = Finland, NO = Norway, SE = Sweden.

IPO Firm	BO Sponsor	Country	IPO Date
Bridge Energy ASA	Lime Rock Partners	NO	2010-05
Byggmax Group AB	Altor Equity Partners	SE	2010-06
Chr Hansen Holding A/S	PAI Partners	DK	2010-06
MQ Holding AB	CapMan	SE	2010-06
PANDORA A/S	Axcel	DK	2010-10
FinnvedenBulten AB	Nordic Capital	SE	2011-05
Boule Diagnostics AB	Siem Capital	SE	2011-06
Matas As	CVC Capital Partners	DK	2013-06
Bufab AB	Nordic Capital	SE	2014-02
ISS A/S	EQT	DK	2014-03
Scanship Holding ASA	TPG	NO	2014-04
Com Hem Holding AB	BC Partners	SE	2014-06
Zalaris ASA	Nordic Capital	NO	2014-06
Scandi Standard AB	CapVest Partners	SE	2014-06
Inwido AB	Ratos	SE	2014-09
XXL ASA	EQT	NO	2014-10
Granges AB	Orkla ASA	SE	2014-10
Thule Group AB	Nordic Capital	SE	2014-11
Eltel AB	3i Group	SE	2015-02
Dustin Group AB	Altor Equity Partners	SE	2015-02
Troax Group AB	FSN Capital	SE	2015-03
Enento Group	Investcorp	FI	2015-03
Pihlajalinna Oy	Sentica Partners	FI	2015-06
Europris ASA	Nordic Capital	NO	2015-06
Coor Service Management Holding AB	Cinven	SE	2015-06
Alimak Group AB	Triton Partners	SE	2015-06
Capio AB	Apax Partners	SE	2015-06
Kotipizza Group Oyj	Sentica Partners	FI	2015-07
Bravida Holding AB	Bain Capital	SE	2015-10
Kid Interiör	Gjelsten Holding	NO	2015-10
Waystream Group AB	ShortCap	SE	2015-11
Dometic Group AB	EQT	SE	2015-11
Attendo AB	IK Partners	SE	2015-11
Scandic Hotels Group AB	EQT	SE	2015-12
Consti Yhtiot Oy	Intera Partners	FI	2015-12

Humana AB	Argan Capital Advisors	SE	2016-03
Resurs Holding AB	Nordic Capital	SE	2016-04
Tokmanni Group Oyj	Nordic Capital	FI	2016-04
Nordic Waterproofing Holding A/S	Axcel	SE	2016-06
AcadeMedia AB	EQT	SE	2016-06
Arcus ASA	Ratos	NO	2016-12
ByggPartnerGruppen	Priveq Investment	SE	2016-12
Ambea AB	Triton Partners	SE	2017-03
Actic Group AB	IK Partners	SE	2017-04
Instalco Intressenter AB	FSN Capital	SE	2017-05
Kamux Oyj	Intera Partners	FI	2017-05
Munters Group AB	Nordic Capital	SE	2017-05
Medicover AB	Oriens	SE	2017-05
Balco Group AB	Segulah	SE	2017-10
Handicare Group AB	Nordic Capital	SE	2017-10
Webstep ASA	Reiten & Co	NO	2017-10
Terveystalo Oy	EQT	FI	2017-10
Crayon Group Holding ASA	Norvestor	NO	2017-11
TCM Group A/S	IK Partners	DK	2017-11
Elkem ASA	Blackstone	NO	2018-03
Harvia Oyj	CapMan	FI	2018-03
Green Landscaping Holding AB	FSN Capital	SE	2018-03
BHG Group AB	FSN Capital	SE	2018-03
Ovzon AB	PEQ Private Equity	SE	2018-05
NCAB Group AB	R12 Kapital	SE	2018-06
Netcompany Group As	FSN Capital	DK	2018-06
Eezy	Sentica Partners	FI	2018-06
Shelf Drilling Ltd	Castle Harlan	NO	2018-06
Lime Technologies AB	Monterro	SE	2018-12
Karnov Group AB	Five Arrows Managers	SE	2019-04
Danish Aerospace Company A/S	M. Goldschmidt Capital	DK	2019-05
OKEA ASA	Seacrest Capital	NO	2019-06
Mentice AB	Priveq Investment	SE	2019-06
Norske Skog ASA	Oceanwood Capital Management	NO	2019-10
Sats ASA	Altor Equity Partners	NO	2019-10
Qleanair Holding AB	Priveq Investment	SE	2019-12
Musti Group Oyj	EQT	FI	2020-02
Exsitec Holding AB	Standout Capital	SE	2020-09
Mintra Holding AS	The Riverside Company	NO	2020-10
LINK Mobility Group Holding ASA	Abry Partners	NO	2020-10
HusCompagniet A/S	EQT	DK	2020-11
Nordnet AB	Nordic Capital	SE	2020-11
Fasadgruppen Group AB	Connecting Capital	SE	2020-12

Elektroimportoren AS	Herkules Capital	NO	2020-12
Nimbus Group AB	R12 Kapital	SE	2021-02
Fractal Gaming Group AB	Litorina	SE	2021-02
Lumi Gruppen	EMK Capital	NO	2021-02
Kreate Group Oy	Intera Partners	FI	2021-02
Cint Group AB	Nordic Capital	SE	2021-02
Desenio Group AB	Verdane	SE	2021-02
RugVista Group AB	Litorina	SE	2021-03
Embellence Group AB	Litorina	SE	2021-03
Sitowise Group Oyj	Intera Partners	FI	2021-03
Orthex Oyj	Sponsor Capital	FI	2021-03
Pierce Group AB	Procuritas	SE	2021-03
Cheffelo AB	Herkules Capital	SE	2021-03
Hemnet Group AB	General Atlantic	SE	2021-04
ECIT AS	Axcel	NO	2021-05
Trifork Holding AG	GRO Capital	DK	2021-06
RVRC Holding AB	Altor Equity Partners	SE	2021-06
Komplett AS	Canica	NO	2021-06
OX2 AB	Altor Equity Partners	SE	2021-06
SmartCraft ASA	Valedo Partners	NO	2021-06
Tavaratalot	Adelis Equity Partners	FI	2021-06
Wyld Networks AB	Tern	SE	2021-07
Kjell Group AB	FSN Capital	SE	2021-09
CTEK AB	Altor Equity Partners	SE	2021-09
Netel Holding AB	IK Partners	SE	2021-10
Autostore Holdings Ltd	Thomas H. Lee Partners	NO	2021-10
Synsam AB (publ)	CVC Capital Partners	SE	2021-10
Duell Oyj	Sponsor Capital	FI	2021-11
Norva24 Group AB	Valedo Partners	SE	2021-12
4C Strategies	Priveq Investment	SE	2022-05

Table A2: Final VC sample

This table presents the final Nordic venture capital (VC) sample during 2010-2022. DK = Denmark, FI = Finland, NO = Norway, SE = Sweden.

IPO Firm	VC Sponsor	Country	IPO Date
Zealand Pharma A/S	Sunstone Life Science Ventures	DK	2010-11
Transmode AB	Amadeus Capital Partners	SE	2011-05
Asetek A/S	Sunstone Technology Ventures	NO	2013-03
Napatech A/S	Northzone Ventures	NO	2013-12
Verkkokauppa.com Oyj	Rite Ventures	FI	2014-04
Nexstim Oyj	HealthCap	FI	2014-11
Summa Energy	The Finnish Innovation Fund Sitra	FI	2015-04
Tobii AB	Investor Growth Capital / Patricia Industries	SE	2015-04
SciBase Holding AB	SEB Venture Capital	SE	2015-06

Hovding Sverige AB	Indigo Capital	SE	2015-06
Stillfront Group AB	IQ Capital	SE	2015-12
Nuevolution AB	SEB Venture Capital	SE	2015-12
LeoVegas Mobile Gaming Group	Aggregate	SE	2016-03
InDex Pharmaceuticals Holding AB	Industrifonden	SE	2016-10
Alligator Bioscience AB	Sunstone Life Science Venture Fund	SE	2016-11
Smart Eye AB	Fouriertransform ab	SE	2016-12
Edgeware AB	Amadeus Capital Partners	SE	2016-12
Acarix AB	Sunstone Life Science Venture Fund	SE	2016-12
SeaTwirl AB	Almi Invest	SE	2016-12
Oncopeptides AB	Industrifonden	SE	2017-02
MIPS AB	HealthCap	SE	2017-03
Next Games Oy	Ridge Ventures	FI	2017-03
Oncoinvent ASA	Investinor	NO	2017-04
Bambuser AB	Almi Invest	SE	2017-05
Boozt AB	Heartcore Capital	SE	2017-05
Bonesupport Holding AB	HealthCap	SE	2017-06
Rovio Entertainment Oy	Atomico	FI	2017-09
Infront ASA	Kistefos	NO	2017-09
Strategic Partners	Novo Holdings	DK	2017-11
IRRAS AB	Serendipity Ixora	SE	2017-11
Efecte Oyj	First Fellow Partners	FI	2017-12
Acconeer AB	BGA Invest	SE	2017-12
Fluicell AB	Almi Invest	SE	2018-04
Calliditas Therapeutics AB	Industrifonden	SE	2018-06
poLight AS	Viking Growth	NO	2018-10
Ascelia Pharma AB	Sunstone Life Science Ventures	SE	2019-03
Ferroamp AB	Almi Invest	SE	2019-03
Konsolidator A/S	Andersen Advisory Group	DK	2019-05
Optomed Oyj	Cenova Capital	FI	2019-12
Pexip Holding AS	Stavanger Venture	NO	2020-05
Penneo A/S	Andersen Advisory Group	DK	2020-06
BEWi ASA	Verdane	NO	2020-08
Airthings AS	Firda	NO	2020-10
CirChem AB	Almi Invest	SE	2020-12
Cyviz AS	Investinor	NO	2020-12
SkandiaEnergi Holding AS	Skagerak Capital	NO	2021-02
DonkeyRepublic Holding A/S	Danmarks Eksport-og Investeringsfond	DK	2021-05
Mapspeople A/S	Danmarks Eksport-og Investeringsfond	DK	2021-06
Acast AB	Alfven & Didrikson	SE	2021-06
Green Hydrogen Systems A/S	Nordic Alpha Partners	DK	2021-06
Spinnova Oyj	Suzano Ventures	FI	2021-06
Biosergen AB	Rosetta Capital	SE	2021-06

OrderYOYO A/S	Seed Capital Management	DK	2021-07
Pila Pharma AB	Almi Invest	SE	2021-07
Modus Therapeutics Holding AB	KD Ventures	SE	2021-07
Soder Sportfiske AB	Rite Ventures	SE	2021-09
Pixfam AB	First Venture Sweden	SE	2021-09
eEducation Albert AB	Schibsted Ventures	SE	2021-10
Lemonsoft Oy	Rite Ventures	FI	2021-11
Digital Workforce Services Oy	CapMan	FI	2021-12
Aiforia Technologies Oy	ACME Investments	FI	2021-12
Collaxio AB	Curitas AB	SE	2021-12
Administer Oy	Bocap	FI	2021-12
Lyckegard Group AB	Almi Invest	SE	2022-02
Beammwave AB	Almi Invest	SE	2022-03
Oneflow AB	Spintop Ventures	SE	2022-04
Promimic AB	KD Ventures	SE	2022-04
LumenRadio AB	Chalmers Innovation Seed Fund	SE	2022-12

Table A3: Other PC sample

This table presents the other private capital (PC) sample during 2010-2022. Other PC is not included in the main analysis in this study due to limited sample size and scope. DK = Denmark, FI = Finland, NO = Norway, SE = Sweden.

IPO Firm	Other PC Sponsor	Country	IPO Date
Arise	AP3	SE	2010-03
Northbaze Group	Transferator	SE	2011-12
Ocean Yield AS	Aker ASA	NO	2013-07
Detection Technology Oy	G.W. Sohlberg	FI	2015-03
Nobina AB	Astaris Capital Management	SE	2015-06
Sinch AB	Neqst	SE	2015-10
Camurus AB	Sandberg Development	SE	2015-12
Nilsson Special Vehicles AB	Granitor	SE	2015-12
Paradox Interactive AB	Investment AB Spiltan	SE	2016-05
Orsted	Goldman Sachs AM	DK	2016-06
SERNEKE Group AB	Gavia	SE	2016-11
Ayima Group AB	Nano Cap Group	SE	2017-05
Fastighets AB Trianon	Briban Invest	SE	2017-06
Orgo Tech AB	Nano Cap Group	SE	2018-01
Aixia Group AB	Nano Cap Group	SE	2018-01
Arion Banki hf	Taconic Capital	SE	2018-06
Q-Linea AB	Investment AB Öresund	SE	2018-12
Nustay A/S	Seier Capital	SE	2019-03
Ultimovacs ASA	Gjelsten Holding	NO	2019-06
EQT AB	Investor	SE	2019-09
Wastbygg Gruppen AB	M2 Asset Management	SE	2020-10
Volue AS	Arendals Fossekompani	NO	2020-10

The Kingfish Company	Creadev International	NO	2020-11
Re:NewCell AB	Girindus Investments	SE	2020-11
Cambi ASA	AWilhelmsen	NO	2021-02
Arctic Bioscience AS	PIR IV Invest	NO	2021-02
Tinearity	Footloose Invest AB	SE	2021-05
Alexandria Pankkiiriliike Oyj	Ajanta	FI	2021-05
Norsk Titanium AS	Goldman Sachs	NO	2021-05
Nordhealth AS	Capital research and management Company	NO	2021-06
Elopak ASA	Ferd	NO	2021-06
Aquaporin A/S	M. Goldschmidt Capital	DK	2021-07
Movinn A/S	Dane Capital	DK	2021-11
Signup Software Ab	Standout Capital	SE	2021-11
Klarabo Sverige AB	Investment AB Spiltan	SE	2021-12
Devyser Diagnostics AB	Swedbank Robur	SE	2021-12
Mestro AB	RP Ventures	SE	2021-12

Table A4: Average IPO timing across years

This table presents the average number of Nordic IPOs in the preceding three months for the buyout (BO), venture capital (VC), and non-private capital (non-PC) samples, aggregated by year. For each IPO within a pre-IPO ownership group, the measure counts the number of Nordic IPOs in the prior three months, while the yearly value represents the average across IPOs within each respective sample.

	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
BO	10	7	-	2	6	11	12	14	14	7	26	45	20
VC	6	6	-	5	8	14	11	17	11	5	20	60	23
Non-PC	7	6	1	3	7	12	11	19	14	6	17	48	21

Table A5: VC market capitalisation distribution across years

This table presents the annual distribution of IPOs within the venture capital (VC) sample across market capitalisation groups during 2010-2022. Market capitalisation is measured in EURm and calculated as the closing price on the first trading day multiplied by the number of shares outstanding.

	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Total**
0-100	-	-	-	2	1	5	5	7	3	4	3	13	4	**47**
100-500	1	1	-	-	1	1	2	5	-	-	2	5	1	**19**
500-1,000	-	-	-	-	-	-	-	1	-	-	1	-	-	**2**
>1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Total	**1**	**1**	**-**	**2**	**2**	**6**	**7**	**13**	**3**	**4**	**6**	**18**	**5**	**68**

Table A6: Non-PC market capitalisation distribution across years

This table presents the annual distribution of IPOs within the non-private capital (non-PC) sample across market capitalisation groups during 2010-2022. Market capitalisation is measured in EURm and calculated as the closing price on the first trading day multiplied by the number of shares outstanding.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
0-100	4	4	-	6	8	12	10	24	17	3	18	68	17	**191**
100-500	2	5	2	1	4	5	6	4	5	4	12	25	4	**79**
500-1,000	-	-	-	1	1	4	-	1	-	-	3	1	1	**12**
>1,000	1	-	-	1	2	-	2	-	1	1	-	3	1	**12**
Total	**7**	**9**	**2**	**9**	**15**	**21**	**18**	**29**	**23**	**8**	**33**	**97**	**23**	**294**

Table A7: VC BHAR summary overview

This table presents summary statistics for one- and three-year BHAR across market capitalisation groups within the venture capital (VC) sample during 2010-2022. Market capitalisation is measured in EURm and calculated as the closing price on the first trading day multiplied by the number of shares outstanding. Y = Year, Market Cap = Market capitalisation, EW = Equal weight, and VW = Value weight.

Group	n	EW Mean	VW Mean	Median	Std Dev	Min	Max
VC Summary							
1Y BHAR							
All VC	68	-6%	-12%	-24%	56%	-85%	194%
3Y BHAR							
All VC	68	-2%	-22%	-40%	110%	-96%	418%
Market Cap							
1Y BHAR							
0-100	47	-9%	-5%	-26%	62%	-85%	194%
100-500	19	2%	-7%	0%	43%	-64%	87%
500-1,000	2	-35%	-35%	-35%	33%	-58%	-11%
>1,000	-	-	-	-	-	-	-
3Y BHAR							
0-100	47	-3%	-15%	-42%	107%	-96%	418%
100-500	19	9%	-13%	-30%	124%	-91%	412%
500-1,000	2	-59%	-58%	-59%	35%	-84%	-34%
>1,000	-	-	-	-	-	-	-

Table A8: Non-PC BHAR summary overview

This table presents summary statistics for one- and three-year BHAR across market capitalisation groups within the non-private-capital (non-PC) sample during 2010-2022. Market capitalisation is measured in EURm and calculated as the closing price on the first trading day multiplied by the number of shares outstanding. Y = Year, Market Cap = Market capitalisation, EW = Equal weight, and VW = Value weight.

Group	n	EW Mean	VW Mean	Median	Std Dev	Min	Max
Non-PC Summary							
1Y BHAR							
All non-PC	294	4%	6%	-12%	77%	-93%	614%
3Y BHAR							
All non-PC	294	19%	29%	-32%	180%	-119%	1210%
Market Cap							
1Y BHAR							
0-100	47	-3%	1%	-24%	80%	-87%	614%
100-500	19	18%	22%	3%	74%	-93%	315%
500-1,000	2	18%	17%	19%	42%	-39%	92%
>1,000	-	5%	-4%	10%	45%	-78%	83%
3Y BHAR							
0-100	47	13%	5%	-39%	192%	-114%	1210%
100-500	19	32%	39%	-15%	172%	-119%	949%
500-1,000	2	5%	1%	14%	61%	-78%	100%
>1,000	-	38%	35%	37%	100%	-89%	164%

Table A9: BO industry distribution across years

This table presents the annual distribution of IPOs within the buyout (BO) sample across industries during 2010-2022. Industry classifications are based on the Global Industry Classification Standard (GICS) (MSCI, 2026).

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Consumer Discretionary	3	1	-	1	2	5	2	3	2	1	3	13	-	**36**
Industrials	-	-	-	-	5	7	2	3	2	2	1	7	-	**29**
Information Technology	-	-	-	-	-	2	-	2	3	-	3	5	1	**16**
Health Care	-	1	-	-	-	3	1	4	-	1	-	-	-	**10**
Communication Services	-	-	-	-	1	-	-	-	1	1	-	2	-	**5**
Materials	1	-	-	-	1	-	-	-	1	1	-	-	-	**4**
Consumer Staples	-	-	-	-	1	-	1	-	-	-	-	1	-	**3**
Energy	1	-	-	-	-	-	-	-	1	1	-	-	-	**3**
Financials	-	-	-	-	-	-	1	-	-	-	1	-	-	**2**
Real Estate	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Utilities	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Total	**5**	**2**	**-**	**1**	**10**	**17**	**7**	**12**	**10**	**7**	**8**	**28**	**1**	**108**

Table A10: BO country distribution across years

This table presents the annual distribution of IPOs within the buyout (BO) sample across industries during 2010-2022. SE = Sweden, DK = Denmark, NO = Norway, and FI = Finland.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
SE	2	2	-	-	6	11	5	7	5	3	3	17	1	**62**
DK	2	-	-	1	1	-	-	1	1	1	1	1	-	**9**
NO	1	-	-	-	3	2	1	2	2	3	3	5	-	**22**
FI	-	-	-	-	-	4	1	2	2	-	1	5	-	**15**
Total	**5**	**2**	**-**	**1**	**10**	**17**	**7**	**12**	**10**	**7**	**8**	**28**	**1**	**108**

Table A11: BO BHAR summary overview

This table presents summary statistics for one- and three-year BHAR across industry and country groups within the buyout (BO) sample during 2010-2022. Y = Year, EW = Equal Weight, VW = Value Weight, SE = Sweden, DK = Denmark, NO = Norway, and FI = Finland. Industry classifications are based on the Global Industry Classification Standard (GICS) (MSCI, 2026).

Group	n	EW Mean	VW Mean	Median	Std Dev	Min	Max
BO Summary							
1Y BHAR							
All BO	108	4%	-12%	3%	46%	-85%	211%
3Y BHAR							
All BO	108	31%	3%	-3%	134%	-100%	712%
Industry							
1Y BHAR							
Communication Services	5	20%	7%	20%	22%	-14%	47%
Consumer Discretionary	36	-2%	-21%	-4%	46%	-85%	168%
Consumer Staples	3	-14%	2%	10%	44%	-64%	13%
Energy	3	-53%	-51%	-55%	4%	-56%	-49%
Financials	2	41%	55%	41%	58%	-1%	82%
Health Care	10	-1%	-7%	-5%	22%	-26%	43%
Industrials	29	8%	-26%	6%	38%	-59%	122%
Information Technology	16	18%	7%	1%	70%	-58%	211%
Materials	4	3%	6%	6%	12%	-14%	14%
3Y BHAR							
Communication Services	5	47%	97%	68%	76%	-77%	116%
Consumer Discretionary	36	14%	5%	-17%	130%	-100%	610%
Consumer Staples	3	-20%	-4%	-12%	51%	-74%	27%
Energy	3	-26%	-56%	-61%	88%	-93%	74%
Financials	2	35%	42%	35%	25%	17%	53%
Health Care	10	3%	1%	3%	22%	-33%	45%
Industrials	29	20%	-32%	7%	76%	-82%	253%
Information Technology	16	112%	44%	-8%	254%	-90%	712%
Materials	4	72%	54%	87%	43%	10%	106%

Country							
1Y BHAR							
Sweden	62	9%	12%	6%	47%	-83%	211%
Norway	22	-17%	-40%	-14%	30%	-59%	37%
Finland	15	18%	7%	4%	56%	-69%	168%
Denmark	9	0%	-27%	9%	35%	-85%	30%
3Y BHAR							
Sweden	62	32%	26%	12%	119%	-100%	642%
Norway	22	13%	-47%	-21%	167%	-93%	712%
Finland	15	56%	27%	12%	170%	-99%	610%
Denmark	9	27%	30%	-7%	86%	-59%	222%

Table A12: BOs delisted within three years after IPO

This table presents buyout (BO)-backed IPOs that were excluded from the final sample due to delisting within three years after the IPO date.

IPO Firm	IPO Date	Delisting date	Delisting reason
Aker Drilling ASA	2011-02	2011-10	Acquired
Sanitec Oy	2013-12	2015-02	Acquired
OW Bunker A/S	2014-03	2014-11	Bankruptcy
RenoNorden AS	2014-12	2017-11	Bankruptcy
Nordax Group AB	2015-06	2018-04	Acquired
Nets A/S	2016-09	2018-02	Acquired
Ahlsell AB	2016-10	2019-03	Acquired
Silmaasema Oyj	2017-06	2020-05	Acquired
EVRY ASA	2017-06	2019-12	Merger
House of Control Group AS	2020-10	2022-11	Acquired
Meltwater NV	2020-12	2023-08	Acquired
EcoOnline Holding AS	2021-03	2022-09	Acquired
Ørn Software Holding AS	2021-03	2022-08	Acquired
Permascand Top Holding AB	2021-06	2024-02	Acquired
Cary Group Holding AB	2021-09	2022-10	Acquired
Byggfakta Group	2021-10	2024-05	Acquired
Pagero Group AB (publ)	2021-10	2024-03	Acquired
Momentum Software Group AB	2021-12	2022-07	Acquired
Nordic Lights Group Oy	2022-07	2023-10	Acquired

Appendix B

Table B1: Mean BHAR across pre-IPO ownership groups - HC3 standard errors

*This table reports one- and three-year BHAR across pre-IPO ownership groups during 2010-2022. The constant represents the average BHAR for each group. BO = buyout, VC = venture capital, and non-PC = non-private capital. z-statistics based on HC3 heteroskedasticity-consistent standard errors are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR			3-year BHAR		
	BO	VC	Non-PC	BO	VC	Non-PC
Constant	0.0400	-0.0637	0.0376	0.3113**	-0.0168	0.1904*
	(0.91)	(-0.92)	(0.84)	(2.40)	(-0.13)	(1.81)
Observations (n)	108	68	294	108	68	294

Table B2: Mean BHAR across pre-IPO ownership groups - winsorized BHAR

*This table reports one- and three-year BHAR across pre-IPO ownership groups during 2010-2022. BHAR is winsorized at the 2.5th and 97.5th percentiles. The constant represents the average BHAR for each group. BO = buyout, VC = venture capital, and non-PC = non-private capital. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR			3-year BHAR		
	BO	VC	Non-PC	BO	VC	Non-PC
Constant	0.0304	-0.0696	0.0042	0.2571	-0.0434	0.1298
	(0.62)	(-0.89)	(0.07)	(1.64)	(-0.29)	(0.96)
Observations (n)	108	68	294	108	68	294
Quarter clusters (n)	31	29	47	31	29	47

Table B3: Mean BHAR across pre-IPO ownership groups - value-weighted WLS

*This table reports weighted least squares (WLS) estimates of one- and three-year BHAR across pre-IPO ownership groups during 2010-2022. Market capitalisation used as regression weights is winsorized at the 2.5th and 97.5th percentiles within each pre-IPO ownership group. The constant represents the average BHAR for each group. BO = buyout, VC = venture capital, and non-PC = non-private capital. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR			3-year BHAR		
	BO	VC	Non-PC	BO	VC	Non-PC
Constant	-0.0198	-0.1052	0.1267**	0.1665	-0.2039	0.2771*
	(-0.26)	(-1.09)	(1.96)	(1.36)	(-1.25)	(1.94)
Observations (n)	108	68	294	108	68	294
Quarter clusters (n)	31	29	47	31	29	47

Table B4: BHAR regressions across pre-IPO ownership groups - HC3 standard errors

*This table reports dummy variable regressions with one- and three-year BHAR as dependent variables for the final sample during 2010-2022. BO = buyout, VC = venture capital, and non-PC = non-private capital. BO and VC are dummy variables equal to 1 if the IPO is BO-backed or VC-backed, respectively, and 0 otherwise, with non-PC-backed IPOs serving as the reference group. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. IPO timing = number of IPOs in the Nordics during the last three months. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on HC3 heteroskedasticity-consistent standard errors are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		**3-year BHAR**	
	(1)	(2)	(1)	(2)
Constant	-0.4403	-0.6937**	1.0378	0.1017
	(-1.23)	(-1.97)	(1.04)	(0.11)
BO dummy	-0.0740	-0.0920	0.1120	0.0122
	(-1.09)	(-1.34)	(0.63)	(0.07)
VC dummy	-0.0959	-0.1512*	-0.1892	-0.2783*
	(-1.22)	(-1.80)	(-1.15)	(-1.71)
ln(Size)	0.0348*	0.0316*	-0.0291	-0.0111
	(1.81)	(1.67)	(-0.55)	(-0.23)
IPO timing	-0.0058***		-0.0132***	
	(-4.43)		(-4.27)	
Year fixed effects	No	Yes	No	Yes
Observations (n)	470	470	470	470
R^2	0.043	0.137	0.032	0.155

Table B5: BHAR regressions across pre-IPO ownership groups - winsorized BHAR

*This table reports dummy variable regressions with one- and three-year BHAR as dependent variables for the final sample during 2010-2022. BHAR is winsorized at the 2.5th and 97.5th percentiles. BO = buyout, VC = venture capital, and non-PC = non-private capital. BO and VC are dummy variables equal to 1 if the IPO is BO-backed or VC-backed, respectively, and 0 otherwise, with non-PC-backed IPOs serving as the reference group. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. IPO timing = number of IPOs in the Nordics during the last three months. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		**3-year BHAR**	
	(1)	(2)	(1)	(2)
Constant	-0.5802**	-0.7950***	0.6903	-0.0977
	(-2.38)	(-3.71)	(0.66)	(-0.12)
BO dummy	-0.0561	-0.0751	0.0968	0.0056
	(-1.09)	(-1.38)	(0.80)	(0.05)
VC dummy	-0.0694	-0.1138	-0.1566	-0.2415
	(-0.94)	(-1.39)	(-1.18)	(-1.61)
ln(Size)	0.0401***	0.0374***	-0.0137	0.0001
	(3.08)	(3.07)	(-0.26)	(0.03)
IPO timing	-0.0053***		-0.0128***	
	(-6.01)		(-4.40)	
Year fixed effects	No	Yes	No	Yes
Observations (n)	470	470	470	470
Quarter clusters (n)	48	48	48	48
R^2	0.058	0.157	0.043	0.173

Table B6: BHAR regressions across pre-IPO ownership groups - size controls only

*This table reports dummy variable regressions with one- and three-year BHAR as dependent variables for the final sample during 2010-2022. BO = buyout, VC = venture capital, and non-PC = non-private capital. BO and VC are dummy variables equal to 1 if the IPO is BO-backed or VC-backed, respectively, and 0 otherwise, with non-PC-backed IPOs serving as the reference group. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		**3-year BHAR**	
	(1)	(2)	(1)	(2)
Constant	-0.7108**	-0.6937***	0.4243	0.1017
	(-2.53)	(-2.58)	(0.35)	(0.11)
BO dummy	-0.0613	-0.0920	0.1409	0.0122
	(-0.99)	(-1.37)	(1.01)	(0.10)
VC dummy	-0.1035	-0.1512*	-0.2065	-0.2783*
	(-1.25)	(-1.68)	(-1.37)	(-1.80)
ln(Size)	0.0419***	0.0316**	-0.0131	-0.0111
	(2.81)	(2.09)	(-0.21)	(-0.22)
Year fixed effects	No	Yes	No	Yes
Observations (n)	470	470	470	470
Quarter clusters (n)	48	48	48	48
R^2	0.012	0.137	0.004	0.155

Table B7: BHAR regressions across pre-IPO ownership groups - value-weighted WLS

*This table reports weighted least squares (WLS) dummy variable regressions with one- and three-year BHAR as dependent variables for the final sample during 2010-2022. Market capitalisation used as regression weights is winsorized at the 2.5th and 97.5th percentiles within each pre-IPO ownership group. BO = buyout, VC = venture capital, and non-PC = non-private capital. BO and VC are dummy variables equal to 1 if the IPO is BO-backed or VC-backed, respectively, and 0 otherwise, with non-PC-backed IPOs serving as the reference group. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. IPO timing = number of IPOs in the Nordics during the last three months. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		**3-year BHAR**	
	(1)	(2)	(1)	(2)
Constant	1.4109**	0.7631	1.4440	1.5660
	(2.06)	(1.45)	(1.01)	(1.40)
BO dummy	-0.1053	-0.1276	-0.0705	-0.1526
	(-1.33)	(-1.55)	(-0.53)	(-1.11)
VC dummy	-0.2631***	-0.2489***	-0.4719**	-0.4235**
	(-2.91)	(-2.90)	(-2.31)	(-2.26)
ln(Size)	-0.0611*	-0.0446*	-0.0506	-0.0481
	(-1.77)	(-1.93)	(-0.71)	(-0.95)
IPO timing	-0.0029*		-0.0076**	
	(-1.85)		(-2.27)	
Year fixed effects	No	Yes	No	Yes
Observations (n)	470	470	470	470
Quarter clusters (n)	48	48	48	48
R^2	0.053	0.199	0.029	0.166

Table B8: Mean BHAR across BO holding period groups - HC3 standard errors

*This table reports one- and three-year BHAR across buyout (BO) holding period groups during 2010-2022. The holding period group below one year contains only two observations and is therefore included only in the All BO group and not reported separately. The constant represents the average BHAR for each group. HP = Holding period. Y = years. z-statistics based on HC3 heteroskedasticity-consistent standard errors are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR				**3-year BHAR**			
	All BO	HP 1-4y	HP 4-7y	HP >7y	All BO	HP 1-4y	HP 4-7y	HP >7y
Constant	0.0400	0.0958	0.0343	-0.0107	0.3113**	0.5821**	0.3024	0.0873
	(0.91)	(0.85)	(0.50)	(-0.20)	(2.40)	(2.16)	(1.19)	(0.74)
Observations (n)	108	30	43	33	108	30	43	33

Table B9: BHAR regressions within the BO sample - HC3 standard error

*This table reports linear regressions with one- and three-year BHAR as dependent variables within the buyout (BO) sample during 2010-2022. HP = Holding period. SBO = Secondary buyout. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. SBO dummy = 1 if the transaction prior to the BO was an SBO, and 0 otherwise. IPO timing = number of IPOs in the Nordics during the prior three months. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on HC3 heteroskedasticity-consistent standard errors are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		3-year BHAR	
	(1)	(2)	(1)	(2)
Constant	0.4450	0.0849	1.7220**	0.5838
	(1.37)	(0.27)	(1.99)	(0.78)
HP	-0.0139	-0.0089	-0.0687**	-0.0589*
	(-0.92)	(-0.67)	(-2.02)	(-1.69)
ln(Size)	-0.0492	-0.0582	-0.1232	-0.0840
	(-1.17)	(-1.44)	(-1.25)	(-0.87)
SBO dummy	0.0882	0.1143	0.0779	0.1193
	(0.98)	(1.26)	(0.32)	(0.48)
IPO timing	-0.0038*		-0.0170***	
	(-1.67)		-3.07	
Year fixed effects	No	Yes	No	Yes
Observations	108	108	108	108
R^2	0.053	0.352	0.075	0.312

Table B10: BHAR regressions within the BO sample – winsorized BHAR

*This table reports linear regressions with one- and three-year BHAR as dependent variables within the buyout (BO) sample during 2010-2022. BHAR is winsorized at the 2.5th and 97.5th percentiles. HP = Holding period. SBO = Secondary buyout. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. SBO dummy = 1 if the transaction prior to the BO was an SBO, and 0 otherwise. IPO timing = number of IPOs in the Nordics during the prior three months. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		3-year BHAR	
	(1)	(2)	(1)	(2)
Constant	0.3333	0.0315	1.3824*	0.4315
	(1.31)	(0.14)	(1.76)	(0.76)
HP	-0.0101	-0.0073	-0.0594*	-0.0559*
	(-0.79)	(-0.56)	(-1.84)	(-1.93)
ln(Size)	-0.0359	-0.0437	-0.0917	-0.0605
	(-1.09)	(-1.37)	(-1.12)	(-0.76)
SBO dummy	0.0809	0.0993	0.1582	0.2054
	(1.07)	(1.45)	(0.86)	(1.12)
IPO timing	-0.0034*		-0.0156**	
	(-1.75)		(-2.11)	
Year fixed effects	No	Yes	No	Yes
Observations (n)	108	108	108	108
Quarter clusters (n)	31	31	31	31
R^2	0.048	0.334	0.094	0.361

Table B11: BHAR regressions within the BO sample - size controls only

*This table reports linear regressions with one- and three-year BHAR as dependent variables within the buyout (BO) sample during 2010-2022. HP = Holding period. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		**3-year BHAR**	
	(1)	(2)	(1)	(2)
Constant	0.3583	0.0601	1.2919	0.5579
	(1.27)	(0.23)	(1.54)	(0.83)
HP	-0.0107	-0.0103	-0.0512	-0.0603*
	(-0.78)	(-0.77)	(-1.56)	(-1.89)
ln(Size)	-0.0460	-0.0531	-0.1228	-0.0787
	(-1.23)	(-1.46)	(-1.24)	(-0.84)
Year fixed effects	No	Yes	No	Yes
Observations (n)	108	108	108	108
Quarter clusters (n)	31	31	31	31
R^2	0.018	0.341	0.020	0.310

Table B12: BHAR regressions across BO holding period groups - HC3 standard errors

*This table reports dummy variable regressions with one- and three-year BHAR as dependent variables within the buyout (BO) sample during 2010-2022. HP = Holding Period. SBO = Secondary buyout. HP 1-4 years and HP >7 years are dummy variables, with the four-to-seven-year holding period group serving as the reference category. Due to the limited sample size (two observations), holding periods below one year are excluded, reducing the sample to 106 observations. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. SBO dummy = 1 if the transaction prior to the BO was an SBO, and 0 otherwise. IPO timing = number of IPOs in the Nordics during the prior three months. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on HC3 heteroskedasticity-consistent standard errors are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		**3-year BHAR**	
	(1)	(2)	(1)	(2)
Constant	0.4310	0.1283	1.3615*	0.3626
	(1.64)	(0.45)	(1.73)	(0.54)
HP 1-4 years	0.0323	-0.0540	0.2076	0.1666
	(0.22)	(-0.42)	(0.56)	(0.54)
HP >7 years	-0.1075	-0.1296	-0.3958	-0.4392*
	(-1.18)	(-1.54)	(-1.33)	(-1.72)
ln(Size)	-0.0544	-0.0679*	-0.1178	-0.0979
	(-1.30)	(-1.71)	(-1.20)	(-1.00)
SBO dummy	0.1016	0.1370	0.1091	0.1199
	(1.04)	(1.44)	(0.44)	(0.49)
IPO timing	-0.0050**		-0.0179***	
	(-2.16)		(-3.01)	
Year fixed effects	No	Yes	No	Yes
Observations (n)	106	106	106	106
R^2	0.077	0.391	0.088	0.353

Table B13: BHAR regressions across BO holding period groups - winsorized BHAR

*This table reports dummy variable regressions with one- and three-year BHAR as dependent variables within the buyout (BO) sample during 2010-2022. BHAR is winsorized at the 2.5th and 97.5th percentiles. HP = Holding Period. SBO = Secondary buyout. HP 1-4 years and HP >7 years are dummy variables, with the four-to-seven-year holding period group serving as the reference category. Due to the limited sample size (two observations), holding periods below one year are excluded, reducing the sample to 106 observations. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. SBO dummy = 1 if the transaction prior to the BO was an SBO, and 0 otherwise. IPO timing = number of IPOs in the Nordics during the prior three months. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		**3-year BHAR**	
	(1)	(2)	(1)	(2)
Constant	0.3447	0.0854	1.0281*	0.1921
	(1.55)	(0.46)	(1.66)	(0.42)
HP 1-4 years	0.0165	-0.0633	0.2493	0.1871
	(0.14)	(-0.60)	(0.81)	(0.73)
HP >7 years	-0.0931	-0.1330*	-0.2813	-0.3581*
	(-1.22)	(-1.80)	(-1.22)	(-1.86)
ln(Size)	-0.0417	-0.0534*	-0.0866	-0.0707
	(-1.26)	(-1.69)	(-1.09)	(-0.85)
SBO dummy	0.0935	0.1219*	0.1776	0.2052
	(1.19)	(1.90)	(0.95)	(1.21)
IPO timing	-0.0045**		-0.0162**	
	(-2.01)		(-2.20)	
Year fixed effects	No	Yes	No	Yes
Observations (n)	106	106	106	106
Quarter clusters (n)	31	31	31	31
R^2	0.074	0.382	0.109	0.404

Table B14: BHAR regressions across BO holding period groups - size controls only

*This table reports dummy variable regressions with one- and three-year BHAR as dependent variables within the buyout (BO) sample during 2010-2022. HP = Holding Period. HP 1-4 years and HP >7 years are dummy variables, with the four-to-seven-year holding period group serving as the reference category. Due to the limited sample size (two observations), holding periods below one year are excluded, reducing the sample to 106 observations. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. Columns (1) and (2) report results without and with IPO year FE, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	1-year BHAR		**3-year BHAR**	
	(1)	(2)	(1)	(2)
Constant	0.3129	0.0786	0.9404	0.3191
	(1.37)	(0.37)	(1.31)	(0.56)
HP 1-4 years	0.0693	-0.0331	0.2976	0.1849
	(0.55)	(-0.29)	(0.78)	(0.63)
HP >7 years	-0.0561	-0.1201	-0.2405	-0.4308*
	(-0.69)	(-1.62)	(-0.82)	(-1.77)
ln(Size)	-0.0498	-0.0610*	-0.1141	-0.0918
	(-1.34)	(-1.68)	(-1.15)	(-0.91)
Year fixed effects	No	Yes	No	Yes
Observations (n)	106	106	106	106
Quarter clusters (n)	31	31	31	31
R^2	0.028	0.374	0.032	0.352

Table B15: Holding period regressions within the BO sample - HC3 standard errors

*This table reports linear regressions with holding period as the dependent variable within the buyout (BO) sample during 2010-2022. SBO = Secondary buyout. IPO timing = number of IPOs in the Nordics during the prior three months. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. SBO dummy = 1 if the transaction prior to the BO was an SBO, and 0 otherwise. Columns (1) and (2) report results without and with control variables, respectively. z-statistics based on HC3 heteroskedasticity-consistent standard errors are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	All BOs	
	(1)	(2)
Constant	6.3628***	9.2476***
	(14.05)	(5.69)
IPO timing	-0.0280*	-0.0274*
	(-1.89)	(-1.76)
ln(Size)		-0.4903**
		(-1.97)
SBO dummy		-0.4953
		(-0.90)
Year fixed effects	No	No
Observations (n)	108	108
R^2	0.031	0.090

Table B16: Holding period regressions within the BO sample - winsorized holding period

*This table reports linear regressions with holding period as the dependent variable within the buyout (BO) sample during 2010-2022. Holding period is winsorized at the 2.5th and 97.5th percentiles. IPO timing = number of IPOs in the Nordics during the prior three months. SBO = Secondary buyout. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. SBO dummy = 1 if the transaction prior to the BO was an SBO, and 0 otherwise. Columns (1) and (2) report results without and with control variables, respectively. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	All BOs	
	(1)	(2)
Constant	6.2164***	8.5117***
	(20.31)	(7.32)
IPO timing	-0.0247***	-0.0243***
	(-3.29)	(-3.12)
ln(Size)		-0.3895*
		(-1.90)
SBO dummy		-0.4020
		(-0.96)
Year fixed effects	No	No
Observations (n)	108	108
Quarter clusters (n)	31	31
R^2	0.029	0.075

Table B17: Holding period regressions within the BO sample - size controls only

*This table reports linear regressions with holding period as the dependent variable within the buyout (BO) sample during 2010-2022. ln(Size) = natural logarithm of market capitalisation at the close of the first trading day. IPO timing = number of IPOs in the Nordics during the prior three months. z-statistics based on standard errors clustered at the IPO quarter level are reported in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.*

	All BOs
Constant	9.1938***
	(6.05)
IPO timing	-0.0260***
	(-3.02)
ln(Size)	-0.5155**
	(-2.06)
Year fixed effects	No
Observations (n)	108
Quarter clusters (n)	31
R^2	0.084

Appendix C

Table C1: VIF values for the variables in Table 10

This table reports variance inflation factors (VIF) for the explanatory variables included in Table 10. Year fixed effects are excluded from the VIF calculation.

	VIF	
	(1)	(2)
BO dummy	1.44	1.43
VC dummy	1.23	1.23
ln(Size)	3.06	1.66
IPO timing	2.29	

Table C2: VIF values for the variables in Table 12

This table reports variance inflation factors (VIF) for the explanatory variables included in Table 12. Year fixed effects are excluded from the VIF calculation.

	VIF	
	(1)	(2)
Holding period	3.49	3.49
ln(Size)	5.56	4.10
SBO dummy	1.54	1.53
IPO timing	2.23	

Table C3: VIF values for the variables in Table 13

This table reports variance inflation factors (VIF) for the explanatory variables included in Table 13. Year fixed effects are excluded from the VIF calculation.

	VIF	
	(1)	(2)
HP 1-4y	1.69	1.69
HP >7y	1.66	1.64
ln(Size)	4.14	2.60
SBO dummy	1.59	1.58
IPO timing	2.22	

Table C4: VIF values for the variables in Table 14

This table reports variance inflation factors (VIF) for the explanatory variables included in Table 14. Column (1) is omitted, as VIFs are not defined for models with a single explanatory variable.

	VIF
	(2)
IPO timing	2.23
ln(Size)	2.91
SBO dummy	1.54

AI Appendix

This study used generative AI, specifically ChatGPT, as a supporting tool during the writing and coding process. Responsibility for all final written content, analytical decisions, and research design remains with the authors.

ChatGPT was used to support grammar, academic language, and clarity. It was also used to provide limited guidance on coding-related exercises, including identifying potential coding errors and suggesting how to structure the code.

The use of AI contributed to the quality of the study by improving readability, structure, and academic language. In this sense, ChatGPT functioned as a supporting tool and not as a source for information.

The main risks identified were that AI could misinterpret prompts, generate unsuitable suggestions, or provide inaccurate information. To mitigate these risks, AI was not used as a source for references, facts, interpretations, or arguments. All AI-generated suggestions were critically assessed, manually reviewed, and sense-checked before use.

The main insight from using AI is that generative AI can be useful for writing improvements and coding support, but only when the core academic content and thought process has been developed independently before using AI and the subsequent output is evaluated critically.