

# **DO FOUNDER CEOS IMPACT IPO PERFORMANCE?**

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**AN EMPIRICAL STUDY ON FOUNDER CEOS' EFFECT ON IPO  
PERFORMANCE IN SWEDEN**

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## **Do founder CEOs impact IPO performance: an empirical study on founder CEOs' effect on IPO performance in Sweden**

### **Abstract:**

This paper studies founder CEOs' impact on IPO performance, employing upper echelons, principal-agent, organisational life cycle, and signalling theories to address the potential differences between founder CEO-led firms and non-founder CEO-led firms. IPO performance is measured using initial return and 3-month return. A sample of 259 IPOs in Sweden between 2011 and 2021 is used to perform multiple OLS regressions. The statistical tests do not find a significant relationship between founder CEOs and IPO performance. A potential explanation for the findings is that favourable founder CEO characteristics are counteracted by negative characteristics associated with founder CEOs. Instead, the results indicate that other CEO characteristics and firm performance measures are significantly related to IPO performance. Despite no significant association being identified between founder CEOs and IPO performance, this thesis contributes to the field of research by examining founder CEO status in the Swedish IPO market, an institutional setting that has not previously been explored by published research.

### **Keywords:**

Founder CEO, IPO performance, Sweden, CEO characteristics, Initial return, 3-month return, OLS

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# 1. Introduction

In 2021, 138 firms offered shares to the public for the first time on Nasdaq Stockholm, Nasdaq First North, Nordic Growth Market, and Spotlight Stock Market, raising over SEK 121bn. In recent years, the number of initial public offerings (IPOs) has substantially increased, and the number of IPOs in Sweden in 2021 was 273% higher than in 2020 and 763% higher than in 2011<sup>1</sup>. Given the increased activity in the IPO market and the impact that the performance of newly listed shares has on market participants, studies on IPO and determinants of performance are relevant and beneficial to many.

The three key players in an IPO are the issuing firm, the underwriter(s), and the participating investors. These participants will be subject to either value creation or value destruction depending on the performance of the IPO, with a share price increase being favourable to first-day investors but unfavourable to the selling shareholders.

IPO performance can be measured in numerous ways, from initial return to long-term return. Initial return is used interchangeably with IPO underpricing and is defined as a share that closes above its offering price on its first day of trading, implying that the higher the initial return, the greater the underpricing (Certo et al., 2001b). Between 1980 to 2021, the average initial return of IPOs in Sweden was 28.2% (Loughran et al., 2022). Long-term return is measured using a longer holding period, usually between one to five years, and based on a US sample, long-term IPO performance has typically been negative (Ritter, 1991). Long-term underperformance has also been observed for Swedish IPOs (Maourina & Kalinowska, 2017; Ryd & Svensson, 2006).

Influences on IPO performance are many, including both internal factors, such as CEO characteristics and firm characteristics, and external factors (Fama & French, 1992; Michaely & Shaw, 1994; Ritter, 1984; Ritter, 1991; Zimmerman, 2008). As the head of the management team, CEOs have the power and authority to make decisions that impact the firm and its success (Abebe et al., 2020). Wang et al. (2016) found that CEO characteristics and firm strategic actions are related, and firm strategic actions, in turn, are linked to both firm performance and IPO performance. Furthermore, Zimmerman (2008) found that CEO characteristics, such as CEO age and CEO experience, can serve as signals to investors regarding the quality of the IPO and the firm, which consequently impact the IPO performance. Considering these findings, specific CEO characteristics appear to have a role in explaining the differences in IPO performance between firms.

A founder CEO is defined as an individual who started and has been with a firm since inception. Studies have found that general differences in characteristics can be observed between founder CEOs and non-founder CEOs. On the one hand, some scholars claim that founders have a stronger passion for their firm, much firm-specific knowledge, more substantial decision-making power, and that they showcase less opportunistic behaviour due to them owning more equity in the firm (Abebe & Alvarado, 2013; Abebe et al., 2020; Fahlenbrach, 2009; Wasserman, 2003). On the other hand, other studies claim the relationship to be negative and argue that founders generally lack the managerial skills needed to operate in a public setting, haltering firms' performance (Abebe & Alvarado, 2013; Jayaraman et al., 2000). Do these apparent differences in characteristics between

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<sup>1</sup> Capital IQ; extracted March 20<sup>th</sup>, 2022

founder and non-founder CEOs have any implications for stock return? Several academic studies have examined whether founder CEO-led firms tend to outperform non-founder CEO-led firms in IPO performance, but the findings are inconclusive. Two published studies have been conducted on founder CEOs' impact on initial return, both finding that the presence of a founder CEO resulted in higher initial return (Certo et al., 2001a; Nelson, 2003). For studies on founder CEOs and long-term returns, the results differ, with both positive and neutral relationships being found (Fahlenbrach, 2009; Gao & Jain, 2011; Jayaraman et al., 2000; Miller et al., 2011). No studies have been conducted using 3-month data, but the studies and influences of long-term stock return are assumed to be reasonably applicable on 3-month return, as the greenshoe option no longer impacts either of the return metrics.

The above-mentioned studies, and most published studies on the subject, were conducted using US data, which creates a gap in the studies regarding the diversification of the sample used. To date, no published articles on founder CEOs' impact on IPO performance in Sweden have been found. In line with Moore et al. (2010) and institutional theory, IPO performance will differ between countries, making it crucial to study founder CEOs and IPO performance in a Swedish context to reach reliable conclusions regarding the Swedish IPO market.

Due to the inconsistency in findings regarding the effect of founder CEOs and the lack of Swedish studies, this study examines, in a Swedish context, whether founder CEO-led firms outperform non-founder CEO-led firms in terms of IPO performance. Upper echelons theory, principal-agent theory, organisational life cycle theory and signalling theory are used to explain the possible implications of founders and non-founders. To explore if founder CEOs have a significant impact on IPO performance, measured as initial return and 3-month return, a sample of 259 Swedish IPOs during the period 2011-2021 is used.

Using the theories and previous literature on founder CEOs listed above, this thesis hypothesises that founder CEOs act as a positive signal to investors, lessen the principal-agent dilemma and positively influence firm performance, resulting in founder CEO-led firms experiencing higher IPO returns. Specifically, the hypotheses tested are i) *if the presence of a founder CEO is positively associated with IPO initial return* and ii) *if the presence of a founder CEO is positively associated with IPO 3-month return*.

The hypotheses are tested using Ordinary Least Square (OLS) regressions on the gathered cross-sectional data. The results find weak evidence of founder CEO status being significantly associated with either abnormal initial or 3-month return. However, the results indicate a significant relationship between IPO performance and other CEO characteristics and firm characteristic measures.

The remainder of this thesis is structured as follows. First, relevant theories and literature are examined, followed by a hypothesis development. After that, the research methodology is presented, followed by descriptive statistics and results. Finally, the results are discussed, and the thesis is finished with a conclusion.

## 2. Theoretical development and previous research

### 2.1. The IPO process

An Initial Public Offering (IPO) is when the public is offered to buy shares in a firm for the first time. Two types of shares can be offered in an IPO, either new shares issued to raise new capital or existing shares that move hands from selling to buying shareholders (Berk & DeMarzo, 2017; Ritter, 1998).

Listed firms can more easily raise capital from outside investors as being publicly traded increases the stock's liquidity, which can attract a larger number of investors – both when the IPO transaction is conducted and in subsequent equity offerings (Berk & DeMarzo, 2017; Ritter, 1998). Other reasons to do an IPO are that it allows the shareholders to convert their shares more easily into cash (Ritter & Welch, 2002) and facilitates for the firm to obtain other funding more conveniently, as public firms can borrow money cheaper than private firms (Pagano et al., 1998).

Underwriters, in the form of investment banks, are hired to help firms through the IPO process and to market the offering to potential investors (Daily et al., 2005). One of the underwriters' responsibilities is to value the firm and decide on an offering price for the shares through iterations and discussions with the issuing firm and investors. IPOs are also highly dependent on and affected by overall market conditions, making the timing of going public important for the final offering price (Ritter, 1998).

As part of the IPO and valuation iteration process, potential investors meet with the top management of the issuing firm in the months leading up to the IPO (Berk & DeMarzo, 2017; Finansinspektionen, 2007). When gaining an understanding of the issuing firm and an appropriate valuation, investors will look at both soft and hard factors (PWC, 2016). Valuations are positively affected by good financial performance, such as solid revenue growth and high margins, which are factors investors also value in the aftermarket (Boston Consulting Group, 2013, 2018).

Underwriters will typically play a big part in the post-IPO trading of a share. One example is the overallotment option, often called greenshoe, which is a common part of an IPO that can work as a price stabilisation tool (Baker, 2019; Finansinspektionen, 2007). Underwriters typically borrow shares from the issuer or selling shareholders, usually 15% of the total deal size, and short sell those shares to other investors, thereby over-allocating the IPO by 15%. To close out their short position, which must occur within 30 days, the underwriters need to buy shares and return them to the issuer or selling shareholders. If the share price falls once a firm's shares start trading, the underwriters will buy the shares directly in the market to close out their short position and make a profit while also supporting the share price. If the share price instead rises in the aftermarket, the underwriter will use the greenshoe to buy shares at the offering price from the issuer or selling shareholders to cover their short position. Due to the greenshoe option working as a price stabilisation tool, the market's true valuation of a newly listed firm cannot be observed until 30 days after the IPO.

If the initial return of a share is positive, meaning that the closing price of the shares after the first day of trading is above the offering price, the share is said to be underpriced. This

means that the IPO was priced below the market's valuation during the first day of trading. There are three principal stakeholders involved in an IPO: selling shareholders, buying shareholders, and underwriters and underpricing has different implications for all three actors. When an issue is underpriced, selling shareholders will have sold their shares in the firm for less than they are worth, while buying shareholders will have bought the shares cheaper than how the market values them (Bruton & Prasad, 1997; Certo et al., 2001a). While this implies that selling shareholders might hope for weak initial returns, a share price increase can be beneficial if they still own equity. Investment banks are usually paid a percentage of the deal size, meaning that the higher the offering price of the shares, the larger the fee the underwriter will receive (Certo et al., 2001a). However, investment banks also value their future relationship with the investors, who will appreciate a lower priced stock. On a similar note, Logue (1973) argues that a reason for underwriters to underprice an IPO is to minimise the bank's risks and costs while also helping investors.

Previous studies mainly examine either initial IPO return or long-term IPO return, measured as one to five years after an IPO. Long-term performance has typically been negative, especially for young growth firms that became public during hot issue market periods (Ritter, 1991). Studying Finnish IPO transactions, Keloharju (1993) found that newly listed stocks underperform the market during the first three years as a public firm. Examining only the first three months of trading, the cumulative average value-weighted index-adjusted return was positive, however, the finding is not statistically significant.

Studies on initial return and long-term performance on the Swedish stock exchange are not extensive. When looking at IPOs from the 1980s until 2021, Loughran et al. (2022) found that the average initial return for IPOs in Sweden was 28.2%. Other studies on this topic are mainly bachelor's and master's theses, and they found that Swedish IPOs experience a positive initial return but underperform in the long term (Henricson, 2012; Maourina & Kalinowska, 2017; Ryd & Svensson, 2006; Åkesson & Fäldt, 2019).

## 2.2. Fundamental theories

### 2.2.1. Upper Echelons Theory

Hambrick and Mason (1984) published an article that has become a fundamental theory about top management's influence on firm performance, where they discussed how top management characteristics affect a firm. The authors presented some observable characteristics that are theorised to, at least partly, determine a firm's strategic choices and performance. The characteristics in the upper echelons theory are i) age, ii) functional tracks, iii) other career experiences, iv) education, v) socioeconomic roots, vi) financial position, and vii) group characteristics.

Wang et al.'s (2016) study, based on the upper echelons theory, confirmed that CEO characteristics are related to firm strategic actions and that these actions are affected by the personality and the qualities of the CEO. Further, this connection impacts the future firm performance as firm strategic actions are linked to firm performance. Also based on the upper echelons theory, Higgins and Gulati (2006) proposed the notion that the background of the top management team can signal legitimacy and consequently impact IPO investors. Moreover, Zimmerman (2008) found that the top management team sends signals to all IPO market participants regarding the quality of the firm. Thus, previous



literature on the upper echelons theory concludes that CEO characteristics affect firm performance, but it also has implications on investors' perception of the quality of an IPO.

### 2.2.2. Principal-Agent Theory

The principal-agent dilemma is a well-known theory initially developed in 1976 by Michael Jensen and William Meckling that is especially established within the research about CEO characteristics and firm and IPO performance. The paper, *Theory of the Firm*, outlined how agency costs, caused by the separation of ownership and control, might affect a firm's performance. Hence, the foundation of the dilemma is conflicting priorities between parties which occurs when a principal hires an agent. The principal delegates control and decision-making power to the agent while at the same time retaining ownership. Due to the self-interested maximising behaviour of individuals, the agent might not act in a way that is in the principal's best interest.

In firms, the separation of ownership and control occurs between the shareholders (principal) and the CEO (agent). The principal-agent dilemma arises when the CEO makes self-interested decisions that are not in line with the interest of the shareholders. When a firm is founded, no outside investors exist as it is wholly owned by the founders, resulting in the principals also being the agents. Thus, no principal-agent dilemma exists. As firms grow and founders sell equity to outside investors through, for example, an IPO, the principal-agent dilemma arises. Wasserman (2003) argued that a founder CEO owns extensively more of the firm's equity than a non-founder CEO. Hence, replacing a founder CEO with a non-founder CEO (who owns less equity) can worsen the principal-agent dilemma because the more equity a CEO owns, the more aligned the CEO and the shareholders' interests are (Fahlenbrach, 2009). The findings of Wasserman (2003) supported that of Zeckhauser and Pratt (1985) and Boivie et al. (2011), where non-founder CEOs were claimed to not maximise shareholder return because of the CEO's opportunistic behaviour.

### 2.2.3. Organisational Life Cycle Theory

Throughout the existence of an organisation, it goes through various foreseeable stages, referred to as the organisational life cycle. Mason Haire's *Modern Organizational Theory* (1959) is recognised as the first modern paper that used biological models to study organisational growth. The organisational life cycle theory divides the life of an organisation into five stages; the birth stage, growth stage, maturity stage, decline stage and renewal stage. The model helps with the understanding of how organisations evolve and, thus, how the organisational design can be shaped to achieve set goals. Adizes (1985) stated that no individual possesses all the qualities needed to effectively run the organisation throughout all the stages. Similarly, Abebe et al. (2020) stated that when the firm evolves over its life cycle, the role of the founder CEO needs to evolve as well. Consequently, different CEO characteristics are important at different stages of the firm. Following the reasoning of the organisational life cycle theory, an individual suited for managing the firm under certain conditions is unlikely to be the best fit under other conditions.

Given that the role of the founder CEO needs to change across a firm's life cycle, scholars have addressed whether founders can successfully adapt their skills when a firm is becoming larger and more complex. Meyer and Dean (1990) examined the "executive

limit scenario” by integrating organisational life cycle theory and upper echelons theory. They concluded that the founder CEO’s ability to lead the firm successfully diminishes when the firm grows as the founder often does not possess the qualities optimal in later stages of the firm’s development. Thus, successfully navigating the transition from a private to a public firm poses a considerable challenge for a founder CEO.

#### 2.2.4. Signalling Theory and Asymmetric Information

Signalling theory and the existence of asymmetric information are commonly used to describe and examine the behaviour of and communication between the different actors in the stock market. Spence’s (1973) paper *Job Market Signaling* is viewed as the signalling theory’s central tenet, where knowledge gaps between the employer and the prospective employees were observed. The foundation of the theory is that one party reliably communicates information to another less knowledgeable party, hence, signalling reduces information asymmetries between the parties.

Akerlof (1970) discussed information asymmetry and used the market for used cars to explain the so-called “lemons problem”. The idea is that there are good and bad cars and that sellers are better informed than buyers about whether their specific car is a good or a bad one. Since buyers cannot tell good and bad cars apart, cars must be sold for the same price, even though the true value of the two different types of cars is not the same. Sellers with good cars will not be able to sell their cars at their actual value, making the sellers not want to sell their cars. Therefore, the bad cars will drive the good cars out of the market, caused by the information asymmetry between the sellers and the buyers.

The lemons problem and the role of signals in relation to IPO have been investigated by Leland and Pyle (1977). They argued that the complexity for potential investors to distinguish between reliable and unreliable information results in the price of information reflecting the average quality. Thus, it is vital for “good firms” (with a, for example, high possibility of success) to send clear signals to the market when going public. Further, to ensure that the signal is reliable and that no “bad firms” (with a, for example, low possibility of success) have imitated it, the signal must be costly. Consequently, adverse selection occurs in the IPO market when no signal is sent to the market.

Rock (1986) explained underpricing as stemming from the existence of two types of investors: informed and uninformed investors. Informed investors have favourable information compared to uninformed investors, enabling them to make more informed decisions about which equity offerings to subscribe to and which not to, depending on the offering price versus the expected market value. Thus, when an IPO is overpriced, uninformed investors will be the main group of investors receiving a high allocation of shares. In discounted offerings, informed investors will participate, causing the allocation to be lower for uninformed investors. Uninformed investors will understand that receiving a large allocation is bad for them and will be hesitant to participate in IPOs unless they feel confident that the return from the investment will be positive. Therefore, underwriters purposely issue new stocks at a discount to make uninformed investors interested in participating in IPOs. In line with Rock (1986), Keasey et al. (1992) found a positive relationship between the firm value and the degree of underpricing. Thus, to signal the high quality of a firm, issuers deliberately discount the issue.

According to Zhang and Wiersema (2009), signalling theory can be used to assess how CEOs signal both the credibility of the CEO as well as the quality of the firm's financial statement to investors, and hence impact the stock market.

### 2.3. Founder CEOs

As the head of the management team, CEOs have the power and authority to make decisions that impact the firms and their success (Abebe et al., 2020). CEO characteristics affect the firm's strategic actions and are consequently related to the firm's performance, which sends signals to the investors regarding the quality of the IPO (Hambrick & Mason, 1984; Wang et al., 2016; Zimmerman, 2008)

Searches for published studies on CEO characteristics and the impact on firm performance in a Swedish context generated one result. In 1997, Westerberg et al. examined how CEO characteristics, more specifically the CEO's need for cognition, the CEO's tolerance for ambiguity as well as the CEO's self-efficacy, impact a firm's financial performance, measured as operating effectiveness, and market performance, measured as success in the market, in small firms. The authors found that CEO characteristics have an impact on firm performance.

Founders are said to make a persistent stamp on a firm's strategy (Nelson, 2003). A founder is defined as a person who started the firm and has been with it since its inception (Nelson, 2003). Therefore, a founder CEO is an individual who is the firm's founder and serves as the CEO. A founder CEO is claimed to have a greater personal identification and commitment to the firm, which creates a higher level of trust from the employees than a non-founder CEO (Pollock & Fischer, 2004). Furthermore, a founder CEO generally possess valuable firm-specific knowledge and abilities (Abebe et al., 2020). Founder CEOs are also said to generally be more willing than non-founder CEOs to invest in long-term investments such as R&D, capital expenditures, and non-diversifying acquisitions (Fahlenbrach, 2009). Abebe and Alvaro (2013) suggested two opposing effects that founder CEOs might have on a firm, with the first one being that they are a positive force within their firm due to an often-found passion and long-term commitment. The other explanation takes a duller view of founder CEOs, being that founders generally lack managerial skills, which halter the firm's performance. Moreover, Jayaraman et al. (2000) argued that when firms grow, the founder CEOs face new challenges and thus, previous success in handling challenges does not guarantee continuous and future success.

Comparing founder CEOs to non-founder CEOs, the two differ in several aspects. The attachment level between a firm and the founder CEO is higher, as the founder CEO typically has a larger equity holding which corresponds to more firm control (Wasserman, 2003). Jayaraman et al. (2000) argued that founder CEOs could be superior to non-founder CEOs given that the founder highly values their reputational stake in the firm, which translates to a greater effort to ensure firm success. Similarly, the founder CEO's motivation can be claimed to be higher because the firm is the founder's life work (Abebe et al., 2020). Lastly, founder CEOs are also said to have more decision-making power (Fahlenbrach, 2009).

### 2.3.1. Firm performance

**Table 1: Summary of literature about founder CEO and firm performance<sup>2</sup>**

Authors	Region	Period	Dependent variable	Method	Founder CEO impact
Daily & Dalton (1992)	US	1989	ROE, ROA	MANOVA, CCA	Neutral
Willard & Krueger (1992)	US	1985-1986, 1989-1990	ROE	T-test	Neutral
Begley (1995)	US	n/a	ROA	MLR	Positive
He (2008)	US	1998-2002	ROA	OLS	Positive
Adams et al. (2009)	US	1992-1999	ROA	OLS	Positive
Abebe & Alvarado (2013)	US	n/a	ROA, ROI	ANOVA	Negative
Wasserman (2017)	US	2005-2012	Firm valuation	OLS	Negative
Lee et al. (2020)	US	1979-2002	Innovation	OLS	Positive

There is no unanimous definition of firm performance: some scholars define firm performance in terms of accounting-based profitability ratios, such as return on equity (ROE), return on assets (ROA) or return on investment (ROI) (Adams et al., 2009; Abebe & Alvarado, 2013; Begley, 1995; Daily & Dalton, 1992; He, 2008; Willard & Krueger, 1992) whereas other scholars define it as firm valuation (Wasserman, 2017), innovation (Lee et al., 2020) or stock performance (Fahlenbrach, 2009; Gao & Jain, 2011; Jayaraman et al., 2000; Miller et al., 2011). Stock performance is further classified as a type of IPO performance and will be discussed in section 2.3.2.

Regardless of the exact definition of firm performance, the knowledge about the relationship between founder CEO and firm performance can help understand the relationship between founder CEO and IPO performance. According to multiple valuation models, share prices should reflect the future cash flows to investors (Berk & DeMarzo, 2017). By surveying practitioners, both offering and share prices are shown to be affected by firm performance measures, such as margins and growth, in real life (Boston Consulting Group, 2013). Therefore, the impact founder CEOs have on firm performance likely affects IPO performance.

Despite an increasing body of work examining the relationship between founder CEO and firm performance, the empirical evidence remains inconclusive. Some studies provide evidence for a positive relationship between founder CEO-led firms and firm performance. Begley (1995) found that founder CEO-led firms are more likely to create higher ROA than non-founder CEO-led firms, which was also supported by the findings of Adams et al. (2009) and He (2008). He (2008) further concluded that founder CEO-led firms are more inclined to survive after an IPO. Additionally, Lee et al. (2020) presented evidence that a CEO change, from founder to non-founder, is associated with a 43.8% decrease in innovation.

However, some studies have found the association between founder CEO and firm performance to be negative. Abebe and Alvarado's (2013) findings indicated that founder

<sup>2</sup> All studies are of an empirical and quantitative nature and include founder CEO as either an independent or control variable

CEO-led firms performed worse than non-founder CEO-led firms, measured by ROA and ROI. In another study conducted on a sample of more than 6,000 US start-ups, Wasserman (2017) found that start-ups where the founder is the CEO are valued less than firms where the CEO is a non-founder.

Moreover, other studies did not find a difference in firm performance between founder CEOs and non-founder CEOs. Daily and Dalton (1992) found that founder CEO-led firms do not overperform nor underperform non-founder CEO-led firms. Similarly, using a sample of 155 US high-tech manufacturing firms, Willard and Krueger (1992) found no significant performance difference between founder and non-founder CEOs.

To conclude, previous literature is split between three camps; one that presents evidence of founder CEO having a positive relationship to firm performance, another one that bases their findings on organisational life cycle theory and consequently argues for a negative relationship, and lastly, one where no performance differences could be identified.

### 2.3.2. IPO performance

IPO performance is generally defined as the performance during a period after the IPO. However, the time frame used in previous literature varies; some authors discuss IPO performance in terms of initial return (Certo et al., 2001a; Nelson, 2003), whereas others define it as long-term stock performance (holding periods range from one to five years). No previous literature has studied the 3-month IPO performance, but like the long-term stock performance, 3-month return should reflect a stock's market value without influences from the greenshoe. Thus, it is reasoned that at least some of the underlying influences of long-term stock performance likely impact 3-month return. When reviewing previous studies related to the relationship between founder CEO and IPO performance, a breakdown between initial return and long-term stock return can ease the understanding.

**Table 2: Summary of literature about founder CEO and IPO performance<sup>3</sup>**

Authors	Region	Period	Dependent variable	Method	Founder CEO impact
Certo et al. (2001a)	US	1990-1998	Underpricing	OLS	Positive
Nelson (2003)	US	1991	Underpricing	OLS	Positive
Jayaraman et al. (2000)	US	1980-1991	Stock return <sup>4</sup>	OLS	Neutral <sup>5</sup>
Fahlenbrach (2009)	US	1992-2002	Stock return	2SLS	Positive
Miller et al. (2011)	US	1996-2000	Stock return	OLS	Positive
Gao & Jain (2011)	US	1997-2000	Stock return <sup>6</sup>	BHAR	Neutral <sup>7</sup>
Pollock & Fischer (2004)	US	1992	IPO firm failure	Discrete-time event	Negative

<sup>3</sup> All studies are of an empirical and quantitative nature and include founder CEO as either an independent or control variable

<sup>4</sup> 3-year holding period

<sup>5</sup> Founder CEOs contribute to superior IPO performance for smaller firms (market capitalisation less than \$718.38 million) and younger firms (less than 21.74 years). Founder CEOs negatively affect IPO performance for larger and older firms

<sup>6</sup> 5-year holding period

<sup>7</sup> Founder CEOs contribute to superior IPO performance for high technology firms. No evidence of contribution was found for low technology firms

### **Initial return**

Only two studies have examined the relationship between founder CEO and initial returns, and the findings point toward founder CEOs having a positive association with initial returns. For instance, Nelson (2003) concluded that first-day investors value founder CEO firms higher than non-founder CEO firms, resulting in a higher initial return and greater underpricing. Similarly, Certo et al. (2001a) found that founder CEOs tend to retain less wealth for selling shareholders than non-founder CEOs, meaning that founder CEO-led IPOs provide additional wealth for first-day investors stemming from a higher underpricing. Additionally, Certo et al. presented evidence regarding the relation between underpricing and investment bankers' IPO shares. Founder CEOs were found to positively impact underpricing when the investment banker has an IPO market share greater than 1.38% and a negative impact when the market share is less than 1.38%<sup>8</sup>. One bachelor thesis (Gehrig & Strömberg, 2009) examined the relationship between founder CEOs and underpricing in a Swedish context. Using a sample of 82 IPOs between 1999 and 2008, they found that founder CEOs do not significantly impact underpricing. However, the study is not included in table 2 since it is not a published article.

Furthermore, the concept of founder bias discount presented by Certo et al. (2001a) aims to explain the asymmetry of information between investment bankers and first-day investors. The concept describes investment bankers to likely associate more uncertainty in the case of founder CEO than non-founder CEOs, which results in lower offering prices for IPO firms with founder CEOs. Contrary to investment bankers' perception of founders, first-day investors are said to feel less concerned about the presence of founder CEOs given that they are, after all, successful entrepreneurs that have demonstrated an ability to take their firm public. Hence, the differences in the assigned value to founder CEOs can be used to explain the founder bias discount and, in turn, the underpricing.

### **Long-term stock return**

The body of work regarding the impact a founder CEO has on the IPO performance in terms of returns after the initial day provides evidence pointing in different directions. Some studies argue for a positive relationship between founder CEO and stock returns. For instance, Fahlenbrach (2009) found that founder CEO-led firms are valued higher than non-founder CEO-led firms and receive a higher stock market return. More specifically, founder CEO-led firms outperformed the market by 8.3% annually. The superior performance is attributed to a higher willingness among founder CEOs to invest in R&D and capital expenditures as well as undertake more acquisitions related to their core business. Similarly, Miller et al. (2011) provided evidence from a sample of almost 900 Fortune 1,000 firms that founder CEO-led firms are more apt to outperform in shareholder stock returns. Pollock and Fischer (2004) examined the impact of founder CEO from a different perspective, specifically, the likelihood of IPO failure within the first five years. They argued that a founder CEO might have more ability to lead the firm through an IPO than a non-founder, which decreases the likelihood of failure. The findings were explained by founder status reducing conflicts and political battles within the firm.

Contrary to the above, other studies did not find evidence that founder CEO has a positive impact on stock performance. Jayaraman et al. (2000) found that founder CEOs do not have a more substantial effect on stock return. However, Jayaraman et al. found that founder CEOs affect stock performance when taking the size and the age of the firm into

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<sup>8</sup> The average market share of underwriters between 2015 and 2021 was 3.4%, and the median between 2015 and 2021 was 1.2%

account. Consequently, founder CEO was positively linked with stock performance when the firm was smaller and younger. Similarly, Gao and Jain (2011) presented weak evidence of a general superior long-run IPO performance of founder CEO-led firms. However, they did find strong evidence of significantly higher long-run performance of firms with founder CEOs in the context of high technology firms.

To conclude, previous literature about founder CEOs and IPOs is not unanimous about the results. In terms of underpricing, the two articles are in harmony and point toward a positive relationship between founder CEO and initial return (Certo et al., 2001a; Nelson, 2003). The literature about IPO performance in terms of long-term stock return is, however, inconclusive where some evidence supports a positive relationship (Fahlenbrach, 2009; Miller et al., 2011), whereas other scholars do not find evidence for either a positive or a negative relationship (Gao & Jain, 2011; Jayaraman et al., 2000). Consequently, the association between founder CEO and IPO performance calls for further investigation.

## 2.4. Literature discussion

The presented theories have different implications for IPO performance. Upper echelons theory concludes that CEO characteristics impact a firm's performance and, in extension, a firm's IPO performance. Given that the theory does not explicitly assign characteristics to founder CEOs, other theories or studies need to be applied to evaluate the impact founder CEOs have on IPO performance. In accordance with the principal-agent theory, founder CEOs can be argued to have a positive impact on IPO performance given their higher equity stake that aligns the interest between the CEO and the shareholders. On the contrary, organisational life cycle theory can be used to argue that founder CEOs, given their lack of experience in public settings, are less suited to run a listed firm, and consequently, founder CEOs will have a negative impact on IPO performance. Signalling theory can be applied to both the principal-agent theory and the organisational life cycle theory, and consequently, depending on how the signals are interpreted, it will have different implications for IPO performance.

The literature about founder CEO and IPO performance has been divided between, on the one hand, research about initial return and, on the other hand, long-term stock return. Only two studies have examined the relationship between founder CEO and initial return, and both found the relationship to be positive (Certo et al., 2001a; Nelson, 2003). Compared to the existing literature about underpricing, the studies conducted on founder CEO and long-term stock return are a bit more extensive but inconclusive, with some studies finding evidence of a positive relation and others finding evidence of a neutral relation. Differences in method and sample characteristics could explain the studies' discrepancies. While most studies on firm and IPO performance seem to point toward a positive impact of founder CEOs, the relationship between founder CEO and IPO performance calls for further examination.

Consequently, due to the ambiguity in the field, it can be argued that additional studies need to be conducted. Moreover, it exists a void in the literature as all studies exclusively have been conducted using US data. Considering the institutional theory and the findings of Moore et al. (2010), the institutional environment in the country in which a firm IPO will affect the firm's IPO performance. Following that reasoning, since all prior literature on IPO performance is based on US data samples, conclusions regarding Swedish IPO

performance cannot be drawn using their findings. Thus, Swedish data must be used to draw conclusions regarding the relationship between founder CEO and IPO performance in a Swedish context.

Only one published study has examined the relationship between CEO characteristics and IPO performance in a Swedish setting (Westerberg et al., 1997). However, it did not test or control for founder CEO, and thus, it can be argued that the study does not provide any valuable insights given the scope of this study. Subsequently, the field of literature needs to be complemented with research investigating the effect of founder CEOs on the Swedish IPO market.

Lastly, given the spike in the number of IPOs lately, conducting research using data from this new hot IPO issue market environment could be interesting. All the above-mentioned research use data that is more than 20 years old. Since then, the 2008 financial crisis and the COVID-19 pandemic have occurred, which might have impacted the stock market and, consequently, the determinants of IPO performance.



### 3. Hypothesis development

This thesis investigates the relationship between the presence of a founder CEO and IPO performance and whether founder CEO-led firms tend to outperform non-founder CEO-led firms. As the CEO poses as the head of the management team and the firm, scholars argue, in line with the upper echelons theory, that CEOs directly impact the firm and its success (Abebe et al., 2020; Hambrick & Mason, 1984). Hence, the individual characteristics of the CEO could serve as a signal to investors regarding the quality of the firm and the quality of the IPO (Zimmerman, 2008).

Stock-based performance measures, specifically initial return and 3-month return, are used to measure the possible impact of founder CEO on IPO performance. The reason for using stock-based measures follows Jayaraman et al.'s (2000) motivation that stock returns are not influenced by firm-specific reporting rules. Moreover, by using stock market returns, the differences in riskiness of cash flows will be incorporated in the price and consequently adjusted.

When evaluating the impact of founder CEO on IPO performance, the presented theories are not unanimous. On the one hand, following organisational life cycle theory, it could be argued that founder CEOs generally lack experience operating a firm in its later stages, resulting in them not being suitable to run public firms. Combining this with signalling theory implies that founder CEOs might signal uncertainty to underwriters and investors, making the share unlikely to experience a positive abnormal return. On the other hand, by combining the signalling theory and the principal-agent theory, the positive characteristic of founder CEOs owning more equity could be a signal of a high-quality firm as the interests of the agent will be aligned with the interests of the principals. The aligned interests between founder CEOs and shareholders can be argued to positively impact investors' opinions regarding the firm and lead to positive IPO performance, especially as, according to Rock (1986), the shares of high-quality firms are deliberately discounted in an IPO to attract investors.

The result from the studies of Certo et al. (2001a) and Nelson (2003) indicate that the presence of a founder CEO has a positive impact on underpricing. As articulated by Certo et al. and in line with the founder bias discount, underwriters generally perceive firms led by founder CEOs as more uncertain, making underwriters more likely to set lower offering prices. However, the first-day investors are not as sceptical toward founder CEOs and are willing to pay more than the offering price, leading to a positive initial return (Certo et al., 2001a). The positive attitude of first-day investors toward founder CEOs can be linked to specific characteristics of founder CEOs that act as positive signals. For example, founder CEOs are claimed to have a thorough understanding of the firm, a stronger passion, long-term commitment, and higher attachment to the firm, which will be signals of a high-quality firm (Abebe & Alvarado, 2013; Abebe et al., 2020; Wasserman, 2003). First-day investors' positive attitude toward the firm and the founder CEO will lead to a positive initial return, especially as underwriters deliberately discount the offering price of high-quality firms (Rock, 1986).

Drawing on the findings of Certo et al. (2001a), Nelson (2003), the generally assigned founder CEO characteristics, as well as principal-agent theory and signalling theory, this

study aims to examine whether a founder CEO has a positive impact on Swedish IPOs, and test the following hypothesis:

**H1:** The presence of a founder CEO is positively associated with IPO initial return

Examining the influence of founder CEO on 3-month return provides valuable insights into how the market truly values the firm when the underwriter's impact on the share, through the presence of the greenshoe, is no longer present. Given that share prices are affected by firm performance (Berk & DeMarzo, 2017; Boston Consulting Group, 2013), it can be argued that one of the key determinants of the 3-month IPO return is likely to be firm performance.

Founder CEOs are claimed to value their reputational stake more highly, which translates to them putting in a greater effort to ensure firm success. Moreover, they are said to possess valuable firm-specific knowledge and have a higher decision-making power leading to improved firm performance (Abebe et al., 2020; Fahlenbrach, 2009; Jayaraman et al., 2000). Evidence of the presumed superior firm performance of founder CEO-led firms was presented by Begley (1995) and He (2008). Given the above-stated connection between firm performance and stock return, the positive impact of founder CEO should, all else equal, result in an increased stock return. Supporting this line of reasoning, Fahlenbrach (2009) and Miller et al. (2011) found that founder CEOs are associated with higher long-term stock returns. Given the presumed comparability between the 3-month return and long-term performance, the above-listed studies can be used when studying potential determinants of 3-month return. By applying the upper echelons theory to the findings of Begley (1995) and He (2008), as well as Fahlenbrach (2009) and Miller et al. (2011), it can be argued that the characteristics possessed by founder CEOs should have a positive impact on 3-month return. Lastly, in line with the principal-agent theory, the aligned interest of founder CEOs and shareholders arguably positively impacts the 3-month stock return.

Taking the principal-agent theory and the upper echelons theory into account, along with the findings of Fahlenbrach (2009) and Miller et al. (2011), this thesis will test the following hypothesis:

**H2:** The presence of a founder CEO is positively associated with IPO 3-month return

## 4. Research methodology

### 4.1. Data collection

The final data sample consisted of 259 firms listed on Nasdaq Stockholm, Nasdaq First North, Nordic Growth Market, or Spotlight Stock Market between 2011 and 2021. The reasoning behind looking at Sweden as a whole, not just Nasdaq Stockholm, was to gather a large enough sample from relatively recent transactions. The motivation for the chosen period was that this thesis aimed to study the relationship of founder CEOs and IPO performance in the most current setting possible, and the inclusion of previous macroeconomic trends, such as the financial crisis in 2008, was therefore undesirable.

Two databases were used to gather the data: Capital IQ and Cortex Dealogic. Capital IQ contains data on firms, transactions, and people, such as CEOs, and was used to obtain most of the data. The reason for mainly using Capital IQ, apart from it being the superior database in terms of CEO information, was that using information from only one database to the greatest extent possible decreased the risk of obtaining data that measured, for example, return differently. Cortex Dealogic is a database with highly detailed information about transactions. It was used to collect data on transactions made during 2021, as Capital IQ did not have the complete data set for 2021. Before matching the data from the two databases, a random sample of data collected from both Capital IQ and Cortex Dealogic were compared, and it was found that the data points were the same, or very similar, for both databases. Thus, it was deemed that the computation of returns was similar enough to match the data from the two databases. However, the two databases wrote the firm names differently, resulting in some manual work to match the data.

Apart from the data collected from the databases, much manual work was required to find the data and sanity-check the collected data, especially for information about CEOs. Below, the data collection and matching processes of the IPO transactions and CEOs are discussed more in detail.

#### 4.1.1. IPO transaction data

**Table 3: IPO transaction data sample**

<b>IPO data</b>	<b># of IPOs</b>	<b>Removed</b>
Initial data sample	607	
IPO withdrawn or only announced	574	-33
Non-Swedish exchange	566	-8
No transaction value	503	-63
No initial return data	447	-56
No 3-month return data	441	-6
Missing financial ratios	259	-182
<i>Final data sample</i>	259	

Most of the IPO transactions and firm information data were collected from Capital IQ. The initial sample size consisted of 607 firms. Out of these, 33 transactions were withdrawn or only announced and never listed and were therefore removed from the sample. It was found that eight firms were listed on a non-Swedish exchange and were consequently removed from the sample, given the scope of the study. Vital data for some transactions were missing, and thus, 63 transactions were excluded due to no transaction value, meaning that either the number of shares offered, the offering price, or both were missing. Since the dependent variables are two return metrics, 56 transactions were excluded due to missing initial return data, and three transactions were removed due to missing 3-month return data. Finally, 182 transactions were excluded as financial ratios could not be collected from the databases.

Due to Capital IQ lacking the complete data set of returns for the most recent IPOs in 2021, the data was complemented by extracting information about the 2021 transactions from Cortex Dealogic. Before using the data from Cortex Dealogic, only 14 transactions from 2021 had sufficient information. After adding the data from Cortex Dealogic, 59 transactions from 2021 were included in the final data sample.

After collecting and matching the transaction details from the databases, manual work was required to find data points for some of the transactions, including firm age, underwriters of the IPO, and firm size at the time of IPO. For this, prospectuses published in connection with the IPO and firm websites were used. Some firms had changed names multiple times since the IPO, and as only the most recent name was obtained from Capital IQ, searching for the correct prospectuses proved to be time-consuming. A handful of firms have gone bankrupt after the IPO, making some information even harder to locate.

#### 4.1.2. CEO data

**Table 4: CEO data sample**

CEO data	# of IPOs	Removed
Initial data sample	1,533	
Matching to IPO data	517	-1,016
Deleting duplicates of firms; finding the correct CEO	259	-258
<i>Final data sample</i>	259	

Data on CEOs was gathered from Capital IQ and from firm records such as annual and quarterly filings as well as prospectuses when data was missing or needed to be sanity-checked. After extracting information of 1,533 CEOs for all IPO transactions in Sweden between 2011 to 2021, 1,016 CEOs were connected to the transactions that were excluded in the IPO transactions data process and consequently removed. The extracted CEO data sample included every individual that has ever served as CEO of the sample firms. Given that the only relevant CEOs were the ones that held the CEO position at the time of the IPO, all other CEOs needed to be removed. The removal of the additional CEOs required a lot of manual work as the relevant CEO was determined by examining IPO prospectuses, firm filings such as annual reports, LinkedIn, press releases, and articles. In the end, 258 CEOs were removed, and the final sample consisted of 259 CEOs.

Apart from locating the CEOs at the IPO, a substantial amount of manual work was required to complement data about the CEO's characteristics such as age, duality, education, founder status, and tenure. This information was found in prospectuses, firm websites, press releases, LinkedIn, people directory websites, and articles. Information gathered from LinkedIn or articles was used to sanity-check the sometimes-slim official information found in prospectuses. As elaborated on in section 4.1.1., some firms had changed names multiple times or went bankrupt over the years, making locating prospectuses difficult. Further, some CEOs had common names, making sanity-checking and complementing the information about them more difficult. To sum up, no universal method for finding the required information about each CEO existed, making it a tedious and time-consuming task.

#### 4.1.3. Additional data collection

The underwriter ranking, used as a control variable, was collected from Cortex Dealogic's equity league table, which ranks all Swedish underwriters by the bank's IPO market share. The ranking was collected for every year between 2011 and 2021. For the IPOs with multiple underwriters, the underwriter ranking was calculated using an average of each underwriter's IPO market share.

The return metrics used in the regressions are market adjusted using the OMX Stockholm All Share Price index, with the data collected from Capital IQ. The indexes' return was then matched to the initial and 3-month returns for each transaction, which had to be manually adjusted for weekends and national holidays.

Another control variable included in the regression models is the issue market, calculated by collecting the total number of IPOs per year in Sweden between 2011 and 2021. Each year was categorised as either a hot or a cold issue market depending on if the number of IPOs in the respective year was above or below the mean of the number of IPOs between 2011 and 2021 (see classification in Appendix 1). The number of IPOs was found and collected from Capital IQ.

#### 4.2. Research design

The effect of founder CEOs on IPO performance was estimated by running multiple Ordinary Least Squares (OLS) regressions. As exhibited in table 2, several previous scholars ran OLS regression analyses to test their hypotheses, and OLS is an overall popular regression method.

The Gauss-Markov Theorem states that if all five Gauss-Markov assumptions hold, the OLS estimator is the best linear unbiased estimator for cross-sectional regression (Wooldridge, 2013). In addition, a sixth assumption is added to know the complete sampling distributions of the OLS estimators and to be able to carry out statistical inference. Consequently, the following assumptions need to hold: i) the population model is linear in parameters, ii) the sample of populations is random, iii) no multicollinearity exists, which occurs from patterns of strong intercorrelation among the independent variables and reduces the statistical significance of the independent variables, iv) the independent variables are exogenous, and thus not correlated with the error term – something that can be caused by omitted variables, measurement errors or simultaneity,

v) the variance of the error terms is constant, and therefore homoscedastic, and vi) the population error is independent of the explanatory variables and is normally distributed with zero mean and variance. The above-listed assumptions were examined and tested because a violation would result in biased and inconsistent estimators. If any assumption appeared not to hold, it was, to the extent possible, corrected for (see section 5.2.3.).

#### 4.2.1. Dependent variables

Two dependent variables were used to measure IPO performance: initial return and 3-month return. The former metric measures underpricing, while the latter measures the stock performance three months after the IPO. Market adjusted returns were calculated to observe abnormal returns and ensure that the share price movements were not due to an overall movement in the market.

The market index used to adjust the stock returns was the OMX Stockholm All Share Price Index (OMXSPI). The index includes all shares on Nasdaq Stockholm and is weighted by market capitalisation (Nasdaq, 2022). Even though OMXSPI does not include shares traded on other markets than Nasdaq Stockholm, it is a broad index that should reflect the general market movements for all stocks in Sweden.

##### **Market adjusted initial return**

A standard and commonly used measure for calculating initial return (IR) is: (Megginson & Weiss, 1991; Ritter, 1991).

$$IR = \left( \frac{\text{closing price}_{1\text{ day}} - \text{offering price}}{\text{offering price}} \right)$$

To adjust for any general market changes and movements during the first day of trading, despite the effect likely being limited, market adjusted initial returns, hereinafter referred to as MAIR, were used and calculated as below: (Chhabra & Kiran, 2022).

$$MAIR = \left( \frac{\text{closing price}_{1\text{ day}} - \text{offering price}}{\text{offering price}} - \frac{\text{market index}_{1\text{ day}} - \text{market index}_{\text{offering day}}}{\text{market index}_{\text{offering day}}} \right)$$

##### **3-month market adjusted return**

Using 3-month return, hereinafter referred to as 3-MAR, allows the data to reflect the market's valuation of firms without any influence from potential price stabilisation measures because the greenshoe will have expired. Further, this return period allows investors to observe any potential signals regarding a firm's performance and the CEO's capability to run the business.

$$3 - MAR = \left( \frac{\text{closing price}_{3\text{ month}} - \text{offering price}}{\text{offering price}} - \frac{\text{market index}_{3\text{ month}} - \text{market index}_{\text{offering day}}}{\text{market index}_{\text{offering day}}} \right)$$

#### 4.2.2. Independent variable

*Founder CEO* is defined as an individual involved with the firm since inception, as discussed in section 2.3. Previous studies found that the presence of a founder CEO has a positive impact on initial return (Certo et al., 2001a; Nelson, 2003). Studies on long-term stock returns, however, presented opposing conclusions. Some found a positive relationship between long-term stock return and founder CEOs, while others found a neutral relationship (Fahlenbrach, 2009; Gao & Jain, 2011; Jayaraman et al., 2000; Miller

et al., 2011). The founder CEO variable was included as a dummy variable that took on the value 1 if the CEO was also the founder and 0 if the CEO was not the founder.

#### 4.2.3. Control variables

The control variables were divided into three different sub-categories: CEO characteristics, firm characteristics, and external factors to control for alternative variables that could potentially explain IPO performance (Abebe et al., 2020).

##### CEO characteristics

CEO characteristics were defined as variables attributable to the firm's CEO. As claimed by previous research (Abebe et al., 2020; Hambrick & Mason, 1984; Wang et al., 2016; Zimmerman, 2008), CEO characteristics have been found to influence firms' IPO performance. This thesis controlled for the variables found to impact IPO performance in previous empirical studies.

**Table 5: Summary of CEO characteristics**

Factor	Definition	Measurement	Expected impact	Supportive literature
CEO age	Difference between birth year and year of IPO	Number of years	-	Gao & Jain (2011)
CEO duality	CEO being a member of the board	Dummy variable: 1=yes, 0=no	+	Gao & Jain (2011)
CEO education	Highest level of education	Dummy variable: 1=MSc, MBA, PhD 0=high school, stand-alone courses, TVET, BSC	+	Gounopoulos et al. (2021)
CEO gender	CEO being male or female	Dummy variable: 1=male, 0=female	+	Bigelow et al. (2014)
CEO tenure	Difference between the first day as CEO of the firm and date of IPO	Natural logarithm of number of days	+	Fahlenbrach (2009)

*CEO age* can serve as a proxy for experience and might influence how risky decisions a CEO is willing to make (Hambrick & Mason, 1984; Serfling, 2014). Hambrick and Mason (1984) argued that firms with an older CEO take less risk than firms with a younger CEO. Cohen and Dean (2005) argued that age signals legitimacy and found that older CEOs experience less underpricing. In the context of founder CEO, Gao and Jain (2011) found CEO age to be negatively correlated with stock performance, and following that reasoning, this thesis expected CEO age to affect IPO performance negatively. CEO age was measured by calculating the difference between the CEO's birth year and the year of the firm's IPO.

*CEO duality* refers to a CEO being a board member, giving the CEO greater power and control than if only serving as CEO. In the case of CEO duality, Mak and Roush (2000) found that the firm has more growth opportunities, which can positively affect firm performance. According to He (2008), founder CEOs with duality are associated with higher financial performance. Similarly, Gao and Jao (2011) found significant results indicating that CEO duality positively impacts IPO performance, and following that reasoning, CEO duality was expected to impact IPO performance positively. CEO duality

was denoted using a dummy variable where 1 indicated that the CEO was also a board representative and 0 indicated that the CEO was not on the board.

*CEO education* is a variable that measures the CEO's highest level of education. Education serves as an indicator of an individual's knowledge and skills and thus affects firm strategy and performance. Gounopoulos et al. (2021) studied CEO education and IPO performance and found that CEOs with postgraduate degrees at highly ranked schools had better post-IPO performance and lower underpricing. The educational level was tested using a dummy variable where 1 denoted that the CEO's highest education was an MSc or above and 0 indicated that the highest level of education was below an MSc.

*CEO gender* is a variable indicating if the CEO is a male or a female. Research on the impact of gender on IPO performance is very limited, which can partly be explained by the few female CEOs that have taken a firm public. According to Bigelow et al. (2014), investors evaluate female CEO-led firms less favourably than male CEO-led firms. Furthermore, it was found that female CEOs have disadvantages when attracting growth capital and are generally perceived as less capable, resulting in female CEO-led IPOs being considered less attractive investments. Following the above reasonings, male CEOs were expected to have been positively associated with IPO performance. CEO gender was denoted using a dummy variable where 1 indicates that the CEO was a male and 0 indicates that the CEO was a female.

*CEO tenure* is a variable that indicates the time in days that an individual has been appointed CEO of the given firm. Thus, tenure can serve as an indicator of commitment to the firm. Meyer (1975) claimed that CEOs with longer tenures have more power, consistent with Miller's (1991) contribution that longer-tenured CEOs have more internal supporters than those with shorter tenures. However, Shen and Cannella (2002) claimed that new CEOs are more motivated and want to make an impact and bring about change. Fahlenbrach (2009) found the relationship between IPO performance and CEO tenure positively related. Thus, following the findings of Fahlenbrach, CEO tenure was expected to impact IPO performance positively and was measured as the natural logarithm of the number of days appointed as CEO.

### **Firm characteristics**

Firm characteristics constitute a category of variables commonly tested for in IPO performance studies (Certo et al., 2001a; Fahlenbrach, 2009; Jayaraman et al., 2000) and are defined as variables directly related to the firm and its operations and are therefore factors that the firm has control over. Firm characteristics, such as firm size, are proxies of ex-ante uncertainty about the firm's outlook (Ritter, 1984).



**Table 6: Summary of firm characteristics**

Factor	Definition	Measurement	Expected impact	Supportive literature
Firm age	Difference between founding year and year of IPO	Natural logarithm of number of years	-	Clark (2002)
Firm size	Market capitalisation (SEKm)	Natural logarithm of market capitalisation	-	Fama & French (1992), Jayaraman et al. (2000)
L/A	Leverage ratio	Total liabilities over total assets	-	James & Wier (1990), Habib & Ljungqvist (2001)
ROA	Profitability ratio	Operating income over total assets	+	Begley (1995), He (2008)

*Firm age* represents the firm's stage in the life cycle and is calculated as the difference between the year the firm was founded and the year of the IPO. Ritter (1991) found that younger firms tend to underperform older firms, both at and after the IPO. Moreover, Clark (2002) studied the relation between firm age at IPO and stock market performance and similarly found that older firms experience better stock market performance than younger ones. Other studies (Fahlenbrach, 2009; Gao & Jain, 2011; Jayaraman et al., 2000; Nelson, 2003) also found a negative relationship between firm age and IPO performance and consequently, this thesis expected firm age to have a negative impact on IPO performance. Firm age was measured as the natural logarithm of the number of years the firm has existed.

*Firm size* serves as an indicator of how large a firm is. However, firm size can be measured based on sales revenue (Certo et al., 2001a; Miller et al., 2011), total assets (Nelson, 2003), number of employees (Zimmerman, 2008) or market capitalisation (Fahlenbrach, 2009; Jayaraman et al., 2000). Fama and French (1992) observed that firms with smaller market capitalisations outperform larger firms in terms of stock performance. Similarly, Jayaraman et al. (2000) found that firm size moderates the founder CEOs' impact on IPO performance. Firm size was expected to have a negative effect on IPO performance and was included in the regression models as the natural logarithm of market capitalisation.

*Liabilities to assets (L/A)* is a financial ratio used to measure the riskiness of a firm, as it demonstrates how much of a firm's assets are financed with liabilities. James and Wier (1990) found evidence that pre-IPO debt leads to less underpricing. This was argued to be caused by the signalling value of credit relationships with lenders, which lessens investors' uncertainty about a firm's value. These findings were corroborated by Habib and Ljungqvist (2001), who found that higher leverage reduces underpricing. Thus, this study expected the impact of L/A to be negatively related to IPO performance. L/A was measured as total liabilities at the end of the year prior to the IPO divided by the total assets at the end of the year prior to the IPO.

*Return on assets (ROA)* ratio is a way to measure financial performance. ROA indicates how well a firm's management has generated profits from its total assets. ROA is often used as a proxy for firm performance (Abebe et al., 2020; Adams et al., 2009; Begley, 1995; Daily & Dalton, 1992; He, 2008) and given the articulated connection between firm and IPO performance, ROA is essential to control for. Most of the above-mentioned studies concluded that ROA positively affects performance. Consequently, this study

expected the impact of ROA to be positively associated with IPO performance. ROA was measured as operating income at the end of the year prior to the IPO divided by the total assets at the end of the year prior to the IPO.

### External factors

External factors are defined as variables that indirectly affect a firm and its operations and are argued to affect the extent to which the presence of a founder CEO influences IPO performance (Abebe et al., 2020).

**Table 7: Summary of external factors**

Factor	Definition	Measurement	Expected impact	Supportive literature
Issue market	Number of IPOs per year	Dummy variable: 1=hot, 0=cold	+	Ritter (1984), Ritter & Loughran (2004)
Underwriter ranking	Percentage of money brought to IPO market per year	Percentage of IPO market share	+	Carter et al. (1998), Certo et al. (2001a)

*Issue market* refers to the state of the IPO market, which can be hot or cold depending on the number of IPOs issued. Ritter (1984) concluded that firms that go public during a hot issue market have a higher level of underpricing than firms that go public during cold issue markets. Findings are confirmed by a later study by Loughran and Ritter (2004), where they also found substantial differences in the level of underpricing between hot and cold issue markets. Following Helwege and Liang's (2004) definition of hot and cold issue markets, the total number of IPOs per year was used to classify each year, found in appendix 1. The issue market was controlled for using a dummy variable where 1 indicated that the IPO occurred during a hot issue market year and 0 indicated that the transaction took place during a cold issue market.

*Underwriter ranking* and the underwriter's market credibility send signals to investors regarding the quality of the IPO. Podolny (1994) claimed that firms whose quality is uncertain to others rely on the status of actors, such as underwriters, to signal their quality and reduce the uncertainty. The prestige of underwriters in IPOs is found to be related to the IPO's long-term performance, with more reputable underwriters issuing IPOs with superior long-term performance and lower initial returns (Michaely & Shaw, 1994). Similarly, Carter et al. (1998) found that having more esteemed underwriters in an IPO resulted in less underpricing and better long-term stock performance. Certo et al. (2001a) found that if the investment banker has an IPO market share greater than 1.38%, it will positively impact underpricing. Cortex Dealogic's equity league table, which presents each underwriter's IPO market share per year, was used to measure underwriter ranking. In the case of multiple underwriters, an average was used.

### 4.3. Model specification

A univariate regression was conducted for each of the two dependent variables to see how the presence of a founder CEO alone is related to IPO performance. However, other variables were likely to impact IPO performance, and thus, additional control variables were introduced into the regressions in the categories: CEO characteristics, firm characteristics, and external factors. Omitted variables affect a regression model through the error term, so when variables are explicitly included in the model, the added variables

are no longer assumed to be uncorrelated with IPO performance and thus, no longer potentially interfere with the significance level of founder CEOs. Therefore, the control categories of variables were included to better study the relationship between founder CEO and IPO performance. Further, robust standard errors clustered at industry level were used for all regression models. In four of the models (models 3, 4, 7, and 8), sector fixed effects were included. Finally, data observations below the 1<sup>st</sup> and above the 99<sup>th</sup> percentile were removed for each continuous variable to handle extreme outliers for both the descriptive statistics and the statistical tests conducted. A total of 25 observations were consequently removed. Below, the complete models (models 4 and 8) are presented, with the set of variables included in each category explicitly written out.

Exploratory analyses were conducted on the variables included to see which measurements of variables improved the model the most. For example, firm size was measured as revenue, offering size, as well as market capitalisation, and as it appeared that market capitalisation best captured the effect of firm size, that measurement was used in the regression models.

### Market adjusted initial return

$$MAIR = B_0 + B_1 founder\_ceo$$

$$+ \overbrace{B_2ceo\_age + B_3ceo\_duality + B_4ceo\_education + B_5ceo\_gender + B_6ceo\_tenure}^{CEO\ characteristics}$$

$$+ \overbrace{B_7firm\_age + B_8firm\_size + B_9L/A + B_{10}ROA}^{Firm\ characteristics} + \overbrace{B_{11}issue\_market + B_{12}underwriter}^{External\ factors} + \varepsilon$$

### 3-month market adjusted return

$$3 - MAR = B_0 + B_1 founder\_ceo$$

$$+ \overbrace{B_2ceo\_age + B_3ceo\_duality + B_4ceo\_education + B_5ceo\_gender + B_6ceo\_tenure}^{CEO\ characteristics}$$

$$+ \overbrace{B_7firm\_age + B_8firm\_size + B_9L/A + B_{10}ROA}^{Firm\ characteristics} + \overbrace{B_{11}issue\_market + B_{12}underwriter}^{External\ factors} + \varepsilon$$

## 5. Descriptive statistics and results

### 5.1. Descriptive statistics

#### 5.1.1. Dependent variables

##### **Market adjusted initial return**

Hypothesis 1 predicted that the presence of a founder CEO is positively associated with MAIR. Consequently, a significant difference in MAIR between founder CEOs and non-founder CEOs was expected to be observed. Table 8 summarises the descriptive statistics for MAIR, and appendix 2 exhibits the average MAIR between 2011 and 2021. The results did not indicate that founder CEO-led firms outperform non-founder CEO-led firms. Founder CEOs outperformed non-founder CEOs during 2015 (34.4% compared to 10.3%), 2018 (2.8% compared to -8.0%), 2019 (25.8% compared to 8.6%) and 2021 (11.8% compared to 11.6%). Excluding the years where no founder CEO-led firm was listed (2012 and 2013), in 44.4% of the sample years, founder CEO-led firms generated a superior MAIR compared to non-founder CEO-led firms. The total sample shows that founder CEOs delivered an average MAIR of 9.3% compared to non-founder CEOs' average of 11.2%. Consequently, non-founder CEOs outperformed founder CEOs by 1.9 percentage points.

In accordance with previous studies (Henricson, 2012; Loughran et al., 2022; Åkesson & Fäldt, 2019), Swedish IPOs between 2011-2021 experienced a positive initial return. The IPOs were found to be, on average, underpriced by 10.6%.

**Table 8: Market adjusted initial return**

MAIR	Founder CEO			Non-founder CEO			Total sample		
	N	Mean %	SD %	N	Mean %	SD %	N	Mean %	SD %
2011	2	-26.3	34.4	4	2.5	7.4	6	-7.1	22.2
2012	-	-	-	1	-1.6	-	1	-1.6	-
2013	-	-	-	1	5.7	-	1	5.7	-
2014	8	2.1	16.7	12	7.5	24.4	20	5.3	21.3
2015	7	34.4	29.3	19	10.3	20.3	26	16.8	24.9
2016	14	7.6	25.5	13	22.6	43.6	27	14.8	35.5
2017	11	0.2	33.0	38	18.7	30.7	49	14.6	31.9
2018	8	2.8	32.1	15	-8.0	14.9	23	-4.2	22.3
2019	6	25.8	24.3	11	8.6	42.4	17	14.7	37.1
2020	2	8.0	25.9	10	8.6	18.3	12	8.5	18.3
2021	14	11.8	28.7	38	11.6	29.6	52	11.7	29.1
<i>Total</i>	<i>72</i>	<i>9.3</i>	<i>29.0</i>	<i>162</i>	<i>11.2</i>	<i>29.3</i>	<i>234</i>	<i>10.6</i>	<i>29.2</i>

##### **3-month market adjusted return**

Hypothesis 2 predicted that the presence of a founder CEO is positively associated with 3-MAR. Thus, a difference in 3-MAR was expected to be seen between founder CEOs and non-founder CEOs. Table 9 summarises the descriptive statistics for 3-MAR, and appendix 3 illustrates the average 3-MAR between 2011 and 2021. Founder CEOs

outperformed non-founder CEOs only three years: 2015 (40.4% compared to 21.3%), 2018 (7.3% compared to -14.3%) and 2019 (40.4% compared to 10.7%). Excluding the years where no founder CEO-led firm was listed (2012 and 2013), in 33.3% of the sample years, founder CEO-led firms generated a superior 3-MAR compared to non-founder CEO-led firms. The total sample shows that founder CEOs delivered a 14.1% 3-MAR compared to non-founder CEOs' 14.9% 3-MAR. Considering all the sample years, non-founder CEOs seem to outperform founder CEOs slightly, by 0.8 percentage points.

The average 3-MAR for Swedish IPOs between 2011 and 2021 was positive, which contradicts the findings of previous studies regarding Swedish long-term stock performance. This indicates that the underperformance identified in long-term stock returns occurs sometime after three months post-IPO (Henricson, 2012; Maourina & Kalinowska, 2017; Ryd & Svensson, 2006; Åkesson & Fäldt, 2019).

**Table 9: 3-month market adjusted return**

3-MAR	Founder CEO			Non-founder CEO			Total sample		
	N	Mean %	SD %	N	Mean %	SD %	N	Mean %	SD %
2011	2	-19.6	1.6	4	-10.7	10.0	6	-13.7	9.0
2012	-	-	-	1	-34.3	-	1	-34.3	-
2013	-	-	-	1	10.2	-	1	10.2	-
2014	8	-8.6	24.1	12	25.5	76.0	20	11.9	62.1
2015	7	40.4	24.3	19	21.3	37.1	26	26.4	34.7
2016	14	26.4	64.2	13	31.0	42.1	27	28.6	53.7
2017	11	6.2	60.9	38	20.3	52.9	49	17.2	54.4
2018	8	7.3	61.2	15	-14.3	31.3	23	-6.8	43.9
2019	6	40.4	22.5	11	10.7	35.8	17	21.2	34.3
2020	2	7.3	57.4	10	14.0	41.0	12	12.9	41.0
2021	14	6.4	46.3	38	14.4	55.4	52	12.2	52.8
<i>Total</i>	<i>72</i>	<i>14.1</i>	<i>50.0</i>	<i>162</i>	<i>14.9</i>	<i>49.4</i>	<i>234</i>	<i>14.6</i>	<i>49.5</i>

Considering both MAIR and 3-MAR, non-founder CEOs experience slightly better IPO performance than founder CEOs. The sample size is notably much smaller for founder CEOs, affecting the results as individual returns have a more considerable influence on the mean. To confirm the findings in the descriptive statistics regarding the dependent variables MAIR and 3-MAR and rule out that the findings are not dependent on other factors, a regression analysis is made and presented in section 5.2.

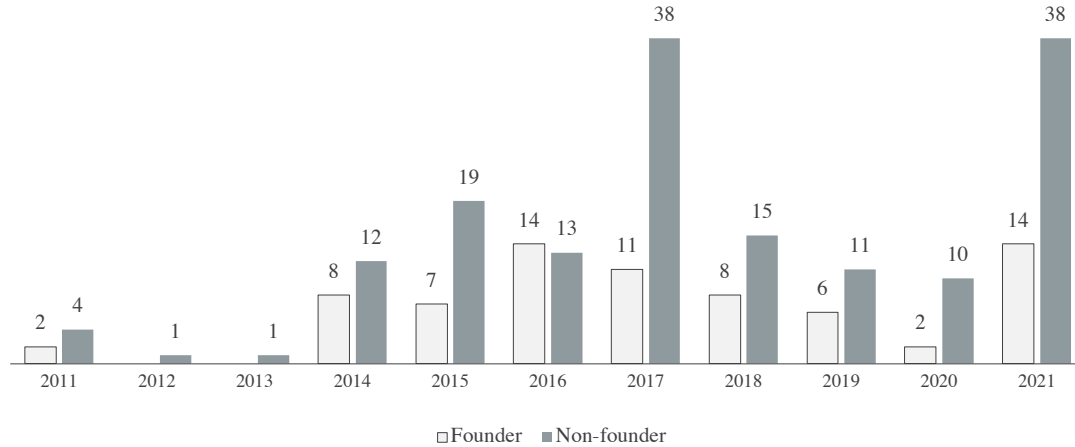
#### 5.1.2. Independent variable

The descriptive statistics regarding the independent variable, founder CEO, are summarised in table 10. The founder CEO variable has a mean of 0.3, which indicates that 30.0% of the total sample of 234 IPOs had a founder as the CEO at the time of IPO, translating to 72 founder CEOs.

**Table 10: Descriptive statistics of the independent variable**

Variable	N	Mean	SD
Founder CEO	234	0.3	0.5

Figure 1 visualises the split between founder CEOs and non-founder CEOs between 2011 and 2021. 2016 and 2021 were the years when the most founder CEO-led firms went public. However, the year with the highest percentage of founder CEOs was 2016, when 51.9% of all IPOs were led by founder CEOs.

**Figure 1: Number of IPOs split between founder CEOs and non-founder CEOs**

### 5.1.3. Control variables

Table 11 summarises descriptive statistics for the control variables included in the regression models. In the CEO characteristics category, some variables show no considerable difference between founder CEOs and non-founder CEOs. For example, the average CEO age is 47.5 for founders and 49.8 for non-founders, and there are almost exclusively men as CEOs in both subsets (100% and 90%, respectively). Intuitively, given that they have been with the firm since inception, founder CEOs have longer tenures than non-founder CEOs (2,674 days and 1,442 days, respectively). 60% of founder CEOs were identified to also be on their firm's board, which was only the case for 20% of non-founder CEOs. Regarding education, 70% of both founder CEOs and non-founder CEOs have a master's degree or above.

Regarding firm characteristics, a significant difference is identified for firm age, 12.9 years for founder CEOs and 26.2 years for non-founder CEOs. Furthermore, the market capitalisation of non-founder CEO firms at IPO is slightly larger (SEK 1,890m) than the size of founder CEO firms (SEK 1,250m). Founder CEO-led firms have an average ROA of -13.0% compared to non-founder CEO-led firms with an average ROA of -9.7%. Additionally, founder CEO firms seem to be less leveraged than non-founder CEO firms, with the two subsets having an average L/A of 49.3% and 56.6%, respectively. The issue market differences between founder CEOs and non-founder CEOs are not extensive, as 80% versus 70% of the IPOs were executed during hot issue markets. Lastly, founder CEOs have underwriters with a lower ranking than non-founder CEOs (4.1% and 6.1%, respectively).

**Table 11: Descriptive statistics of control variables**

	Founder CEO		Non-founder CEO		Total sample	
	N=72		N=162		N=234	
	Mean %	SD %	Mean %	SD %	Mean %	SD %
<i>CEO characteristics</i>						
CEO age	47.5	8.4	49.8	7.4	49.1	7.8
CEO duality	0.6	0.5	0.2	0.4	0.4	0.5
CEO education	0.7	0.5	0.7	0.5	0.7	0.5
CEO gender	1.0	0.2	0.9	0.3	0.9	0.3
CEO tenure	2,674	1,963.1	1,442.8	1,455.7	1,821.5	1,721.2
<i>Firm characteristics</i>						
Firm age	12.9	20.9	26.2	30.1	22.1	28.3
Firm size*	1,250.0	2,880.0	1,890.0	3,170.0	1,690.0	3,090.0
L/A	49.3	33.5	56.6	31.4	54.4	32.2
ROA	-13.0	38.8	-9.7	34.5	-10.7	35.8
<i>External factors</i>						
Issue market	0.8	0.4	0.7	0.4	0.7	0.4
Underwriter	4.1	6.8	6.1	7.1	5.5	7.1

\*=-SEKm

Table 12 presents the distribution of founder CEO and non-founder CEO across sectors and the MAIR and 3-MAR associated with the respective sectors. The data is included in the regressions as sector fixed effects. Information technology and industrials are the two sectors with the highest number of founder CEOs. Communication services is the sector with the highest percentage of founder CEOs compared to the total sample for each sector. When examining founder CEOs and MAIR, the financial sector has outperformed the rest (19.6%), however, this is below the total sample average MAIR in that sector. For non-founder CEOs, energy is instead the sector with the highest MAIR (35.4%). Founder CEOs lowest MAIR is in the consumer staples sector (-5.0%). For non-founder CEOs, no return is negative, but the lowest MAIR is for the information technology and real estate sectors, which both have a MAIR of 5.5%.

The highest 3-MAR for Founder CEOs is found in the industrials sector (29.1%), which is also above the total sample average for that sector (22.7%). The highest 3-MAR for non-founder CEOs is for consumer staples with 44.0%. The financial sector has the lowest 3-MAR return for founder CEOs (-23.1%), but there is notably only one observation for founder CEOs. Non-founder CEOs have the lowest 3-MAR, -8.1%, in the energy sector.

**Table 12: CEO distribution across sectors**

Sector	Founder CEO			Non-founder CEO			Total sample		
	N	MAIR %	3-MAR %	N	MAIR %	3-MAR %	N	MAIR %	3-MAR %
Energy	-	-	-	2	35.4	-8.1	2	35.4	-8.1
Materials	2	4.1	8.9	3	17.8	8.3	5	12.3	8.6
Industrials	12	8.6	29.1	37	9.3	20.6	49	9.1	22.7
Consumer discretionary	10	8.7	10.9	24	6.4	12.7	34	7.1	12.2
Consumer staples	4	-5.0	2.4	4	5.8	44.0	8	0.4	23.2
Health care	11	2.4	1.6	40	17.5	20.5	51	14.2	16.4
Financials	1	19.6	-23.1	5	26.0	38.9	6	24.9	28.5
Information technology	17	16.5	20.4	34	5.5	1.1	51	9.2	7.5
Utilities	-	-	-	-	-	-	-	-	-
Communication services	9	11.4	16.8	7	16.7	9.5	16	13.7	13.6
Real estate	6	10.7	6.5	6	5.5	6.3	12	8.1	6.4
<i>Total</i>	<i>72</i>	<i>9.3</i>	<i>14.1</i>	<i>162</i>	<i>11.2</i>	<i>14.9</i>	<i>234</i>	<i>10.6</i>	<i>14.6</i>

The CEOs' highest educational backgrounds are presented in table 13. There are no major differences in education level, with a majority of both founder and non-founder CEOs having an MSc or MBA. However, 15.3% of founder CEOs have a PhD, which only 9.3% of non-founder CEOs have. Interestingly, the IPO performance (both MAIR and 3-MAR) for founder CEOs with a PhD is negative (-2.1% respectively -0.1%), which is not the case for non-founder CEOs (23.2% respectively 28.6%). The highest MAIR and 3-MAR are found in firms where founder CEOs' highest education level is a BSc or courses/TVET. However, that is not the case for non-founder CEOs, which have the highest MAIR and 3-MAR among CEOs with a PhD. Looking at the total sample, the results indicate that there appears to be a positive relationship between educational background and IPO performance.

**Table 13: CEO educational background**

Sector	Founder CEO			Non-founder CEO			Total sample		
	N	MAIR %	3-MAR %	N	MAIR %	3-MAR %	N	MAIR %	3-MAR %
High School	6	5.9	4.5	8	1.0	10.4	14	3.1	7.8
Courses/TVET	8	13.9	28.0	12	-1.1	-6.7	20	4.9	7.2
BSc	8	14.7	26.7	31	5.8	17.9	39	7.6	19.7
MSc/MBA	39	11.0	14.2	96	13.4	14.8	135	12.7	14.6
PhD	11	-2.1	-0.1	15	23.2	28.6	26	12.5	16.5
<i>Total</i>	<i>72</i>	<i>9.3</i>	<i>14.1</i>	<i>162</i>	<i>11.2</i>	<i>14.9</i>	<i>234</i>	<i>10.6</i>	<i>14.6</i>

Table 14 presents how the MAIR and 3-MAR change for founder and non-founder CEOs depending on whether the issue market is hot or cold. In a hot issue market, non-founder CEOs showcase higher MAIR and 3-MAR than founder CEOs, while founder CEOs outperform non-founder CEOs, in terms of both MAIR and 3-MAR, during cold issue



market periods. The returns are generally higher for hot issue markets than for cold issue markets, except for founder CEOs, where the data show that the 3-MAR is higher for cold issue markets than for hot issue markets. For the total sample, the distributions show that MAIR and 3-MAR are positive both during hot and cold issue markets, but the returns are considerably higher during hot issue market periods. To sum up, founder CEOs seem to outperform non-founder CEOs during cold periods but tend to be outperformed by non-founder CEOs during hot periods.

**Table 14: Hot and cold issue market**

Sector	Founder CEO			Non-founder CEO			Total sample		
	N	MAIR %	3-MAR %	N	MAIR %	3-MAR %	N	MAIR %	3-MAR %
Hot	54	9.8	13.7	120	14.4	20.3	174	13.0	18.2
Cold	18	7.8	15.3	42	1.8	-0.6	60	3.6	4.2
<i>Total</i>	<i>72</i>	<i>9.3</i>	<i>14.1</i>	<i>162</i>	<i>11.2</i>	<i>14.9</i>	<i>234</i>	<i>10.6</i>	<i>14.6</i>

#### 5.1.4. Pearson's correlation matrix

Pearson's correlation matrix examines all the pairwise correlations between the variables included in the regression models, see table 15. By looking at the correlations, multicollinearity can be suspected if pairwise correlations are high. As a rule of thumb,  $|0.7|$  is used as a cut-off value where a correlation exceeding  $|0.7|$  is a sign of high multicollinearity (Hinkle et al., 2003). Not surprisingly, a high and significant correlation, of 0.59, is found between the dependent variables MAIR and 3-MAR. MAIR was not included in the 3-MAR regression, given that the two dependent variables reasonably are influenced by the same variables. Therefore, including MAIR as a control variable in the 3-MAR regression would make the effect of the independent variable and control variables challenging to distinguish. Consequently, the high correlation between MAIR and 3-MAR can be ignored.

Furthermore, CEO age, CEO gender, ROA, L/A, and issue market all have significant correlations with MAIR, however, none have a correlation exceeding  $|0.2|$ . CEO age, ROA and issue market are also significantly correlated with 3-MAR, but the correlation does not exceed  $|0.2|$ . Moreover, firm age and firm size demonstrate a relatively high correlation of 0.50. Intuitively, a firm that has existed longer has had a long time to grow its business, likely resulting in a larger firm. Firm size is also significantly related to the underwriter ranking, 0.64, which is naturally explained by the fact that a larger firm is more likely to afford a higher ranked investment bank. Apart from that, none of the other variables have a correlation exceeding  $|0.2|$ . No variables are excluded from the model since none exceeds the cut-off value of  $|0.7|$ , and by excluding variables, an endogeneity problem might arise, which can be argued to be worse than multicollinearity. Consequently, the correlation matrix indicates that multicollinearity is not a pressing concern for the analysis. However, as an extra precaution, a Variance Inflation Factor test will be conducted to verify the finding, and it will be further discussed in section 5.2.3.

Even though some variables are significantly correlated to the dependent variables, it is not certain that these variables directly affect the dependent variables. As these are univariate correlations, the apparent effects could instead depend on both variables correlating with another variable. Therefore, running a regression analysis will allow for a more thorough investigation of the relationships between the variables.

**Table 15: Pearson's correlation matrix**

	MAIR	3-MAR	CEO founder	CEO age	CEO duality	CEO education	CEO gender	CEO tenure	Firm age	Firm size	L/A	ROA	Issue market	Underwriter
MAIR	1													
3-MAR	0.5892***	1												
CEO founder	-0.0292	-0.0069	1											
CEO age	-0.1909***	-0.1700***	-0.1393**	1										
CEO duality	-0.0572	0.0674	0.3713***	0.1324**	1									
CEO education	0.1063	0.0090	0.0092	0.0022	-0.0723	1								
CEO gender	-0.1119*	-0.0252	0.1072	0.0011	0.0903	-0.0728	1							
CEO tenure	0.0371	0.0560	0.3120***	0.1272*	0.2242***	-0.0660	0.1392**	1						
Firm age	0.0707	0.0955	-0.3500***	0.0797	-0.1006	-0.0358	0.0224	0.1444**	1					
Firm size	0.1051	0.0577	-0.1858***	0.0262	-0.1595***	-0.0538	0.0139	0.1093*	0.4960***	1				
L/A	-0.1319**	-0.0645	-0.1046	0.0449	0.0791	-0.0603	0.0689	0.0986	0.2161***	0.1723**	1			
ROA	0.1943***	0.1603**	-0.0429	-0.1256*	0.0944	-0.0030	0.0380	-0.0102	0.3127***	0.2826***	0.0656	1		
Issue market	0.1413**	0.1239*	0.0098	-0.1039	0.0158	0.0482	-0.0040	-0.0667	0.0710	0.1334**	0.0493	0.1271*	1	
Underwriter	0.0075	-0.0137	-0.1256*	0.0830	-0.0948	0.0213	0.0744	0.1178*	0.3913***	0.6404***	0.2125***	0.2530***	0.0428	1

\*  $p \leq 0.1$ ; \*\*  $p \leq 0.05$ ; \*\*\*  $p \leq 0.01$

## 5.2. Results

### 5.2.1. Market adjusted initial return

**Table 16: MAIR - OLS regressions**

<b>MAIR</b>	<b>Univariate</b>		<b>Multivariate</b>	
	Model 1 (Univariate)	Model 2 (CEO characteristics)	Model 3 (Firm characteristics)	Model 4 (External factors)
CEO founder	-1.8406 (-0.43)	-5.1527 (-1.17)	-2.5688 (-0.51)	-2.8791 (-0.56)
CEO age		-0.8105 (-3.10)***	-0.7620 (-2.88)***	-0.7072 (-2.67)***
CEO duality		-0.3707 (-0.11)	-1.1363 (-0.29)	-1.7139 (-0.43)
CEO education		6.6966 (1.86)*	5.3724 (1.37)	5.2592 (1.32)
CEO gender		-12.7324 (-1.14)	-13.25055 (-1.24)	-12.8203 (-1.22)
CEO tenure		2.9891 (2.33)**	3.3094 (2.11)**	3.6558 (2.19)**
Firm age			0.4690 (0.17)	0.4612 (0.17)
Firm size			1.4163 (1.12)	1.7810 (1.12)
L/A			-0.1158 (-2.08)**	-0.1137 (-1.94)**
ROA			0.1470 (3.51)***	0.1451 (3.62)***
Issue market				7.1896 (1.31)
Underwriter				-0.2771 (-1.14)
Constant	11.1628 (5.13)***	38.4214 (2.02)*	50.8577 (0.76)	34.7622 (0.49)
Sector fixed effects	NO	NO	YES	YES
R-squared	0.0009	0.0719	0.1550	0.1690
R-squared adjusted	-0.0035	0.04736	0.0780	0.0867
F-statistic	0.18	4.40	6.59	5.97
N	234	234	234	234

\*  $p \leq 0.1$ ; \*\*  $p \leq 0.05$ ; \*\*\*  $p \leq 0.01$

Note 1: for each variable, the top value is the beta coefficient; the bottom value is the t-statistic

Note 2: the data is trimmed at the 1<sup>st</sup> and 99<sup>th</sup> percentile, resulting in 234 data observations being included

Note 3: CEO tenure, firm age, and firm size are logarithmic variables

The univariate regression in table 16 shows no significant relationship between MAIR and founder CEO. While the descriptive statistics, table 8, show that founder CEOs generate lower MAIR than non-founder CEOs, the correlation matrix, table 15, shows no significant correlation between the two variables, making the regression result unsurprising.

In contradiction to the expectations formulated in hypothesis 1, when adding the control variable categories, founder CEO's impact on MAIR remains insignificant. The sign of the founder CEO coefficient is negative throughout all the regressions, but as no significant relationship is detected, no conclusion can be drawn.

The variables significantly associated with MAIR are CEO age, CEO education, CEO tenure, L/A, and ROA. CEO age is significant at the 5% and 1% significance level, depending on the regression model, and, as in the correlation matrix, has a negative impact on MAIR. The significance level drops in model 4, implying that the variable CEO age in previous regressions included the effect of an omitted variable added in the final regression, making CEO age less significant as it no longer absorbs any of those previously omitted variables. CEO education is significant at the 10% level, but only in model 2, and positively impacts MAIR. This indicates that a CEO with a master's degree or above is associated with a higher initial return. Similarly, CEO tenure has a positive but marginal impact on MAIR at the 10% and 5% significance levels, depending on the regression model. The CEO tenure variable increases in significance when more control categories are added, meaning that CEO tenure was associated with previously excluded variables that are now included in the regression and absorbed the impact the variables had on MAIR. In models 3 and 4, CEO tenure reflects more of its actual effect on MAIR, which turns out to be more significant than previously indicated. In line with the correlation matrix, L/A has a negative impact on MAIR at the 5% significance level, while ROA has about the same percentual impact as L/A but positive at the 1% significance level.

In the correlation matrix, CEO gender and issue market were found to be significantly correlated with MAIR, however, neither of these variables were found to have a significant association with MAIR in the regression results. Thus, there is no cause-and-effect relationship between the variables.

R-squared measures the goodness-of-fit for a regression model and shows how much of the variability in the dependent variable the regression model can explain. While the R-squared always increases with every variable category added, the adjusted R-squared adjusts for the number of variables in the model (Wooldridge, 2013). Despite that, the adjusted R-squared increased when more variables were included, however, the model still has low explanatory power with an adjusted R-squared of just below 9%.

To test the results of the regression models, a contingency table was created (table 17). The included categorical variables are founder status (founder/non-founder) and MAIR (above/below the mean of 10.6%).

**Table 17: Contingency table – MAIR**

	Founder	Non-founder	Total
MAIR < 10.6%	41	94	135
MAIR > 10.6%	31	68	99
<i>Total</i>	<i>72</i>	<i>162</i>	<i>234</i>

The contingency table illustrates that 43.1% of the IPOs led by founder CEOs delivered a MAIR above the mean, whereas 42.0% is true for non-founder CEO-led firms. Thus, there is a tiny difference in performance, but no clear trend can be deduced from the contingency table, which supports the results of the regression models.

### 5.2.2. 3-month market adjusted return

In line with the correlation matrix and descriptive statistics, no significant relationship was found between founder CEO and 3-MAR in the univariate regression (model 5). Furthermore, no significant relation between the two variables was detected in the following regressions either, which contradicts hypothesis 2. Even though no reliable conclusion can be drawn from studying the coefficients, given the insignificance, it is noted that the coefficient sign is always negative for founder CEO.

Two variables that were found to be significant are CEO age and CEO tenure. CEO age is significantly and negatively associated with 3-MAR in models 6 to 8, with the significance level being 1% in models 6 and 7, and 5% in model 8. CEO tenure was not significantly correlated to 3-MAR in the correlation matrix but was significantly and positively associated with 3-MAR in regression models 7 and 8, implying that the longer the tenure of a CEO, the higher the 3-MAR.

ROA and issue market were significantly associated with 3-MAR in the correlation matrix, but no significant relation was found in the regression models. Similar to the correlations with MAIR, this indicates no cause-and-effect relationship between ROA and 3-MAR or between issue market and 3-MAR.

The initial adjusted R-squared for the univariate model was negative, implying insignificance of the model. In contrast to the MAIR regressions, the adjusted R-squared increased in model 6 before declining in model 7, showing that the added variables improve the model with less than what would be expected by chance. For model 8, the adjusted R-square is 1.9%, which is very low and shows that the overall model poorly explains the movement in 3-MAR.

**Table 18: 3-MAR OLS regressions**

	<b>Univariate</b>		<b>Multivariate</b>	
	Model 5	Model 6	Model 7	Model 8
<b>3-MAR</b>	(Univariate)	(CEO characteristics)	(Firm characteristics)	(External factors)
CEO founder	-0.7380 (-0.09)	-11.4553 (-1.35)	-6.4022 (-0.66)	-6.7610 (-0.68)
CEO age		-1.3550 (-2.83)***	-1.3269 (-2.67)***	-1.2330 (-2.49)**
CEO duality		12.3148 (1.62)	9.1518 (1.26)	8.2227 (1.16)
CEO education		2.4303 (0.31)	-0.5225 (-0.06)	-0.5720 (-0.07)
CEO gender		-7.0442 (-0.53)	-8.3420 (-0.63)	-7.4790 (-0.58)
CEO tenure		4.2978 (2.27)**	4.1650 (1.82)*	4.6990 (2.01)**
Firm age			2.6060 (0.54)	2.6280 (0.54)
Firm size			0.5041 (0.23)	1.4919 (0.54)
L/A			-0.1514 (-1.25)	-0.1447 (-1.17)
ROA			0.1633 (1.59)	0.1633 (1.56)
Issue market				10.7637 (1.34)
Underwriter				-0.5948 (-1.15)
Constant	14.8602 (4.47)***	55.2110 (1.77)*	43.4951 (0.73)	9.7229 (0.14)
Sector fixed effects	NO	NO	YES	YES
R-squared	0.0000	0.0514	0.0945	0.1077
R-squared adjusted	-0.0043	0.0264	0.01410	0.0193
F-statistic	0.01	2.36	2.05	2.32
N	234	234	234	234

\*  $p \leq 0.1$ ; \*\*  $p \leq 0.05$ ; \*\*\*  $p \leq 0.01$

Note 1: for each variable, the top value is the beta coefficient; the bottom value is the t-statistic

Note 2: the data is trimmed at the 1<sup>st</sup> and 99<sup>th</sup> percentile, resulting in 234 data observations being included

Note 3: CEO tenure, firm age, and firm size are logarithmic variables

To test the results of the regression models, a contingency table was created (table 19). The included categorical variables are founder status (founder/non-founder) and 3-MAR (above/below the mean of 14.6%).

**Table 19: Contingency table – 3-MAR**

	Founder	Non-founder	Total
3-MAR < 14.6%	39	93	132
3-MAR > 14.6%	33	69	102
<b>Total</b>	<b>72</b>	<b>162</b>	<b>234</b>

The contingency table illustrates that 45.8% of the IPOs led by founder CEOs delivered an IPO performance above the mean, whereas 42.6% is true for non-founder CEO-led firms. Given that no strong trend is identified between founder CEO status and 3-MAR, the contingency table supports the regression results.

### 5.2.3. Robustness test

Multiple checks were executed to test the models' robustness and the estimated regression coefficients. Note that the below-listed adjustments were implemented in the data prior to any statistical tests being conducted and are also reflected in the presentation of the descriptive statistics. Following the Gauss-Markov assumptions, articulated in section 4.2., the data needs to be i) linear, ii) drawn from a random sample, iii) exhibit no sign of multicollinearity, iv) exogenous, v) homoscedastic, and vi) normally distributed. Consequently, the following have been examined or tested for:

- i) Population linearity has been controlled for by plotting the variables against the dependent variables, and the variables that appeared not to be linear have been logarithmised.
- ii) Since all the IPOs in Sweden from 2011 to 2021 were initially included in the sample data and only removed if vital transaction data was missing, it can be argued and further assumed that the population sample was random. However, there is a possibility that a pattern exists among the data removed, which could lead to the population sample not being completely random and thus affecting the statistical inference.
- iii) The possibility of multicollinearity was examined in the Pearson's correlation matrix in section 5.1.4., which did not indicate a problem with multicollinearity. To support the findings of the correlation matrix, the Variance Inflation Factor (VIF) test was conducted. The highest VIF-score was 2.0, which is below the generally assumed cut-off value of 10, and no variables were removed. The mean VIF score was 1.4, which confirms the findings in the correlation matrix. Thus, there seems to be no troubling intercorrelation between the control variables.
- iv) The control categories of variables were included to reduce omitted variable bias. By doing this, the standard error becomes less correlated with the dependent variable and allows for the regression model to better present the true effect between founder CEO and the dependent variables. Additionally, fixed effects were used to account for variation within each sector, which decreases the omitted variable bias and endogeneity in the overall model. Many factors are likely to impact IPO performance, making the risk of omitted variable bias high, especially regarding soft factors, which are hard to measure. Finally, the intangible attributes of CEO characteristics create a risk of measurement error. As measurement errors are challenging to identify but common within data capturing soft factors, it is

assumed to be some degree of measurement error within this study's data sample. Finally, potential issues regarding the simultaneity of MAIR and 3-MAR were avoided by not including MAIR as a control variable in the 3-MAR regression model.

- v) Robust errors clustered at industry level were used throughout all the regression models to account for heteroskedasticity and obtain unbiased estimators.
- vi) Non-normality of the residuals was detected by examining histograms, which violates the assumptions of the Gauss-Markov theorem, and hence, the OLS-estimated model might not produce the best linear unbiased estimator. Violations of the Gauss-Markov theorem affect the model's bias and imply that there could be issues regarding reliability and model fit. To account for non-normality, the data was trimmed at the 1<sup>st</sup> and 99<sup>th</sup> percentile.



## 6. Discussion

Based on the upper echelons theory, the principal-agent theory, signalling theory as well as previous findings regarding CEO characteristics' impact on firm and IPO performance (Wang et al., 2016; Zimmerman, 2008), and more specifically, the discoveries about founder CEO and IPO performance (Certo et al., 2001a; Fahlenbrach, 2009), this thesis expected to find a significant and positive association between the presence of a founder CEO and IPO performance.

The impact of founder CEOs on IPO performance was tested using two different measures: initial return and 3-month return. Consequently, two hypotheses were formulated; i) *the presence of a founder CEO is positively associated with IPO initial return*, and ii) *the presence of a founder CEO is positively associated with IPO 3-month return*.

By analysing the descriptive statistics, it was found that non-founder CEOs slightly outperform founder CEOs in terms of both MAIR and 3-MAR. Similarly, Pearson's correlation matrix also implied a negative correlation between founder CEO and the dependent variables, but the correlation was not statistically significant. The results generated by the regressions supported the findings of both the descriptive statistic and the correlation matrix. The estimated coefficients for the independent variable, founder CEO, are negative in all the models (models 1 – 8). However, no significant association was found between founder CEO and MAIR or 3-MAR. Consequently, given the insignificance addressed, no conclusions can be drawn from the correlation matrix or the regression results. The unanimous but insignificant findings in the descriptive statistics, correlation matrix and the regression models were further sanity-checked against contingency tables. The contingency tables failed to discover any trends between founder CEO status and IPO performance, confirming the above-listed findings.

The results obtained from the MAIR regressions contradict the findings of previous research, which has found the relationship between founder CEO and initial return to be positive (Certo et al., 2001a; Nelson, 2003). Comparing the components of the different studies can help determine the potential cause of the opposing findings. Similar to this study, both Certo et al. (2001a) and Nelson (2003) conducted OLS regressions, but the sample sizes used were slightly different than in this thesis<sup>9</sup>. Furthermore, their time horizons differed from the period used in this thesis, and they conducted their studies based on US data. Consequently, the contradicting results could potentially be explained by the differences in the institutional setting as well as the possibility that founder CEOs' impact on IPO performance might have changed over the years. Another viable explanation could be the use of other control variables, potentially impacting the significance level of the variables as the founder CEO variable might absorb the significance of omitted variables.

Similar to the MAIR regressions, the results obtained from the 3-MAR regressions contradict the findings of Fahlenbrach (2009) and Miller et al. (2011), as both studies argue for a positive relationship between founder CEO and long-term stock return. Rather, the results align with Jayaraman et al. (2000) and Gao and Jain (2011), who both

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<sup>9</sup> Certo et al. (2001a) had a sample size of 368 firms, and Nelson (2003) had a sample size of 157 firms

found weak evidence to support a positive relationship between founder CEO and long-term stock performance. Potential reasons for both the opposing and similar results could be study-specific factors such as method, sample size, geographical location, time horizon and included variables. The method and sample size used varied between the previous studies, and all studies were based on US data during a similar period. Consequently, no particular pattern of the study-specific factors was identified that could explain the results. The differences in the included control variables could explain the varying results between the studies. Despite Jayaraman et al. (2000) and Gao and Jain (2011) not finding significant results for founder CEO affecting stock return, they did find, using interaction variables, that founder CEO is positively associated with stock return when the firm is small and young or operating in high technology sectors. These complementing findings cannot be commented on in the context of this study, given that no interaction variables were included. Furthermore, literature regarding long-term stock performance might not be as applicable to 3-month return as assumed in the motivation of hypothesis 2.

By using the previously presented theories, the findings can be interpreted in multiple ways. According to upper echelons theory and the many scholars who have based their studies on the theory (Higgins & Gulati, 2006; Wang et al., 2016; Zimmerman, 2008), CEO characteristics impact firm and IPO performance. However, the theory does not explicitly discuss potential differences in characteristics between a founder and a non-founder. It could be that there are no general differences between founders and non-founders, which would explain the lack of relationship found in this study. Given that personality characteristics often are intangible and difficult to measure, another reason for the low explanatory power of the model and the insignificant results can be due to measurement errors of founder CEOs. This implies that the upper echelons theory might still be applicable to the topic of founder CEOs and IPO performance but that the differences between founders and non-founders need to be measured differently than they were in this study. Regardless of why founder CEOs and IPO performance were found not to be significantly associated, other CEO characteristics, such as CEO age and CEO tenure, as presented in the regression results, appear to be characteristics that impact IPO performance. Consequently, since the regression results show that certain characteristics are significantly correlated to IPO performance, the results do not challenge the findings of the upper echelons theory that CEO characteristics affect performance, however, it might just not be applicable to founder CEOs.

The principal-agent and organisational life cycle theories present two opposing effects of founder CEOs' influence on IPO performance. The motivations for the hypotheses in this study are partly built on the reasoning of the principal-agent theory, which states that founder CEO's interests should be more aligned with the shareholders' interest through the higher equity stake, which reduces agency costs and consequently increases the performance. Given that the results indicated no relationship exists between founder CEOs and IPO performance, it could be argued that the assumed characteristics that founders typically possess are not valued enough to result in an increased IPO performance. However, this line of reasoning is not the only potential explanation for the results. For example, it can be argued that the positive impact of founder CEOs' aligned interest with shareholders, as addressed by the agency theory, is neutralised by the negative characteristics, such as founders lacking the qualities needed to successfully run a public firm, presented by the organisational life cycle theory. In other words, the positive and the negative qualities identified in founders may work as opposing forces, resulting in a neutral effect on IPO performance.

Another potential explanation of the findings is that the signals that the positive characteristics generally assigned to founder CEOs, such as their passion and long-term commitment to the firm, send to the IPO participants are not received in the same way in Sweden as in the US. This discrepancy could stem from a difference in how accustomed the two IPO markets are to founder CEOs, the general attitude towards founders, and their abilities to successfully run a firm. Furthermore, the hypotheses were also based on the concept of founder bias discount, which explains that underpricing is a result of the opposing perceptions underwriters and investors have about founder CEOs. Given that this study's regression results indicated no abnormal initial return, it could be the case that the idea of founder bias discount is not accurate or at least not applicable to Swedish data. Either underwriters might not be as concerned about the proposed implications of a founder CEO as anticipated and not discount the issue, or the first-day investors might not be as optimistic about the founders' abilities, which will negatively impact the initial return.

Regarding the regression results, the adjusted R-squared was below 10% for all the eight models, which signals that the model does not explain movements in IPO performance well. This is no surprise, given that IPO performance largely depends on human behaviour. Intuitively, intangible human behaviour is more complex to predict than physical and tangible objects.

Including more variables and using a larger sample size could increase the adjusted R-squared. However, given that this thesis aims to observe the effect founder CEOs have on IPO performance, the individual p-values of the variables are of higher interest.

While founder CEO is found to not be significantly associated with MAIR or 3-MAR, other variables were. CEO age and CEO tenure were significantly associated with both dependent variables in all the eight models. This implies that a shift in CEO age or CEO tenure, keeping all other variables constant, is correlated with shifts in MAIR and 3-MAR. The coefficient of the variable CEO age is interpreted as the older the CEO, the lower the IPO performance, and thus, the results support the findings of Gao and Jain (2011). In line with Fahlenbrach's (2009) findings, the results indicate that the longer the CEO's tenure, the higher the IPO performance. The results further indicate that L/A has a negative relationship with MAIR, which confirms the presented evidence by Begley (1995) and He (2008), and that lastly, ROA has a positive association with MAIR, consequently confirming the findings of James and Wier (1990) and Habib and Ljungqvist (2001).

## 6.1. Theoretical contribution

This study contributes to the existing literature in several ways. Firstly, the literature examining founder CEOs and IPO performance based their findings on data ranging from the late 1980s to the early 2000s. Thus, the increased activity in the IPO market during the last ten years, as well as more recent macroeconomic events, such as the COVID-19 pandemic, are not captured in previous literature. Consequently, this study contributes to the field of research by filling the gap in sample periods by examining more current data.

Secondly, previous research regarding founder CEOs and the impact on IPO performance is primarily conducted on US data. Following the reasoning of Moore et al. (2010) and

institutional theory, the country in which the firm is listed will have a significant effect on the IPO performance. Thus, conclusions regarding Swedish IPOs cannot be drawn from the findings of US-based studies. Consequently, this study contributes to an understanding of founder CEOs' impact on firms' IPO performance in the Swedish market.

Thirdly, founder CEOs' effect on IPO performance was previously measured as either underpricing or long-term stock return. Consequently, this study contributes to the field of research by examining IPO performance in terms of 3-month return, which has not previously been investigated.

Not only does this study contribute to the subject of founder CEOs and IPO performance by studying the relationship in a new setting in terms of the sample period, geographic location, and return period, but the findings also contradict most of the previous research in the field, highlighting the need for additional studies on the subject.

## 6.2. Limitations and future research

While this study was thoroughly conducted, using an arguably normal sample size, including many different types of control variables, and using multiple statistical tests to analyse the data, potential limitations exist.

Even though the sample size was normal compared to other studies on the subject, one of the potential limitations is the data sample. The sample size could have been larger if an extended period or additional countries had been included, which could have improved the accuracy of the model and the randomness of the data. However, this was decided against given that the thesis aimed to study the impact of founder CEOs in a setting as current as possible and, to the greatest extent possible, avoid the inclusion of past macroeconomic trends. Another way to enlarge the sample size could have been to study IPOs in a Nordic context. However, given the reasoning behind the institutional theory, IPO performance determinants can differ between the Nordic countries as well. Therefore, it was decided to focus on one single country. Although the sample size could have been increased, the data gathered was larger than the one used by Nelson (2003) and smaller than the sample used in Certo et al. (2001a), which speaks in favour of a sufficiently large sample size being used.

Another limitation of this study is that variables that might affect IPO performance were omitted. Including these in the model could have improved both the explanatory power of the overall model and positively impacted the significance of the founder CEO variable. However, the number of control variables included in this study is similar to those used in previous studies. Moreover, this study's selection of control variables was based on the control variables most regularly observed in previous literature.

Moreover, the insignificant results presented in this study regarding the impact of founder CEOs could, as previously mentioned, be due to endogeneity in the form of measurement error of correctly capturing the impact of founder CEOs in the variable. While this study and previous studies used a dummy variable to measure founder CEO status, it might be possible to measure the underlying forces of founder CEOs differently to see if that reduces any potential measurement errors.

Given the above-stated limitations, additional research could be conducted on a larger sample that includes more variables. Some previous studies did not find a significant relationship between founder CEOs and IPO performance, but a significant relationship could be detected when they included interaction variables, such as age, size, and technology industry. Using an interaction variable could show if the impact of founder CEOs on IPO performance varies within different settings. Thus, further studies could complement the findings of this thesis by including interaction variables between founder CEO and the control variables, which were found to have a significant effect. Potentially, it could be found that founder CEOs do have an impact when interacting with another variable.

## 7. Conclusion

This thesis aimed to study the relationship between founder CEOs, using a sample of 259 Swedish IPOs between 2011 to 2021. Hypothesis 1 was mainly based on the generally positive characteristics observed in founder CEOs, the principal-agent theory and the signalling theory. Further, hypothesis 2 was based on the upper echelons theory, the impact of founder CEO's characteristics on firm performance, and the principal-agent theory. The return metrics chosen to examine IPO performance were initial return and 3-month return. These metrics provide insights into the potential impact a founder CEO has on an IPO during the first day and a few months later when the influence of underwriters, through the greenshoe, has disappeared. Previous studies found a positive relationship between initial return and founder CEOs, but the findings regarding long-term stock return were inconsistent. Further, no Swedish study on the subject has been conducted. To investigate the connection between founder CEOs and IPO performance in a Swedish setting, multiple OLS regressions were performed.

This study presents weak evidence of founder CEOs being associated with IPO performance as none of the regressions found a significant relationship between founder CEO and initial return or 3-month return. The regression results align with the lack of correlation and trend identified in the descriptive statistics, correlation matrix, and contingency tables. As no relationship is found, it could be that the founders' positive qualities, partly identified by principal-agent theory, are neutralised by the negative qualities, discussed by organisational life cycle theory, which consequently result in a neutral effect on IPO performance. The lack of significance could also be due to reasons connected to methodologies, such as sample size or the included control variables. However, despite no significant relationship being identified between founder CEOs and IPO performance, the results present evidence that other CEO characteristics, more specifically CEO age and CEO tenure, are indeed significantly associated with IPO performance, both in terms of initial and 3-month return. Additionally, two variables of firm characteristics, ROA and L/A, are significantly related to initial return. Consequently, the results do not challenge the previous findings regarding CEO characteristics affecting IPO performance, however, founder CEO might not be one of those characteristics.

This study contributes to the existing literature by applying previous studies and theories to a new geographic setting. As most of the studies were conducted between the early 1990s and the early 2000s, this study additionally contributes by studying the topic using more current data. Finally, no scholars have previously examined founder CEO status in relation to 3-month return. As this thesis contradicts most of the past findings, new knowledge that can be further investigated has been discovered.

To conclude, while the results indicate that founder CEOs do not impact IPO performance, this study finds that CEO characteristics and firm performance are significantly associated with IPO performance.

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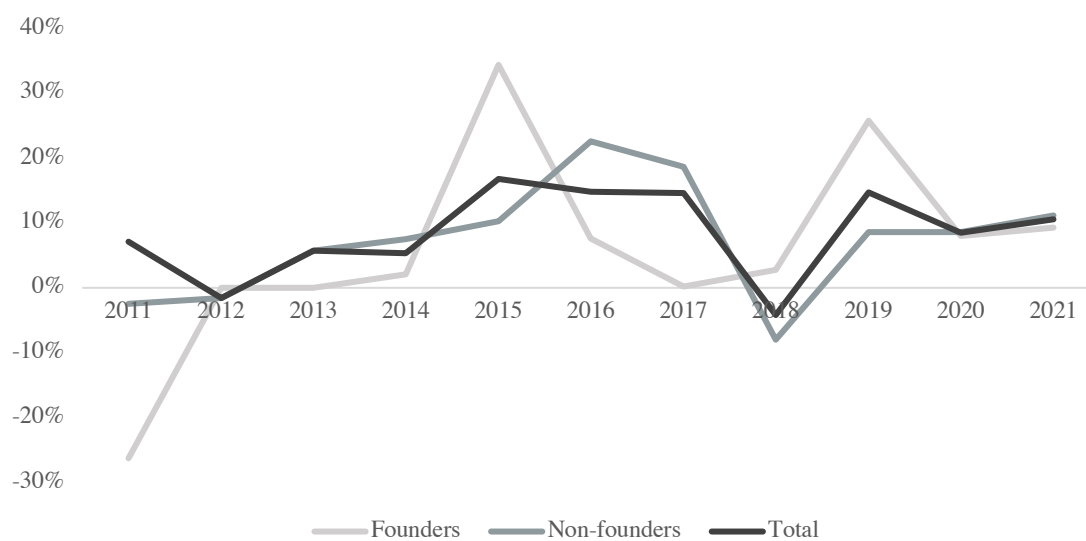
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## 9. Appendix

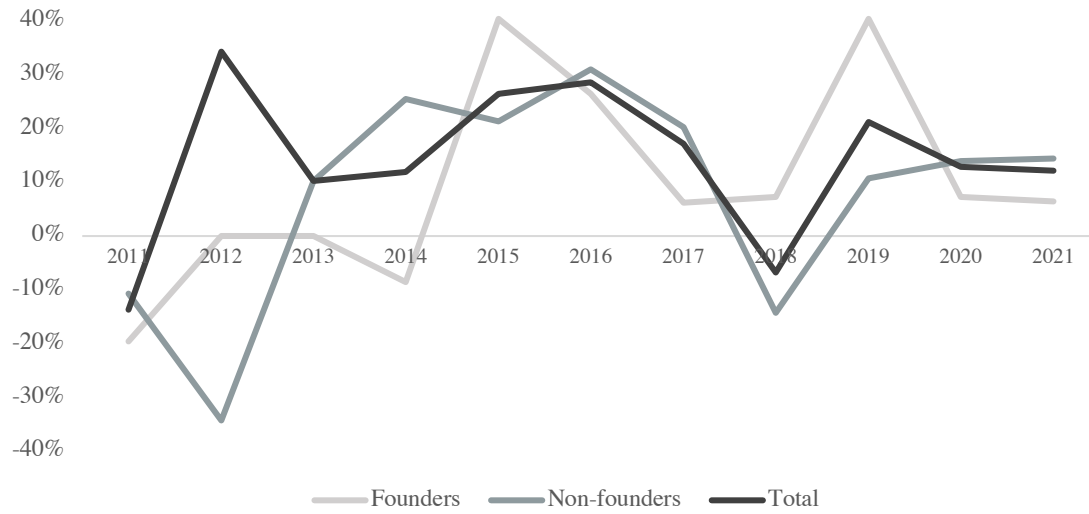
### Appendix 1 - Summary of total number of IPOs in Sweden during 2011-2021

Year	# of IPOs	Market
2011	18	Cold
2012	8	Cold
2013	12	Cold
2014	58	Hot
2015	71	Hot
2016	68	Hot
2017	92	Hot
2018	43	Cold
2019	29	Cold
2020	37	Cold
2021	138	Hot
<i>Total</i>	<i>574</i>	

### Appendix 2 - Average market adjusted initial return per year



### Appendix 3 – Average 3-month market adjusted return per year



### Appendix 4 – Variance Inflation Factor (VIF)

Variable	VIF	1/VIF
Firm size*	2.03	0.49
Underwriter	1.80	0.56
Firm age*	1.66	0.60
CEO founder	1.59	0.63
CEO duality	1.32	0.76
CEO tenure*	1.31	0.77
ROA	1.24	0.81
CEO age	1.14	0.87
L/A	1.11	0.91
Issue market	1.05	0.95
CEO gender	1.04	0.96
CEO education	1.03	0.97
<i>Mean VIF</i>	<i>1.36</i>	

\* Logarithmic variables