



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Financial Economics

Do they buy it?

-A Study on the effects of investment banking experience of
CEOs on M&A

Bachelor Thesis 15hp

Jesper Frisell

Gustaf Lewerth

Supervisor

Savvas Papadopoulos

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Frisell Jesper, Lewerth Gustaf

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Abstract

An increasingly popular tool for firms seeking growth, is to merge with or acquire other firms. So popular that an entire industry of advisers has evolved to provide guidance in the mergers and acquisitions (M&A) process. The most prominent are investment banks (IB). However, an overwhelming amount of research have shown that the M&A that firms choose to pursue on average destroy value. It is therefore in the interest of both investors and management boards to know whether chief executive officers CEOs with IB experience will do more or better M&A when hiring. To examine the effect of IB experience, a model is developed and estimated on a sample of Swedish and Norwegian large cap firms. From these estimations, we find that the odds of a firm with a CEO who has IB experience doing M&A is 46% lower than if the CEO doesn't have IB-experience. However, no conclusions could be drawn on the effects on the quality of the M&A they pursue.

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Abbreviations

M&A	Mergers and Acquisitions
CEO	Chief Executive Officer
IB	Investment Banking
UET	Upper Echelons Theory
SFE	Synergies Forecast Error
OLS	Ordinary Least Square
MCAR	Missing Completely at Random
MAR	Missing at Random
NMAR	Not Missing at Random

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1

Background

Mergers and acquisitions (M&A) have increased over the last decade. It is an important strategic tool for firms in their organisational development and pursuit of competitiveness [1] [2]. The increase occurs despite the fact that an overwhelming majority of studies show that M&A activity on average destroy value for the acquiring company [3] [4] [5] [6].

Using various different performance measures, studies have shown that between 50%-90% of M&As end in failure [7] [8]. A highly relevant and debated topic therefore, is why firms pursue M&A in the first place. One paper suggests that some M&A may be motivated by non-financial motives such as to manage technological or environmental uncertainties or decrease organisational vulnerability [5]. Another paper states that it is an effective way to enter new markets, improve competitiveness, introduce new brands, spread risk and achieve economies of scale [8].

Research has not only been done about *why* someone engages, but also *who* engages in M&A activity. All public companies have a board of directors elected by the shareholders. The board sets the broad strategy and goals for the company, supports the management and typically plays a supervisory and/or advisory role. It also appoints a suitable chief executive officer (CEO) to execute this strategy and reach these goals. The CEO is the top-ranked employee and the highest operational decision-maker. He also helps the board with shaping the strategy. Ultimately it is the CEO who is responsible for the success or failure of the firm. When it comes to M&A the CEO plays a crucial role and perform a wide range of tasks. These tasks include managing risks, selecting a team to aid in the M&A process and instructing the team of the purpose of the deal so that they can perform

their due diligence and negotiate. Another task for the CEO is to create and maintain a firm culture that enables the firms to merge without friction. While M&A is ultimately a team effort, it is the CEO who designs the M&A process in order to achieve its goal [9].

Because of the important role of the CEO in M&A activities, various empirical studies have examined the relationship between CEO characteristics and M&A. One of the early works in this area was made in 1996 which investigated the influence of top executives on organisations. The researchers argue that there is a relationship between the background of CEOs and the decisions they make [10]. Later studies have examined different aspects of a CEO's background and its impact on M&A. For instance, one study found that younger CEOs are more likely to engage in M&A activity [11]. Another discovered that CEOs coming from lower social classes are more likely to engage in risky projects, suggesting that they may engage in riskier M&A [12]. Extensive research has also found that M&A generally end in failure because of CEOs being overconfident [6][13][14] [15] [16]. This result is in line with the hubris hypothesis which states that CEO overconfidence and managerial hubris causes excessive bid premiums [17]. Research of the cause of overconfidence show that previous investor experience lead to overconfidence in investments [18].

Previous empirical work has studied what impact on M&A many aspects of managers and board members previous experience have. However, when it comes to the impact of IB experience, only a limited amount of research has been conducted and none that focuses exclusively on the CEO. Two papers have studied the effect of IB experience on board members on a firm's M&A. The earliest paper published in 2008 concluded that board members with IB experience contributed to firms making worse acquisitions. The more recent study published in 2014, however, found that firms with board members with IB background tend to make more successful acquisitions as well as pursue more of them. The two studies differ in that the first one accounts for concurrent employment of board members, causing potential conflicts of interest. These two studies provides some empirical framework, however, they both focus on board members rather than the CEO [19] [20].

1.1 Aim of the Study & Research Question

The aim of this study is to contribute to the existing literature on M&A which include among others [6] - [2], by building on the knowledge of *who* makes M&A and does it successfully. Specifically, it aims to examine what effect the executor of the M&A's past experience has on the M&A process. The effects of the actor who executes firm strategy, the CEO, has not been extensively studied, unlike the effects of the board who sets firm strategy.

Establishing if CEOs with previous experience in IB has any effect on the M&A activity of a firm, would be of use to both boards and investors. Boards will be able to better pick a suitable CEO to execute the strategy efficiently and run the operations competently, but also the market's view of how credible the firm's strategy is, due to the selection of a CEO to execute it. Investors on the other hand will obtain greater insight into future firm behaviour and how results will be affected by the choice of executives. Therefore, this paper aims to answer the following two questions:

- Does the CEO having IB experience affect the quantity of a firm's M&A?
- Does the CEO having IB experience affect the quality of a firm's M&A?

1.1. Aim of the Study & Research Question

2

Theoretical Framework

This study takes its footing in the upper echelon theory (UET) as it studies the impact of the top-ranked employee in the corporate hierarchy, namely the CEO. It also touches the areas of behavioural finance when looking at elements of CEO characteristics to explain their behaviours. An important concept from behavioural finance is the hubris hypothesis. Concepts from corporate governance are also highly relevant and are therefore included in the theoretical framework for this thesis.

2.1 Previous Research

As mentioned in section 1, two studies have been conducted regarding the impact of IB experience of board members on the M&A activity of firms. The first study was conducted on US firms during 1988-2001. It concluded that boards with IB experience contribute to worse M&A outcomes. The authors of the study attribute this negative effect to conflicts of interest causing board members not to act in the interest of shareholders. If a board member has a concurrent position at a financial institution, the interest of that institution may be pursued over that of shareholders. When there are no conflicts of interest, the authors found little evidence of IB experience having any effect at all. No test was made to measure the effect of IB experience on quantity of M&A [19].

The second paper studied US firms during 1998-2008. It differs from the earlier study in that the sample is newer, larger and that cases with potential conflicts of interest are excluded. The authors found that board members with IB experience caused the firm to make more and better M&A, meaning an increase in both quantity and quality. This

suggests to the authors of the study that board members with IB experience contribute to better identification and valuation of targets as well as reduced requirements for outside M&A advisory service or obtaining lower advisory fees, or both [20].

2.2 Upper Echelon Theory

The upper echelon theory (UET) forms the basic theoretical framework for the studies described in 2.1 as well as for this thesis. The theory emphasises the role of the "upper echelons" of an organisation. Particularly, it argues that organisational outcomes largely reflect the characteristics of the most influential people within that organisation. These characteristics can be either psychological, such as cognitive base and values, or observable, such as age, education and previous career experience. These characteristics "*partially shape the lenses through which they view current strategic opportunities and problems*" [21, p.200]. This limits the field of vision for executives and defines their perception of reality. When information has gotten through these filtration processes, it's interpreted into the managers perception of reality, which ultimately encompasses all the strategic choices they can imagine. Their choice are ultimately affected by the same values that shaped their field of vision. This process is visualised in fig 2.2.1 [21].

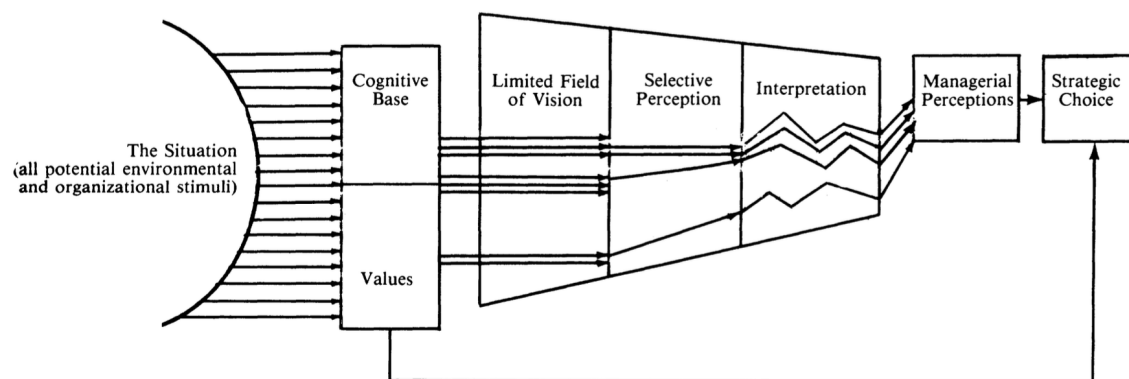


Figure 2.2.1: Strategic Choice Under Conditions of Bounded Rationality, from p.195 of [21]

As the UET is widely used, critique of it has emerged [22]. Some of this critique centres on the employment of the cognitive black box as the linkage between distant observations of firm behaviour and executives characteristics. The critics focus on the inadequate

exploration by studies utilising the UET of the underlying mechanisms that forms the relation between executives characteristics and firm behaviour. It has been proposed that to deal with this shortcoming of the UET, researchers should integrate their hypotheses with concepts from other lines of research [22].

2.3 Behavioural Finance

This thesis also touches on the theory of behavioural finance, which is a theory that combines principles from psychology and economics to understand how individuals make financial decisions. For instance, if there is a negative correlation between age and risk-taking that may partly be explained by the fact that younger people display different behavioural traits and biases such as overconfidence [23]. In the same way a CEO with IB background may exhibit different traits than one without such experience, which affects their decisions regarding M&A. Another relevant concept from behavioural theory is “big bath” which refers to a company manipulating its financial statements to make it look worse, in order to improve on it the coming years [24]. A CEO may be incentivised to do so to be able to shift blame for a bad result to the previous CEO or some uncontrollable external factor and take the credit for future years improvements [25].

2.4 Hubris Hypothesis

One area of behavioural finance that is important enough to warrant its own section is the hubris hypothesis. An overwhelming amount of research has been made on the impact of CEO hubris on M&A. One study found that CEO overconfidence increases M&A activity while worsening its average quality [26]. Another found that larger synergies forecast error (SFE) (as measured by the difference of forecasted versus realised synergy effects) can be used to predict CEO overconfidence [14]. A third study focused on the relation between CEO hubris and goodwill. It concluded that a hubristic tone of the CEO in communications is positively correlated with realised goodwill, meaning larger acquisition premiums. The study also found that subsequent goodwill impairments are more likely and less timely. When a CEO who displayed a hubristic tone was replaced, an

increased amount of goodwill impairments was observed in the following year, suggesting an unwillingness by the hubristic CEO to recognise an impairment loss. These findings are in line with the hubris hypothesis [27].

The hubris hypothesis seeks to explain the phenomenon that firms seem on average to pay too much for their targets. Assuming strong-form efficiency in that prices are reflective of all information about the company, any bid placed above this value should represent a positive valuation error by the bidder. The hypothesis argues that empirical evidence supports the notion of hubris of decision makers as an explanation for excessive premiums, just as much as it supports other explanations such as synergy, taxes and inefficient management of the target company. It predicts that on average, the value of the bidder should decrease and the value of the target should increase as hubris causes too large premiums to be paid during acquisitions [17]. As mentioned in the background, studies have identified experience as a cause of overconfidence. One paper showed that private investors with experience in investing display more overconfidence than inexperienced ones [18].

While overconfidence in itself affect M&A negatively, studies also show that M&A experience contribute to better M&A performance [28]. Experience therefore have two opposing effects it has been shown to cause overconfidence which is linked to worse M&A, and also that it has a learning effect which contributes to making better M&A. One paper which was presented at the European Financial Management Association (EFMA) annual meeting 2017 in Athens, (which the authors since then haven't taken further nor published elsewhere) examines the effects of these two opposing forces. The conclusion drawn is that the positive effects of learning through experience outweighs the negative effects of managerial hubris in the long run. These findings were confirmed for EU countries [29].

2.5 Corporate Governance

Corporate governance concerns the structure of rules, practices and processes in a firm that is used to oversee and conduct its operations. The purpose of this structural framework is to safeguard things like transparency, responsibility and accountability within the organisation. The main feature of corporate governance is the inclusion of a board of

directors, elected by shareholders to represent their interests [30] [31]. A main responsibility of the board is to set the general direction and goals of the firm; its strategy. It also appoints a CEO who is selected to operate in accordance with these goals, to execute the strategy of the board. The board will typically serve both an advisory and supervisory function in order to minimise entrenchment and ensure that the CEO acts in the interest of the shareholders, and replace him if he doesn't [30] [32]. As the highest ranking operational decision maker, the CEO has a wide range of duties. One key responsibility concerns the operational performance and execution of the strategy in order to achieve the firm's goals. The CEO is also (In both Sweden and Norway) jointly with the board responsible for the actions of the firm. This can be seen in the regulation of association of companies, where the person who is legally responsible for the actions of a firm with limited liability is the CEO [31] [33].

As the executor of the firm's strategy, the CEO is highly influential. He can decide that the strategy set out by the board is not in the interest of the firm and passively disagreeing with the strategy not execute it. He can also actively disagree with it, and try to change it by influencing the board [32]. But this creates a risk of being replaced. The board can not, however, execute its strategy without having a cooperative CEO, and replacing one who is not performing poorly is damaging for its reputation [30]. A firm can therefore not engage in M&A activity if the CEO disapproves of it even if the strategy that the board has set out involves M&A. As previously described by the UET, a CEO who has characteristics that makes him inclined to conduct M&A will affect the M&A decisions of the firm, since his field of vision will be altered, leading him to a different managerial perception, where he may choose to actively or passively affect the strategic choices of the firm.

2.6 Hypothesis Development

Out of the two previous studies of board members with IB experience, only the most recent one discussed the effect on M&A quantity. It concluded that M&A activity increases when board members have IB experience, arguing that they inform the board about current M&A opportunities. When it comes to CEOs, we do not expect to see a similar effect

2.6. Hypothesis Development

from IB experience. As was discussed in section 2.4, the learning effect of experience weighs against the effect of hubris, and current research indicate that the learning force prevails, at least in the long run. We therefore predict that CEOs with IB experience do not engage in reckless behaviour, but rather adopt a more careful approach than inexperienced ones. Consequently, our prediction is that the IB experience of CEOs has a negative effect on the quantity of the firm's M&A.

H_{11} : IB experience of the CEO decreases the quantity of the firm's M&A.

Regarding the effects IB experience has on M&A quality, previous studies on board members have reached different conclusions. The earlier study discussed in section 2.1 observed a negative effect on M&A quality and attributed it to conflicts of interest when the board member had concurrent positions at a financial institution [19]. As we are studying CEOs who are ultimately responsible for their companies rather than studying board members, it is unlikely that other firms' interests would be put above the interests of shareholders of their own firm. The later study found a positive correlation which it attributed to better target selection, lower outside M&A requirement and lower advisory fees [20]. We believe these are plausible effects also for a CEO. Lower SFE stemming from experience may improve target selection and thereby quality. This is weighed against potential hubris which has been linked to more goodwill impairments and worse acquisitions [34]. Our conjecture is in line with the later study as well as recent research on the trade-off between the learning aspect of experience weighing against effects of hubris that arises from it finding that the effect of learning is stronger in the long-run. We therefore predict the quality of M&A to improve if the CEO has IB experience.

H_{12} : IB experience of a CEO increases the quality of the firm's M&A.

3

Method

To test the hypotheses proposed in section 2.6 a quantitative study on Swedish and Norwegian companies traded on the large-cap Stockholm and Oslo exchanges during the period 2010 to 2020 is conducted. This period was chosen as it is the latest decade where financial data is available and complete. The limitation of only observing large-caps was made to ensure availability and quality of data as well as to remove the effects of difference in risk and return expectation by investors from large-cap compared to small-cap listed companies. For consistency, sample values are translated to millions of US dollars (mUSD) according to the historical exchange rates used in BoardEx and S&P Capital IQ.

In order to test the hypotheses developed in section 2.6, Ordinary Least Square (OLS) regressions are conducted on numerical dependent variables and logit regressions are performed on categorical variables. OLS regressions are utilised as it will lead to the best fitted model whose coefficients carry a direct linear economic and statistical meaning. Using OLS-regressions limits the data selection to data where the fundamental assumptions of the OLS-regressions hold. The data sample must be random. Our sample is not random and heteroscedasticity is assumed since observations will be two-way clustered, being a collection of a time series spanning 11-years from the same firm. Therefore cluster-robust inference is implied and standard errors are both robust and clustered. The model must also be describable on a functional form, be exogenous and have full rank. Logit regressions are used as it's a commonly used model in econometrics as a proxy for OLS regression when the dependent variable is binary or categorical. However, the regressors' coefficients don't have an easy and intuitive economic meaning as they are in log-likelihood form. Therefore odds-ratio tables are included to enable interpretation of

the results. The programming language **R** is used to estimate the regressions, with the **feols** and **feglm** from the **fixest** package used for OLS and logit respectively [35] [36] [37]. To enable the analysis of the predictive powers of the models, McFadden R^2 are included with logit regressions [38].

A model is developed and regressed with three different dependent variables, two measuring quantity and one measuring quality of M&A, as described in section 3.1. To study M&A quality, goodwill impairments are used as the dependent variable. Impairments are tested with a lag to see if the effect of impairments is delayed. A discussion on using impairments as a measure of M&A quality is found in section 3.3. All regressions contain various CEO-specific and firm-specific control variables, which are discussed in section 3.2.

With ethical considerations in mind and to preserve the integrity of the firms and individuals being studied, only public disclosures are used. No findings are traceable to individual officers or their past actions. The authors have no personal incentives or vested interest in the results of this study, nor do they have any exposure to the study objects.

3.1 Model Specification

In these models *Male*, *Age*, *CEO_network_size* and *Tenure* are CEO specific variables, discussed in 3.2.1. *Firm_assets*, *Firm_Turnover*, *Global_Firm*, *Market_to_book*, *Leverage*, *Price_to_earnings* and *Prior_Acquisition* are used as firm-specific control variables discussed in 3.2.2 and ϵ is the error term. Definitions of these variables and their labels in other tables are available in table 3.1.1.

$$\begin{aligned} Y_{M\&A} = & \beta_{1B}IB_background + \beta_1Male + \beta_2Age + \beta_3CEO_network\ size \\ & + \beta_4Total_New_Awards + \beta_5Tenure + \beta_6Firm_assets + \beta_7Firm_Turnover \\ & + \beta_8Global_Firm + \beta_9Market_to_book + \beta_{10}Leverage + \beta_{11}Cash \\ & + \beta_{11}Price_to_earnings + \beta_{12}Prior_Acquisition + \epsilon \end{aligned}$$

$Y_{M\&A}$ denotes the dependent variable for quantity or quality of M&A.

Two different dependent variables are used to measure different aspects of M&A quantity, namely M&A and M&A volume. Previous studies have used M&A propensity as a metric of quantity, arguing that including any M&A as a part of strategy means that the firm spends resources on it [20]. Propensity is measured by the dummy variable *M&A* as the dependent variable, which takes the value of 1 if any M&A transaction occurred during the year. The other metric is *M&A_Volume*, which measures the quantity of money the firm spends on M&A during the fiscal year. More money spent on M&A indicate that it's a larger part of the firms strategy. As the available data quality is poor this measure may however be misleading. Further discussion of this is given in section 5.4.

3.2 Control Variables

The two studies discussed in 2.1 have different sets of control variables. This paper aims to improve on these by including insights from various other papers that show how firm behaviour can be influenced by different factors relating to the CEO or the firm. Their findings have then been used to select the control variables for this study.

3.2.1 CEO-specific Control Variables

In order to determine which CEO-specific control variables to include, previous studies of the link between the behaviour of firms and specific CEO traits are used. For instance, *Male* is included as a dummy variable since research have shown that female CEOs are more risk-averse and associated with a more conservative use of cash [39]. We therefore predict variable *Male* to have a positive effect on quantity and negative on quality. Age is also included since a study found younger CEOs to be more likely to pursue acquisitions because they have more time to reap the rewards [11]. Our prediction is therefore that age has a negative effect on quantity and positive effect on quality. Another study found that CEOs with larger social networks are more prone to perform acquisitions, and that these acquisitions are more likely to end in failure [40]. Consequently the expected impact of the variable *CEO_network_size* is positive for quantity and negative for quality. Research of compensation policies following M&A found that a CEO may be incentivised to pursue acquisitions if it comes with a lot of grants or awards such as options and restricted

3.2. Control Variables

Table 3.1.1: Variable Definitions

Variable	Variable Label	Definition [Source]
Firm	Firm Name	Name of the firm [S&P]
Year	Year	Numerical, current year t.
CEO_Birth_year	CEO Birth Year	Numerical, year of birth of the CEO. [BoardEx]
IB_background	IB Background	Dummy variable equals 1 if the CEO has previous experience as an employee of an investment bank. [BoardEx]
Male	Male	Dummy variable, equals 1 if the CEO is a male. [BoardEx]
Age	Age	Numerical, approximate age of the CEO during the firm-year. Calculated as (Year – CEO_Birth_year).[BoardEx]
CEO_network_size	CEO Network Size	Numerical, size of social network of the CEO [BoardEx]
Total_New_Awards	Total New Awards	Numerical, total annual non-cash compensation awarded to the CEO in year t. Measured in USD millions. [S&P]
Tenure	Tenure	Number of years the CEO has worked at the firm before year t. [BoardEx]
Firm_assets	Firm Assets	Numerical, total assets of the firm. Measured in USD millions. [S&P]
Firm_Turnover	Firm Turnover	Numerical, turnover of the firm in year t. Measured in USD millions.[S&P]
Global_Firm	Global Firm	Dummy variable equals 1 if the firm has global operations.[S&P]
MA_Volume	M&A Volume	Numerical, quantity of M&A undertaken by the firm during firm-year t. Measured in USD millions. [S&P]
MA	M&A	Dummy variable equals 1 if any M&A was undertaken during firm-year t. [S&P]
Market_to_book (M/B)	Market-to-Book	Numerical, calculated as $\frac{\text{Total assets} - \text{Book equity} + \text{Market value of equity}}{\text{Total assets}}$. [S&P]
Leverage	Leverage	Numerical, calculated as $\frac{\text{Long-term Debt} + \text{Debt in current liabilities}}{\text{Total assets}}$. [S&P]
Cash	Cash	Numerical, cash and cash equivalent holdings of the firm. Measured in USD millions.[S&P]
Price_to_earnings (P/E)	Price-To-Earning	Numerical, $\frac{\text{Stock Price}}{\text{Earnings per share}}$ at the end of each fiscal year. Measured in USD millions. [S&P]
Prior_Acquisition	Prior Acquisitions dummy	Dummy variable equals 1 if the firm has made any acquisitions after year t-4. [S&P]
Impairments.T	Impairments dummy	Dummy variable equals 1 if the firm has made any impairments in year t. [S&P]
Impairments.T1	$Impairments_{t+1}$	Dummy variable equals 1 if the firm has made any impairments in year t+1. [S&P]
Impairments.T2	$Impairments_{t+2}$	Dummy variable equals 1 if the firm has made any impairments in year t+2. [S&P]
Industry	Industry	Factor, categorisation of the firm's operations into one of 13 industries, labelled as Health Care, Industrial Goods, Consumer Goods, Metal & Mining, Real Estate, Forestry products, Construction, Materials, Communications, Technology, Shipping, Financial Services and Energy. [S&P]

stock [41]. In line with this, the expectation for the variable *Total New Awards* is a positive effect on quantity and negative on quality. *Tenure* is the final CEO-specific control variable. Longer tenured CEOs have been found to engage in more M&A activity when the target is private and make better acquisitions because they have stronger incentives as

they receive higher compensation for better acquisitions than shorter tenured ones [42]. The predicted sign for this variable is therefore positive for both quantity and quality.

3.2.2 Firm-specific Control Variables

It is not only CEO characteristics that dictates how the CEO will act, but also the condition of the firm which is important to control for. In line with previous studies, we control for firm size, market-to-book ratio, leverage, cash holdings, price-to-earnings and prior acquisitions [20] [19]. For quantity of M&A the expected effect is positive for variables *Firm_assets*, *Firm_Turnover*, *Market_to_book*, *Cash*, *Price_to_earnings* and *Prior_Acquisitions*. A negative effect is expected for variable *Leverage*. When it comes to quality we forecast a positive impact for variables *Firm_Turnover* and *Leverage*. Negative effects are expected for variables *Assets*, *Cash* and *Prior_Acquisitions*. These predictions are consistent with the effects that were found in previous studies [19] [20]. The effects in previous studies of the variables *Market_to_book* and *Price_to_earnings* are either missing or inconclusive when measuring quality and the predictions for these are therefore neutral. Further studies have been made on the effect of firm size. One such study found that when the bidder is smaller relative to the target company, higher average returns from the mergers are observed [43]. Another paper found evidence of a size effect where small firms fare better when announcing an acquisition, with no evidence of this effect reversing over time [44]. Cash is another variable that has been researched extensively. One study found that higher cash reserves are associated with more and worse acquisitions [45]. This finding is consistent with previous studies mentioned above. Research has also found that the success rate in M&A decreases with geographical distance, and that firms are more likely to acquire targets that are more proximate. Measuring the exact distance is infeasible and the dummy variable *Global_Firm* is used as a proxy [34]. A positive effect on both quantity and quality is therefore expected from having global operations.

The model is sensitive with respect to time as well as industry fixed effects.

3.3 Goodwill Impairments as a Measure of M&A Quality

Goodwill is a hypothetical asset that is created when one firm acquires another and is the difference between the price of the M&A and the accounted assets of the target company. Impairments of goodwill are made when goodwill is considered to have lost value. This loss can be caused by multiple different factors. For instance, the firm may have overvalued the assets of the target, undervalued its liabilities or misjudged the synergy effects. Every reason for impairments is therefore an indicator of poorly executed M&A. The size of the impairments will also quantify how poor the deal was, where larger impairments indicates worse M&A [46].

One drawback of using goodwill impairments as a measure of unsuccessful M&A is the potential subjectivity involved. It has been shown that CEOs who make large impairments are more prone to be involuntarily replaced, indicating that impairments are viewed as a measure of poor performance of a CEO by the board [47]. It's also been shown that CEOs delay impairments for this reason [46]. Because firms may choose when to impair goodwill it's impossible to predict future impairments based on financial disclosures. When looking at economical impairments, they occur on average three to four years ahead of the disclosed ones, indicating that managers choose to delay impairments, as has been discussed previously [48]. The question may then be raised whether impairments really do provide a good measure of M&A quality, or whether subjectivity and incentives of the CEO distorts the data.

Earlier studies have used several different metrics when studying M&A quality. Some have measured it by observing post-M&A financial performance by looking at various different metrics such as return on assets, turnover and stock performance [49]. Others have used post-M&A financial performance metrics such as return on equity combined with goodwill impairments [50]. Observing financial performance alone to measure M&A quality can be questioned, since the measure will be disturbed by other factors, as opposed to goodwill impairments which measure M&A deal failure in isolation [46]. A meta study provides insight into the limitations of financial reporting when assessing the quality of M&A activity. It found that accounting based principles usually indicate that

mergers create economic value, whilst stock returns tells the opposite; that mergers destroy economic value [27].

The two ways of measuring M&A quality introduced above both have flaws. When measuring financial performance, the effects of other factors are measured jointly and affects the data. Measuring impairments comes with other limitations, such as impairments only being able to measure negative results i.e poor M&A, since only negative outcomes can result in impairments. The measure is also subjective as to when and how it is disclosed by the firm. Even though impairments have these limitations as a metric to evaluate M&A quality, it's the most useful and insightful metric available. Since goodwill impairments are the result of failure in the M&A it is a suitable measure of deal failure and will be used to measure M&A quality in this report. To account for the lag between impairments occurring economically and being disclosed, a lagged variable of impairment is used in the regression for testing the second hypothesis using the model described in section 3.1.

The previous studies discussed in section 2.1 that studied the impact of IB experience of board members on M&A included deal-specific control variables in their models such as if it is an cash/stock deal or a private/public target [19] [20]. Another study have shown that deal characteristics predict the performance of M&A [51]. It has also been shown that when only looking at poor performance, impairments can be predicted by deal characteristics as well [48]. Unfortunately, data on deal characteristics is unavailable for Nordic firms, why deal-specific control variables are not included in our models.

4

Data

Data has been gathered from two databases. The first, which is used to retrieve information about CEOs past employment history and their other characteristics, is BoardEx Europe. The second is S&P Capital IQ which is used to gather financial data on firms.

4.1 Sample Description

The sample consists of 693 firm-year observations on Swedish and Norwegian large-cap companies during 2010-2020. Out of these, 320 firm-years saw at least one acquisition, or roughly 46%. All firms included in the sample were listed on NASDAQ Stockholm or Oslo Børs during the entire time-period. A company is labelled as large-cap if their market value exceeded one billion euro in 2010. If the company declared bankruptcy, was acquired by another company, or was de-listed for any other reason during the sample-period, it was excluded from the sample. This is because the data would otherwise be incomplete and the irrational swings surrounding entering and exiting a large-cap exchange could affect the behaviour this study aims to observe [52] [53]. Tables 4.1.1 and 4.1.2 show the sample composition sorted by industry and year respectively.

Due to our sample being very recent it is not possible to find data for impairments more than two years lagged for the entire data-set. Therefore the regression of the model proposed in 3.1 can only be lagged by up to two years.

4.2 Descriptive Statistics

4.2. Descriptive Statistics

Table 4.1.1: Sample Composition by Industry

Industry	All		IB CEO		Non IB CEO	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Health Care	33	4,76%	0	0,0%	33	5,66%
Industrial Goods	132	19,05%	0	0,0%	132	22,64%
Consumer Goods	55	7,94%	2	1,8%	53	9,09%
Metal & Mining	44	6,35%	0	0,0%	44	7,55%
Real Estate	33	4,76%	1	0,9%	32	5,49%
Forestry products	33	4,76%	0	0,0%	33	5,66%
Construction	22	3,17%	0	0,0%	22	3,77%
Materials	11	1,59%	0	0,0%	11	1,89%
Communications	55	7,94%	18	16,4%	37	6,35%
Technology	22	3,17%	0	0,0%	22	3,77%
Shipping	33	4,76%	0	0,0%	33	5,66%
Financial Services	143	20,63%	68	61,8%	75	12,86%
Energy	77	11,11%	21	19,1%	56	9,61%
Total	693		110		583	

Table 4.1.2: Sample Composition by Year

Year	All		IB CEO		Non IB CEO	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
2010	63	9%	10	9,09%	53	9,09%
2011	63	9%	12	10,91%	51	8,75%
2012	63	9%	12	10,91%	51	8,75%
2013	63	9%	13	11,82%	50	8,58%
2014	63	9%	12	10,91%	51	8,75%
2015	63	9%	10	9,09%	53	9,09%
2016	63	9%	9	8,18%	54	9,26%
2017	63	9%	8	7,27%	55	9,43%
2018	63	9%	8	7,27%	55	9,43%
2019	63	9%	8	7,27%	55	9,43%
2020	63	9%	8	7,27%	55	9,43%
Total	693		110		583	

Table 4.2.1: Dependent & Independent Variables.

Variable	N	Mean	Std.Dev.	Min	25th Pctl	Median	75th Pctl	Max
MA_Volume	693	215	634	0	0	0	106	4473
MA	693	0.46	0.5	0	0	0	1	1
Impairments_T	693	6.60e-7	5.90e-6	0	0	0	0	1.30e-4
Impairments_T1	693	5.10e-7	3.90e-6	0	0	0	0	8.20e-5
Impairments_T2	693	4.10e-7	2.70e-6	0	0	0	0	4.70e-5
IB Background	693	0.16	0.37	0	0	0	0	1
CEO_Birth_year	693	1961	6.4	1946	1956	1962	1965	1977
Male	693	0.95	0.22	0	1	1	1	1
Age	693	54	6	39	50	54	58	71
CEO Network Size	693	924	831	41	443	717	1075	5124
Total New Awards	693	2.10e-7	3.10e-6	-3.50e-7	0.00e+0	3.40e-10	9.00e-9	7.80e-5
Tenure	693	2.9	2.6	0	1	2	4	10
Firm Assets	693	13	2.3	7.9	12	13	14	19
Firm Turnover	693	0.65	0.62	0.0015	0.22	0.55	0.85	4.5
Global Firm	693	0.51	0.5	0	0	1	1	1
Market to book	693	2.5	4.7	0.27	1.2	1.9	2.9	117
Leverage	693	0.46	0.19	0.061	0.34	0.46	0.58	0.94
Cash	693	3.10e-5	1.40e-4	1.90e-9	1.20e-6	5.40e-6	1.80e-5	2.10e-3
Price to earnings	693	24	28	2.3	12	18	24	284
Prior Acquisition	693	0.740	0.440	0	0	1	1	1
Health Care	693	0.048	0.210	0	0	0	0	1
Industrial Goods	693	0.190	0.390	0	0	0	0	1
Consumer Goods	693	0.079	0.270	0	0	0	0	1
Metal & Mining	693	0.063	0.240	0	0	0	0	1
Real Estate	693	0.048	0.210	0	0	0	0	1
Forestry products	693	0.048	0.210	0	0	0	0	1
Construction	693	0.032	0.180	0	0	0	0	1
Communications	693	0.079	0.270	0	0	0	0	1
Technology	693	0.032	0.180	0	0	0	0	1
Shipping	693	0.048	0.210	0	0	0	0	1
Energy	693	0.110	0.310	0	0	0	0	1

Continuous variables are winsorized at 1% level.

4.2. Descriptive Statistics

Table 4.2.2: Descriptive Statistics for Dependent Variables by CEO IB Background.

Variable	IB Background				Non IB background				Independence-test		
	N	Mean	Median	Std.Dev.	N	Mean	Median	Std.Dev.	Mean Difference	F-value	p-value
MA_Volume	110	86	0	219	583	239	0	682	153	F=5.57**	0.244
MA	110	0.35	0	0.48	583	0.48	0	0.5	0,13	F=6.08**	0.014**
Impairments_T	110	6.3e-7	0	3.1e-6	583	6.6e-7	0	6.3e-6	3.0e-8	F=0.03	0.703
Impairments_T1	110	6.3e-7	0	3.1e-6	583	4.9e-7	0	4.0e-6	-1.4e-7	F=0.02	0.874
Impairments_T2	110	1.1e-6	0	5.5e-6	583	2.8e-7	0	1.6e-6	-8.2e-7	F=0.46	0.082*

Continuous variables are winsorized at 1% level. F-values are test-statistics from ANOVA for numerical variables and chi-squared (X^2) for factor and logical variables. p -values are from unpaired t-test for independence of means. Statistical significance at the 1%, 5% and 10% is marked as ***, ** and * respectively.

Table 4.2.3: Descriptive Statistics for Control-Variables by CEO IB Background.

Variable	IB Background				Non-IB Background				Independence-test		
	N	Mean	Median	Std.Dev.	N	Mean	Median	Std.dev	Mean Difference	F-value	p-value
CEO Birth year	110	1962	1962	6.4	583	1961	1962	6.4	-1	F=2.60	0.107
Male	110	0.84	1	0.37	583	0.97	1	0.17	0.13	F=34.7***	6.065e-9***
Age	110	52	52	5.9	583	54	54	6	2	F=6.96***	8.527e-3***
CEO_network_size	110	1071	924	621	583	896	713	862	-175	F=4.12**	0.043**
Total_New_Awards	110	1.10e-6	1.80e-12	7.60e-6	583	3.40e-8	5.80e-10	2.40e-7	-1.07e-6	F=12.37***	4.638e-4***
Tenure	110	2.9	2	2.6	583	2.9	2	2.6	0	F=0.09	0.771
Firm_assets	110	14	13	3.6	583	13	13	1.8	-1	F=24.49***	9.349e-7***
Firm_Turnover	110	0.27	0.096	0.29	583	0.72	0.6	0.64	0.45	F=52.48***	1.159e-12***
Global_Firm	110	0.38	0	0.49	583	0.53	1	0.5	0.15	F=8.39***	3.875e-3***
Market_to_book	110	2	1.7	1.3	583	2.6	1.9	5.1	0.6	F=1.70	0.193
Leverage	110	0.48	0.53	0.23	583	0.46	0.46	0.18	-0.02	F=1.70	0.193
Cash	110	6.90e-5	7.70e-7	2.70e-4	583	2.40e-5	5.90e-6	1.00e-4	-4.50e-5	F=9.22***	2.488e-3***
Price_to_earnings	110	20	14	23	583	24	18	29	4	F=2.29	0.131
Prior_Acquisition	110	0.65	1	0.48	583	0.76	1	0.43	0.110	F=6.80***	9.293e-3***
Health Care	110	0	0	0	583	0.057	0	0.23	0.057	F=6.58**	1.052e-2**
Industrial Goods	110	0	0	0	583	0.23	0	0.42	0.230	F=32.10***	2.148e-8***
Consumer Goods	110	0.018	0	0.13	583	0.091	0	0.29	0.073	F=6.75***	9.602e-3***
Metal & Mining	110	0	0	0	583	0.075	0	0.26	0.075	F=8.95***	2.868e-3***
Real Estate	110	0.0091	0	0.095	583	0.055	0	0.23	0.046	F=4.29**	3.862e-2**
Forestry products	110	0	0	0	583	0.057	0	0.23	0.057	F=6.58**	1.052e-2**
Construction	110	0	0	0	583	0.038	0	0.19	0.038	F=4.30**	3.845e-2**
Communications	110	0.16	0	0.37	583	0.063	0	0.24	-0.097	F=12.91***	3.503e-4**
Technology	110	0	0	0	583	0.038	0	0.19	0.038	F=4.30**	3.845e-2**
Shipping	110	0	0	0	583	0.057	0	0.23	0.057	F=6.58**	1.052e-2**
Energy	110	0.19	0	0.39	583	0.096	0	0.29	-0.094	F=8.51***	3.648e-3***

Continuous variables are winsorized at 1% level. F-values are test-statistics from ANOVA for numerical variables and chi-squared (X^2) for factor and logical variables. p -values are from unpaired t-test for independence of means. Statistical significance at the 1%, 5% and 10% is marked as ***, ** and * respectively.

4.3 Cleaning

Since BoardEx Europe contains no information on executives that have been active outside of Europe after their stints in Europe, some data is missing. This mainly concerns the variables *CEO_network_size* and *CEO_birth_year*.

The problem of missing data in practical studies is so common that an entire field of statistics is dedicated to trying to solve it. In this field the process that generates incomplete data-sets is studied, and categorised into three distinct types of "missingness". Data sets are Missing Completely at Random (MCAR) when there is no relation between the observation being missing and the values of the unobserved data or the set of observed responses. A less strict distinction are sets where data is Missing at Random (MAR) which allows for relations between the set of observed observations but not with specific missing values. If the missing data in a set is related both with the set of observation and specific values it is said to be Not Missing at Random (NMAR) [54]. When the missing data in a set is MCAR or MAR, conventional methods of cleaning the data set can be used such as mean imputation or list-wise deletion since there will be no or little effect on the bias of the data set. However, if the data is NMAR, conventional methods of cleaning the data set will potentially make the data set significantly more biased [55].

If there is a relation between a CEO having continued his career in the US and having a larger social network size, then the process by which data is missing is NMAR and if it isn't then the process is MAR. Arguments can be made for both sides, and this paper will not dive further into and study this since that would involve gathering data on these individuals that have continued their career in the US. Due to the limited scope of this paper, it's assumed, perhaps falsely, that the data is MAR, and therefore that traditional methods can be used to clean the data without affecting the bias.

To fix these MAR data points to enable the regression described in section 3.1, mean imputation is used. Mean imputation implies that wherever data is missing the mean of the variable is inserted. This generally affects variance and underestimates standard errors [56].

To handle outliers the continuous variables are winsorized at the 1st percentile. Variables

that are firm size dependent ¹ have also been normalised to total (firm) assets. The variable *Firm_assets* has been transformed into logarithmic form. This makes the data comparable between firms and comprehensive.

¹*Total_New_Awards, Firm_Turnover, MA_Volume, Cash & Impairments*

5

Results

In this section, the results of the study are presented. First, the results of the two quantity-regressions are presented and discussed, measuring M&A propensity and volume. This is followed by a quality regression estimated on impairments. The regressions use the CEO-specific variables and firm-specific variables discussed in section 3.2. A sensitivity analysis of the results and discussion of limitations are then included and lastly the conclusion of the paper is presented.

The results from the regressions of the model described in section 3.1 are presented in tables 5.1.1, 5.1.2, 5.2.1, which follow the same format. Columns (1) and (2) show a rudimentary version of the model where only the variable of interest is included. (3) and (4) control exclusively for CEO-specific factors, while (5) and (6) only control for firm-specific factors. The results of the full model is shown in columns (7) and (8) where both CEO- and firm-specific controls are included. Even numbered columns include Industry fixed effects.

5.1 Test for Hypothesis One: Quantity

Estimating the model described in section 3.1, with the dependent variable *M&A* shows how the propensity to pursue a strategy involving M&A activity changes with IB experience. *M&A* is a binary variable which takes the value of 1 if any acquisitions were made during that year, indicating that the firm's strategy includes M&A. The results of the regression are shown in table 5.1.1. A negative relationship is found in columns (1) and (2) indicating that the tendency of firms to pursue a strategy involving M&A decreases if the

5.1. Test for Hypothesis One: Quantity

Table 5.1.1: Hypothesis Testing: Dependent Variable - *M&A*

Variable	Predicted Sign	1	2	3	4	5	6	7	8
IB_background	-	-0.527 (0.074)*	-0.951 (0.002)***	-0.471 (0.109)	-0.873 (0.004)***	0.095 (0.140)	-0.685 (0.014)**	-0.545 (0.042)**	-0.646 (0.031)**
Male	+			0.758 (0.256)	0.726 (0.256)			0.649 (0.339)	0.525 (0.444)
Age	-			-0.006 (0.774)	2.590e-3 (0.905)			-8.708e-4 (0.948)	6.356e-3 (0.660)
CEO_network_size	+			2.946e-4 (0.019)**	2.827e-4 (0.013)**			2.185e-4 (0.053)*	1.936e-4 (0.076)*
Total_New_Awards	+			-219.622 (0.401)	-77.988 (0.430)			-62.006 (0.287)	-63.706 (0.333)
Tenure	+			-0.087 (0.050)*	-0.094 (0.045)**			-0.081 (0.081)*	-0.084 (0.075)*
Firm_assets	+					-0.034 (0.838)	0.130 (0.047)**	0.066 (0.283)	0.091 (0.201)
Firm_Turnover	+					-0.380 (0.040)**	-0.198 (0.293)	-0.088 (0.595)	-0.255 (0.235)
Global_Firm	+					-0.003 (0.849)	-0.480 (0.002)***	-0.403 (0.052)*	-0.445 (0.001)***
Market_to_book	+					-0.182 (0.731)	-0.067 (0.308)	0.002 (0.902)	-0.046 (0.432)
Leverage	-					-1.183 (0.318)	-0.609 (0.320)	-0.217 (0.661)	-0.675 (0.250)
Cash	+					4.547e-4 (0.873)	-1.075 (0.221)	-1.419 (0.661)	-1.039 (0.292)
Price_to_earnings	+					1.372 (0.000)***	1.023e-4 (0.973)	1.257e-3 (0.655)	8.976e-4 (0.762)
Prior_Acquisition	+						1.129 (0.000)***	1.295 (0.000)***	1.085 (0.000)***
Industry FE		No	Yes	No	Yes	No	Yes	No	Yes
McFadden R^2		0.004	0.029	0.018	0.038	0.064	0.064	0.066	0.063
N		693	693	693	693	693	693	693	693

Logit regression of model described in 3.1. Continuous variables are winsorized at 1% level. p -values are shown in parentheses. Standard errors are two-way clustered at firm- and year levels. Statistical significance at the 1%, 5% and 10% is marked as ***, ** and * respectively. McFadden R^2 are included to enable analysis of the models descriptive powers. [38]

CEO has IB-experience. The coefficients are significant at the 10% respectively 1% level with p-values of 0,074 and 0,002. When CEO-specific control variables are included, variable *IB_background* remain negative in both models. However, it is not quite significant at the 10% level in column (3) with a p-value of 0,109. When including industry-fixed effects in column (4) the coefficient becomes strongly significant with a p-value ~ 0 . A positive relationship is found in column (5) but the result is insignificant with a p-value of 0,14. When fixing for industry, column (6) show a negative relationship. This result is highly significant with a p-value of 0,014. The full model in columns (7) and (8) show a negative relationship for IB-background both with and without controls for industry fixed effects, with significant p-values of 0,042 and 0,031 respectively. Overall our models find significant and consistent results that IB experience of a CEO decreases M&A propensity. The findings are in line with the prediction proposed in section 2.6 where a negative effect on quantity was forecasted due to the CEO acting with more caution if he has IB experience. This indicates that the learning effects of experience is greater than the effects of hubris that arises from it, following the discussion in section 2.6.

Other variables are largely insignificant and their effect on M&A can not be confirmed from the regression. Among the significant control variables, *CEO_network_size* and *Prior_Acquisitions* display the predicted signs. Variables *Tenure* and *Global_Firm* however, show a negative effect contrary to expectation and previous studies described in section 3.2. This indicates that the longer a CEO has been in office, the less likely he is to pursue M&A. The same is true if the firm has global operations, then the odds of the firm pursuing M&A also decreases. An intuitive explanation for the negative effect of tenure is that greater tenure implies greater experience. Assuming that most M&A fails, a CEO who has experience of M&A failure is less inclined to pursue it again. This result was not observed in the previous studies discussed in section 3.2.1.

The second test for quantity uses *M&A_Volume* as the dependent variable in order to measure how the amount of money spent on M&A changes with IB experience. Table 5.1.2 show the results of the corresponding OLS regression. From the regression we can see that the variable *IB_background* has a negative sign in all models but is only significant at the 10% level in model (1) and (3). When including industry-fixed effects and firm-

5.1. Test for Hypothesis One: Quantity

Table 5.1.2: Hypothesis Testing: Dependent Variable - *M&A_Volume*

Variable	Predicted Sign	1	2	3	4	5	6	7	8
IB_background	-	-0.010 (0.081)*	-0.007 (0.424)	-0.011 (0.058)*	-0.008 (0.335)	-0.005 (0.475)	-0.007 (0.412)	-0.006 (0.417)	-0.007 (0.380)
Male	+			-0.009 (0.609)	-0.010 (0.529)			-0.014 (0.371)	-0.012 (0.460)
Age	-			-3.10e-4 (0.633)	-3.23e-4 (0.636)			-3.43e-5 (0.943)	-3.86e-5 (0.945)
CEO_network_size	+			4.76e-8 (0.980)	-7.50e-7 (0.645)			2.60e-6 (0.037)**	1.67e-6 (0.406)
Total_New_Awards	+			0.632 (0.711)	0.221 (0.835)			-1.918 (0.281)	-1.317 (0.305)
Tenure	+			-7.43e-4 (0.460)	-5.27e-4 (0.602)			-0.001 (0.329)	-0.001 (0.433)
Firm_assets	+					-0.004 (0.043)**	-0.004 (0.037)**	-0.004 (0.020)**	-0.005 (0.033)**
Firm_Turnover	+					-0.004 (0.386)	-0.004 (0.660)	-0.004 (0.328)	-0.004 (0.665)
Global_Firm	+					0.005 (0.432)	0.009 (0.232)	0.004 (0.435)	0.009 (0.223)
Market_to_book	+					-1.98e-5 (0.939)	-1.30e-4 (0.645)	5.52e-5 (0.834)	-6.40e-5 (0.801)
Leverage	-					-0.009 (0.564)	-0.005 (0.747)	-0.009 (0.500)	-0.006 (0.666)
Cash	+					-0.007 (0.618)	-0.004 (0.794)	-0.005 (0.762)	-0.003 (0.876)
Price_to_earnings	+					7.35e-5 (0.626)	5.62e-5 (0.714)	7.35e-5 (0.627)	5.72e-5 (0.713)
Prior_Acquisition	+					0.014 (0.065)*	0.012 (0.135)	0.014 (0.050)**	0.012 (0.095)*
Industry FE		No	Yes	No	Yes	No	Yes	No	Yes
Adj R^2		5.18e-4	-0.006	-0.004	-0.011	0.005	-0.005	0.002	-0.010
N		693	693	693	693	693	693	693	693

OLS regression of model described in 3.1 Continuous variables are winsorized at 1% level. p -values are shown in parentheses. Standard errors are two-way clustered at firm- and year levels. Statistical significance at the 1%, 5% and 10% is marked as ***, ** and * respectively.

specific control variables the p-values of *IB_Background* increases and *IB_background* turns insignificant. The model in its entirety has very poor descriptive power as the adjusted R^2 is negative when including fixed effects due to not including an intercept. The control variables are predominately insignificant with the exceptions of *Firm_assets* and *Prior_Acquisition* of which the variable *Prior_Acquisition* display the expected sign. The significance of *Firm_assets* can largely be attributed to the dependent variable being normalised by it. In summary, no statistical evidence is found that IB experience affects M&A volume.

Table 5.1.3: Hypothesis Testing: Dependent Variable - *M&A*, Odds-Ratio

Variable	Odds-ratio
IB_background	0.5424
Male	1.7039
Age	1.0061
CEO_network_size	1.0002
Total_New_Awards	0.0000
Tenure	0.9191
Firm_assets	2.3249
Firm_Turnover	0.0298
Global_Firm	0.6111
Market_to_book	0.9541
Leverage	0.5112
Cash	0.0001
Price_to_earnings	1.0008
Prior_Acquisition	2.9089

Odds-ratio indicate change in odds from one unit change in independent variable. i.e if ceteris paribus, *Age* increases by 1 unit, odds for *MA* being true is 1.006 times likelier alternatively the odds are 0.6% higher

To analyse the results of Table 5.1.1 further, the estimated coefficients needs to be transformed from log-likelihood form to odds-ratio form. The result of this is shown in table 5.1.3. From the table it is shown that, ceteris paribus, a firm with a CEO with IB-

background has 0.542 times (or 54%) the likelihood of a firm without a CEO with IB-background to undertake M&A. I.e the odds of a firm doing M&A when the CEO has IB-background is 46% lower than when the CEO doesn't. This result is in line with our prediction in section 2.6.

To summarise, the results of the two regressions for quantity indicate that CEOs with IB experience adopt a more careful approach when it comes to M&A than those who do not. This is suggested by the findings that IB experienced CEOs have a decreased propensity to pursue M&A. Perhaps they are more conscious of the fact that M&A on average destroys firm value, as was found in previous studies mentioned in section 1. Or they are simply better at critically examining targets, rendering smaller SFE and making fewer potential M&As appear profitable resulting in fewer deals being initiated. This would mean that in line with our prediction in section 2.6, the benefits of the learning aspect of experience outweigh the drawbacks from managerial hubris that it entails. Unlike what previous studies described in section 2.1 observed for board members, a CEO having an IB-background is potentially a benefit, at least in this regard.

The persistently high significance and positive effect of the variable *Prior Acquisitions* throughout both regressions confirms our conjecture in section 3.2 and what was found in previous studies, namely that M&A activity is largely influenced by the broad strategy of the firm. As mentioned in section 2.5, the CEO is the ultimate decision-maker and plays a big part in the M&A process, but it's the broad strategy as set out by the board which dictates how much M&A the firm does. Strong corporate governance is therefore a possible explanation to the insignificance of the IB background variable of a CEO in the M&A volume regression in table 5.1.2. The results of the two regressions for quantity suggest that the CEO has more influence on whether to make a particular acquisition or not, which affects the M&A propensity in table 5.1.1. Rather than how much resources the firm should spend on M&A, which affects the M&A volume seen in table 5.1.2.

5.2 Test for Hypothesis Two: Quality

Table 5.2.1: Hypothesis Testing: Dependent Variable - *Impairments*

Variable	Predicted Sign	1			2			3			4			5			6			7			8		
		T	T+1	T+2	T	T+1	T+2	T	T+1	T+2	T	T+1	T+2	T	T+1	T+2	T	T+1	T+2	T	T+1	T+2	T	T+1	T+2
IB_background	-	-4.640e-4 (0.714)	-1.600e-4 (0.897)	0.001 (0.398)	-2.612e-3 (0.177)	-1.959e-3 (0.233)	3.290e-4 (0.866)	-7.866e-4 (0.478)	-3.143e-4 (0.778)	1.034e-3 (0.474)	-2.750e-3 (0.131)	-1.999e-3 (0.185)	2.596e-4 (0.880)	2.949e-4 (0.799)	2.504e-4 (0.841)	1.756e-3 (0.305)	-2.470e-3 (0.184)	-1.990e-3 (0.215)	3.366e-4 (0.864)	1.112e-4 (0.907)	1.602e-4 (0.883)	1.557e-3 (0.301)	-2.448e-3 (0.156)	-1.967e-3 (0.188)	3.657e-4 (0.839)
Male	-							-1.364e-3 (0.548)	-2.853e-4 (0.867)	-9.774e-4 (0.536)	-2.127e-3 (0.416)	-8.624e-4 (0.661)	-1.630e-3 (0.299)							-2.533e-3 (0.230)	-9.419e-4 (0.582)	-1.551e-3 (0.314)	-2.525e-3 (0.285)	-9.581e-4 (0.622)	-1.780e-3 (0.238)
Age	+							-3.650e-5 (0.736)	-3.939e-2 (0.646)	-6.036e-2 (0.487)	-2.423e-2 (0.814)	-3.021e-2 (0.718)	-5.272e-2 (0.497)							2.409e-5 (0.809)	-9.284e-3 (0.915)	-2.855e-2 (0.729)	4.066e-5 (0.664)	-1.993e-3 (0.981)	-2.440e-5 (0.753)
CEO_network_size	-							5.825e-7 (0.429)	4.705e-7 (0.490)	6.637e-7 (0.294)	8.884e-8 (0.890)	5.207e-8 (0.928)	3.913e-7 (0.485)							1.042e-6 (0.160)	7.797e-4 (0.236)	9.524e-7 (0.127)	4.392e-7 (0.375)	2.093e-7 (0.609)	5.670e-7 (0.217)
Total_New_Awards	-							-0.112 (0.350)	-0.121 (0.156)	-0.189 (0.112)	-0.257 (0.229)	-0.237 (0.192)	-0.373 (0.068)							-0.407 (0.139)	-0.323 (0.069)	-0.422 (0.047)	-0.297 (0.250)	-0.248 (0.250)	-0.425 (0.077)**
Tenure	+							9.934e-5 (0.647)	-9.425e-4 (0.996)	1.551e-4 (0.166)	1.364e-4 (0.496)	2.729e-5 (0.870)	1.658e-4 (0.173)							9.957e-5 (0.612)	-1.132e-2 (0.946)	1.379e-4 (0.182)	9.957e-5 (0.643)	-1.481e-2 (0.931)	1.357e-4 (0.240)
Firm_assets	-													-5.258e-4 (0.062)*	-3.263e-4 (0.119)	-3.236e-4 (0.095)*	-5.897e-4 (0.122)	-2.977e-4 (0.347)	-2.699e-4 (0.337)	-7.238e-4 (0.029)**	-4.547e-4 (0.049)**	-4.762e-4 (0.021)**	-6.878e-4 (0.059)*	-3.370e-4 (0.205)	-3.458e-4 (0.157)
Firm_Turnover	+													-3.997e-2 (0.951)	-1.050e-4 (0.782)	-3.178e-4 (0.297)	2.192e-3 (0.182)	1.554e-3 (0.188)	9.321e-4 (0.257)	-4.789e-2 (0.942)	-1.496e-4 (0.665)	-3.596e-4 (0.241)	2.087e-3 (0.193)	1.516e-3 (0.174)	8.261e-4 (0.274)
Global_Firm	+													9.546e-5 (0.945)	3.573e-5 (0.977)	6.739e-4 (0.413)	2.677e-3 (0.035)**	1.828e-3 (0.075)*	1.499e-3 (0.118)	-5.364e-2 (0.969)	-9.654e-2 (0.938)	4.776e-4 (0.527)	2.561e-3 (0.046)**	1.733e-3 (0.103)	1.228e-3 (0.214)
Market_to_book	?													-8.891e-2 (0.208)	-3.447e-2 (0.519)	-4.209e-2 (0.256)	-7.766e-2 (0.262)	-3.042e-2 (0.468)	-2.527e-2 (0.308)	-8.638e-2 (0.184)	-2.758e-2 (0.629)	-3.574e-2 (0.337)	-8.307e-5 (0.189)	-2.637e-2 (0.563)	-2.265e-5 (0.424)
Leverage	+													2.927e-3 (0.468)	4.042e-4 (0.895)	3.929e-4 (0.882)	2.991e-3 (0.497)	-3.845e-4 (0.911)	9.381e-5 (0.975)	3.632e-3 (0.274)	6.275e-4 (0.790)	8.107e-4 (0.690)	3.669e-3 (0.302)	-3.705e-4 (0.890)	4.275e-4 (0.854)
Cash	-													8.630e-4 (0.770)	-1.132e-3 (0.624)	-4.608e-4 (0.796)	1.135e-3 (0.619)	-1.081e-3 (0.645)	-8.130e-4 (0.527)	1.306e-3 (0.670)	-7.924e-4 (0.714)	2.091e-4 (0.911)	1.602e-3 (0.525)	-7.373e-4 (0.748)	1.537e-5 (0.991)
Price_to_earnings	?													7.854e-6 (0.404)	-2.435e-3 (0.685)	2.359e-3 (0.792)	9.098e-6 (0.116)	-1.764e-3 (0.522)	3.830e-6 (0.570)	7.169e-6 (0.464)	-2.002e-3 (0.759)	2.082e-6 (0.809)	7.580e-6 (0.272)	-1.974e-3 (0.580)	2.889e-6 (0.662)
Prior_Acquisition	+													0.002 (0.006)***	0.001 (0.209)	0.001 (0.103)	0.002 (0.027)**	0.001 (0.422)	0.001 (0.250)	0.002 (0.003)***	0.001 (0.287)	0.001 (0.167)	0.002 (0.019)**	0.001 (0.460)	0.001 (0.263)
Industry FE		No	Yes			No	Yes			No	Yes			No	Yes			No	Yes			No	Yes		
Adj R ²		-0.001	-0.001	0.003	2.703e-2	3.079e-2	2.600e-2	-0.006	-0.006	0.006	0.022	0.025	0.027	0.001	-0.006	0.003	0.037	0.030	0.026	0.002	-0.009	0.011	0.033	0.024	0.028
N		693			693			693			693			693			693			693			693		

This table shows the effect on *impairments* in the same year (T), the following year (T+1) and following two years (T+2). Continuous variables are winsorized at 1% level. *p*-values are shown in parentheses. Standard errors are two-way clustered at firm- and year levels.

Statistical significance at the 1%, 5% and 10% is marked as ***, ** and * respectively.

Next, a regression is estimated on the model described in section 3.1, where *impairments* is used as the dependent variable, to measure M&A quality. Results of this regression are seen in table 5.2.1. *IB_background* is insignificant and adjusted R^2 is very small. The only significant control variables are *Firm_assets* and *Prior_Acquisitions* which have the expected effects. Ultimately, the model has poor explanatory power and is not able to find any evidence of IB experience of the CEO having any effect on the amount on impairments and thereby on the quality of M&A. This may be caused by the lag of the regression being longer than two years. The lag of impairments is on average between 3 and 4 years as discussed in section 3.3, meaning that the regression in Table 5.2.1 may not cover the period when the effects of poor M&A is visible. To control for this, a sensitivity control for lagged impairments for this period is performed on a smaller sample in section 5.3.2.

5.3 Sensitivity Testing

5.3.1 Treatment of Outliers

The treatment of outliers in the data is done by winsorizing at the 1% level in the main regressions. To control if this has any effect on the result, the regressions are performed with winsorized continual variables at the 5- and 10% level as well as non-winsorized variables. The results are presented in Table 5.3.1 The extreme treatment of outliers does not meaningfully affect the results of the regressions.

Table 5.3.1: Control for Treatment of Outliers.

No Winsorization					
Variable	M&A_Volume	M&A	Impairments		
			T	T+1	T+2
IB_background	-0.007 (0.398)	-0.646 (0.031)**	-0.002 (0.173)	-0.002 (0.213)	0.000 (0.995)
Control Variables	Yes	Yes		Yes	
Firm FE	Yes	Yes		Yes	
Adj R^2	-0.010	0.062	0.032	0.023	0.027
N	693	693		693	
Winsorized at 5%					
Variable	M&A_Volume	M&A	Impairments		
			T	T+1	T+2
IB_background	-3.343e-3 (0.550)	-0.650 (0.031)**	-2.701e-4 (0.671)	-1.363e-4 (0.830)	6.268e-4 (0.456)
Control Variables	Yes	Yes		Yes	
Firm FE	Yes	Yes		Yes	
Adj R^2	0.004	0.062	0.098	0.074	0.081
N	693	693		693	
Winsorized at 10%					
Variable	M&A_Volume	M&A	Impairments		
			T	T+1	T+2
IB_background	-1.950e-3 (0.644)	-0.614 (0.034)**	-9.642e-5 (0.632)	-6.647e-5 (0.748)	5.694e-5 (0.791)
Control Variables	Yes	Yes		Yes	
Firm FE	Yes	Yes		Yes	
Adj R^2	0.027	0.060	0.128	0.101	0.113
N	693	693		693	

Regression are from column 8 in tables 5.1.1, 5.1.2 and 5.2.1. The continuous variables are here not winsorized or winsorised at 5% and 10% levels. P-values are shown in parentheses. Standard errors are two-way clustered at firm- and year levels. Statistical significance at the 1%, 5% and 10% is marked as

***, ** and * respectively. Adj R^2 is McFadden R^2 for MA

5.3.2 Lagged Effects of Impairments

To control for the possibility that the impairment lag is greater than two years, which is the longest lag that can be achieved on the entire data-set. The regression of column (6) in table 5.2.1 is re-estimated on a smaller data-subset, to check if the hypothesised effect is lagged even further. The result of this test is shown in table 5.3.2, from this table it can be seen that there is no lagged effect even in these smaller samples.

Table 5.3.2: Control for Lagged Effects.

Variable	Expected Sign	Impairments			
		t+3	t+4	t+5	t+6
IB_background	+	-8.019e-4 (0.737)	-2.675e-3 (0.496)	-4.355e-4 (0.845)	1.154e-3 (0.578)
Control Variable		Yes	Yes	Yes	Yes
Industry FE		Yes	Yes	Yes	Yes
Adj R^2		0.010	0.012	0.016	0.006
N		630	567	504	441

Continuous variables are winsorized at 1% level. P-values are shown in parentheses. Control variables are discussed in section 3.2. Statistical significance at the 1%, 5% and 10% is marked as ***, ** and * respectively.

5.3.3 Standard Error Clustering

In the regressions conducted in Tables 5.1.1, 5.1.2 and Table 5.2.1 the standard errors are adjusted for heteroscedastitivity in both firm and year domain. To control if the standard errors are correlated at any other levels, the regressions in column (8) are re-estimated with clustering only in firm- or year domain. These are presented in table 5.3.3, it shows that the clustering of standard errors across only time or firm, does not affect the results.

Table 5.3.3: Control for Standard Error Clustering.

Panel A: Standard Errors Clustered by Firm					
Variable	MA_Volume	MA	Impairments		
			T	T+1	T+2
IB_background	-7.314e-3 (0.263)	-0.646 (0.014)**	-2.448e-3 (0.117)	-1.967e-3 (0.185)	3.657e-4 (0.820)
Control Variables	Yes	Yes		Yes	
Firm FE	Yes	Yes		Yes	
Adj R^2	-0.010	0.063	0.033	0.024	0.028
N	693	693		693	
Panel B: Standard Errors Clustered by Year					
Variable	MA_Volume	MA	Impairments		
			T	T+1	T+2
IB_background	-0.007 (0.403)	-0.646 (0.048)**	-2.448e-3 (0.147)	-1.967e-3 (0.130)	3.657e-4 (0.811)
Control Variables	Yes	Yes		Yes	
Firm FE	Yes	Yes		Yes	
Adj R^2	-0.010	0.063	0.033	0.024	0.028
N	693	693		693	

Continuous variables are winsorized at 1% level. P-values are shown in parentheses. Control variables are discussed in section 3.2. Standard errors are clustered on firm- or year level. Statistical significance at the 1%, 5% and 10% is marked as ***, ** and * respectively. R^2 for MA is McFadden R^2

5.3.4 Big Bath

As discussed in section 2.3 a well known behaviour among new CEOs is to impair excessively when assuming a new position. Thereby blaming poor performance on his predecessor, in order to improve the appearance of the firm's performance under his own leadership. To test for this behaviour we look for impairments during the first year of the CEO's reign, that is when $Tenure = 0$. Regressing the model in column 8 of Table 5.2.1, but with a binary variable New_CEO , taking on the value of 1 if tenure is 0. In table 5.3.4,

5.3. Sensitivity Testing

the results can be seen. *New_CEO* has a positive sign indicating that it's associated with larger impairments as the Big bath theory predicts. However, the variable is only significant at the 10% level when lagged for 1 year, and the model still has very poor descriptive power and is therefore of little use.

Table 5.3.4: Control for Big Bath

Variable	Expected Sign	Impairments		
		t	t+1	t+2
IB_background	+	-2.433e-3 (0.161)	-1.862e-3 (0.207)	3.601e-4 (0.841)
New_CEO	+	-4.560e-5 (0.977)	1.712e-3 (0.016)**	-4.775e-4 (0.384)
Control Variables		Yes	Yes	Yes
Industry FE		Yes	Yes	Yes
Adj R^2		0.033	0.029	0.026
N		693	693	693

Control variables are discussed in section 3.2. p -values in parentheses. Standard errors clustered on firm and year level. Continuous variables are winsorized at 1% level. Statistical significance at the 1%, 5% and 10% is marked as ***, ** and * respectively.

5.4 Limitations

It is important to acknowledge certain limitations of this thesis. One limitation is the problem of missing data in the database BoardEx Europe when a CEO has had activity outside of Europe. The treatment for this was described in section 4.3. This affects the control variables related to the CEO, as that's where BoardEx was used as the data source. All financial data, which is the vast majority, was collected from S&P Capital IQ. S&P also has a problem of missing data concerning M&A transactions. In some cases the transaction price is unspecified while in other cases transactions are missing completely. If either is true, the M&A was excluded from the sample, thus potentially creating a bias and at least decreasing the descriptive powers of the regression in table 5.1.2. Furthermore, S&P in some instances uses the average yearly exchange rate when converting while in other instances it instead uses the year-end rate. This inconsistency was especially prevalent among the Norwegian companies when converting the reported currencies to USD.

As described in section 3.3, previous research into the M&A field has shown that the usefulness of financial disclosures by firms is limited because managers don't want to admit that their actions have had poor results. This means that deal characteristics is a more informative metric when trying to predict the actual turnout of M&A. As deal characteristics for Scandinavian firms is unavailable, they have been excluded from this study. Their inclusion could potentially improve the model proposed in section 3.1. The unwillingness to disclose financial information also means that impairments following poor M&A is lagged. This lag is potentially greater than the lag we can add due to our sample being very recent. Furthermore, the sample covers a period of economic expansion with unprecedented low cost of capital, which means that firms could hide economic impairments on their balance sheets easier then ever before.

In section 2.6 the effects of hubris and experience are discussed as being the two opposing forces that arise from having an IB-background. Based on previous research it's assumed that both effects follow from having an IB-background [16] [17]. This study doesn't test that they do. The methodology of this study leaves the cognitive black box unopened, as

has been criticised of other studies based on the UET. While we reason that our results are in line with previous research which found that experience has a greater effect than hubris [29], there is no study confirming a direct link between having an IB-background and competence in M&A. Anecdotal evidence may suggest the contrary, for instance a former investment banker who became the CEO of a large Swedish financial services company, had during its stint in IB at the same firm, proven to perform incredibly poor, forcing the bank to shut operations it was overseeing.¹

5.5 Conclusion

In this study, we examine what effect a CEO's previous experience in IB has on the quantity and quality of the firms M&A activity. A model is constructed, where a measure of quantity or quality of M&A is the dependent variable, some firm- and CEO-specific control variables are also included. Two components of M&A quantity, namely propensity to pursue M&A and volume of money spent on M&A was studied. To measure quality, goodwill impairments are used as an indicator of poor M&A. The models are estimated on a sample consisting of large-cap companies traded on the Stockholm and Oslo exchanges between 2010-2020. Our results show that the odds of a firm doing M&A when the CEO has an IB background is 46% lower than when he has not. These findings support existing research which show that, at least in the long-run, the learning effect of experience outweigh the opposing effects of hubris that arises from it. Therefore, boards and investors, should be aware that a CEO with an IB-background has less propensity to do M&A.

However, no conclusion can be drawn from the effect on M&A volume nor on quality of M&A, as the regressions lack statistical support. Regarding M&A volume, a possible explanation is that corporate governance limits the influence of the CEO and thereby the effect of the CEO having IB experience. Since quality is measured by impairments, there is a risk of subjectivity which may distort the data and explain the weak statistical power of the model.

¹Since that person has no opportunity to defend its character or ability and due to the nature of this statement and the domain where this thesis is published. The authors deem it irresponsible to name any one person who's past achievements could act as anecdotal evidence.

This thesis has added to the current body of research on M&A by answering the question of who makes M&A and providing insights into the largely unexplored area of the effects of a CEO having previous experience in IB. Research have to continue to answer the question of who make successful M&A, and to affirm if the theory put forward here is true. To do this, future researchers may more extensively study the learning effect as well as the development of hubris arising from experience, to fill in the cognitive black box left unopened by this study. They may also want to incorporate deal-characteristics into their models to increase their descriptive powers, as well as to gather a data-set which could be further lagged to better encompass the period where impairments are made.

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