What determines the amount of reported goodwill impairment?
- An investigation of Nasdaq Stockholm OMX (OMXS)
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Abstract

Background: The question on how to account for goodwill has long been a subject that causes big debates among actors within financial accounting. In 2004, the IASB released a new standard, IFRS 3 – Business Combinations, that changed the accounting for goodwill. The interpretation for goodwill impairments according to IAS 36 has led to findings in studies that show patterns of earnings management and that a possible gap exists between the standard setter’s basic aim of IAS 36 and what actually is done by the practitioners.

Purpose: Examine what determines the amount of reported goodwill impairment for firms listed on the Nasdaq OMX Stockholm (OMXS).

Method: To fulfil the purpose of the thesis, the authors take a quantitative research approach by using a multiple linear regression model. The regression model is based on proxies for economic impairment, earnings management and corporate governance mechanisms from previous literature (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011; Riedl, 2004). The data used for the regression model has been collected from published annual reports of 69 firms listed on the Nasdaq Stockholm OMX (OMXS), between the years 2007-2016.

Conclusion: The findings of the thesis show that the accounting behaviour of “Big Bath” is exercised for firms listed on the Nasdaq Stockholm OMX (OMXS). The proxies for economic impairment have, to some extent, an impact on the amount of reported goodwill impairment, but the majority of the proxies for corporate governance mechanisms does not affect the amount of reported goodwill impairment. These findings might suggest that the standard IAS 36, which regulates the accounting for goodwill, may not entirely fulfil its purpose of creating a more transparent financial reporting.
### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>EBITDA</td>
<td>Earnings before interest, tax, depreciation and amortization</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FAR</td>
<td>Föreningen Auktoriserade Revisorer (Association of Authorized Auditors)</td>
</tr>
<tr>
<td>FASB</td>
<td>US Financial Accounting Standard Board</td>
</tr>
<tr>
<td>IASB</td>
<td>International Accounting Standard Board</td>
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<tr>
<td>IFRS</td>
<td>International Financial Reporting Standards</td>
</tr>
<tr>
<td>NED</td>
<td>Non-executive director</td>
</tr>
<tr>
<td>OCF</td>
<td>Operating cash-flow</td>
</tr>
<tr>
<td>OMXS</td>
<td>Nasdaq Stockholm OMX</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on assets</td>
</tr>
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<td>TA</td>
<td>Total assets</td>
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### Clarification

<table>
<thead>
<tr>
<th>Capitalization</th>
<th>Description</th>
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<tr>
<td>Large Cap</td>
<td>OMX Stockholm Large Capitalization</td>
</tr>
<tr>
<td>Mid Cap</td>
<td>OMX Stockholm Medium Capitalization</td>
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<tr>
<td>Small Cap</td>
<td>OMX Stockholm Small Capitalization</td>
</tr>
<tr>
<td>SPSS</td>
<td>IBM SPSS Software (Statistical Analysis Software)</td>
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1. Introduction

In this chapter, the authors first introduce the topic of goodwill accounting. The authors then present the identified research gap, the purpose and delimitations of the thesis.

The question on how to account for goodwill has long been a subject that causes big debates among all actors within financial accounting. Academics, standard setters and practitioners have all faced problematic situations, when trying to develop a method for goodwill accounting where theories are in line with the actual practice (Hughes, 1982).

Goodwill will be recognized, as an intangible asset, when an entity acquires another entity or part of it (IFRS 3). The valuation of the goodwill is made by the acquiring firm, which makes goodwill an asset that is specifically created from the firm’s own value estimations. Therefore, goodwill cannot be sold or purchased as a separate item (IFRS 3; Hoggett & Edwards, 2000), which makes it hard to distinguish and actually pinpoint what exactly creates this added value of the goodwill (Holthausen & Watts, 2001).

The International Accounting Standard Board issued a new accounting standard, IFRS 3 - Business Combinations, to solve and eliminate the use of the accounting method called pooling of interest, which was heavily criticized under the previous standard at that time, IAS 22. IFRS 3 also changed the amortization system that was previously used under IAS 22. IFRS 3 stated new rules that goodwill should be tested for impairment at the end of each financial year (IFRS 3). Goodwill impairment testing is not a straightforward process as it requires a comprehensive knowledge on the acquisition method of accounting for business combinations (Seetharaman, Sreenivasan, Sudha, & Tey, 2006; IFRS 3).

According to the standard IAS 36 - Impairment of Assets, the firm has to use their own knowledge and ability to recognize a value reduction of the goodwill (IAS 36). Several studies have shown patterns of earnings management among firms because of the different interpretations of the standard for goodwill impairment (AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016; Riedl, 2004; IAS 36). Managers have the possibility to influence the financial outcome of the year which has caused the most common critique of IFRS
3 that highlights the complicated way of testing for goodwill impairment (AbuGhazaleh, Al-Hares, & Roberts, 2011).

AbuGhazaleh, Al-Hares, & Roberts (2011) and Stenheim & Madsen (2016) have examined the size and occurrence of goodwill impairments. AbuGhazaleh, Al-Hares, & Roberts (2011) found evidence that managers used discretionary actions when impairing for goodwill, especially in connection with newly appointed CEOs, “Big Bath”, and “Income Smoothing” behaviours. Stenheim & Madsen (2016) found evidence that showed a connection between economic impairment and reported goodwill impairment but on the other hand, the authors also found a relation between reported goodwill impairment and incentives for earnings management through the accounting behaviour of “Big Bath” (Stenheim & Madsen, 2016).

There are more factors than just earnings management that can affect the decision of goodwill impairment. Corporate governance mechanisms have been seen to impact the behaviour and performance of a firm in a positive way (Huson, Parrino, & Starks, 2001), by reducing conflicts of interest between owners and managers (Shleifer & Vishny, 1997). The mechanisms do, for example, consist of the characteristics and composition of the board. Obert, Suppiah, Zororo, & Desderio (2015) studied the impact of gender diversity within firms’ board of directors and found that the more number of women on the board, the less scandals and more contribution to a carrying and social responsible acting. Women engage more in the actual decisions, by attending more meetings and by collecting more information before decisions (Adams & Ferreira, 2009). There has also, indirectly, been a positive relation between women on the board and the financial performance of firms (Isidro & Sobral, 2015). Additionally, the European Commission have taken action in the question on gender diversity within non-executive boards for firms, and a proposal to a directive stating a 40 percent involvement for the underrepresented gender by year 2020 has been presented (European Commission, 2012). In Sweden, females are the underrepresented gender in the corporate boards for firms listed on Nasdaq Stockholm OMX (OMXS) (SCB, 2017).

1.1 Identified research gap

Several studies have been made within the topic of determinants for reported goodwill impairment for firms reporting under the International Accounting Standard Board’s regulation (AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016; Saastamoinen &
Pajunen, 2016). AbuGhazaleh, Al-Hares, & Roberts (2011) and Stenheim & Madsen (2016) examined determinants of reported goodwill impairments for firms listed on the London Stock Exchange while Saastamoinen & Pajunen (2016) examined determinants for firms listed on the Nasdaq OMX Helsinki (OMXH). No studies can be found that have examined determinants for the amount of reported goodwill impairment for firms listed on the Nasdaq Stockholm OMX (OMXS), reporting under the IASB’s regulations. Consequently, the research contributes to the topic of goodwill and what determines the amount for reported goodwill impairment.

### 1.2 Purpose

The purpose of this thesis is to examine what determines the amount of reported goodwill impairment for firms listed on the Nasdaq OMX Stockholm (OMXS). In order to do so, this thesis uses proxies from previous studies (AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016; Riedl, 2004) as determinants for economic impairment, earnings management and corporate governance mechanisms, and in addition, the impact of female board representation by considering the gender diversity of the board, based on the European Commission’s proposed legislation for gender equality (European Commission, 2012). The research contributes to the topic of goodwill and what determines the amount of reported goodwill impairment.

### 1.3 Delimitations

The thesis will be based on firms listed on the Nasdaq OMX Stockholm (OMXS), on the 31st of December 2017. The listed firms at this particular time, are studied between the years 2007-2016. The thesis does not cover firms that do not have goodwill in their balance sheets and firms that have goodwill in their balance sheet but have not reported any goodwill impairment. Furthermore, this thesis does not cover firms with a broken fiscal year, firms reporting in another currency than the Swedish Krona (SEK) and firms within the financial industry (FTSE International Limited, 2012).

A regression analysis will be used to examine what determines the amount of reported goodwill impairment, and to do so, data will be collected for proxies of economic impairment, earnings management and corporate governance mechanisms. This examination will be done by stating hypotheses based on previous literature within the topic of goodwill impairment. From the
result of the regression analysis, the hypotheses will either be rejected or not rejected. The data collection will be done using the databases Thomson Reuters Eikon Datastream, Retriever Business and the published annual reports of the firms.
2. Literature review

In this chapter, the authors first introduce the topic of goodwill accounting, followed by a collection of previous studies, theories and concepts on the topic of goodwill impairment, earnings management and corporate governance mechanisms.

2.1 Goodwill

Goodwill is calculated by adding up the value of the consideration transferred, the amount of non-controlling interest and the fair value of previous equity interest. This value is then subtracted with the net amount of the assets acquired and liabilities assumed at the acquisition date and is created as an asset (IFRS 3). Cañibano, García-Ayuso, & Sánchez (2000) argued that goodwill should be seen equal to the tangible assets with expected future value, but that the value is created by intangible investments like new technology, advertising and human resources. The variety of intangible factors that are said to be part of goodwill result in an asset that is very specific for each and one of the firms and will consequently be affected when a firm experiences financial distress (Holthausen & Watts, 2001).

Goodwill could be defined as the difference between the market value of a firm and the sum of the fair value of the firm’s individual assets, i.e. the realised value the firm would gain by selling them of individually. Goodwill is created for a firm when gaining value from the synergies of the assets that the firm has, i.e. using a portfolio of assets in the most optimal way (Feltham & Ohlson, 1995; Scott, 2009; Storå, 2013).

The different ways of defining goodwill has also been seen to influence the international standard setter’s work and consequently, a possible gap exist between the regulation in IFRS 3 and what actually is done by the practitioners (Detzen & Zülch, 2012). This gap could be explained by the standard setter’s attempt to combine both a top-down and bottom-up perspective (Brännström & Giuliani, 2011). The top-down perspective defines goodwill as future earnings that the acquiring firm expect to gain due to the acquisition (Johnson & Petrone, 1998). Goodwill is, in the top-down perspective, a group of assets that the acquiring company cannot fully value or define (Brännström & Giuliani, 2011). In the bottom-up perspective, goodwill is instead seen as an asset that was not in the balance sheet of the acquired firm, and therefore, the asset could be called “hidden assets” (Colley & Volkan, 1988).
2.2 Goodwill impairment


The annual impairment test was perceived to create a more transparent base for the accounting for goodwill, as managers would be able to provide users with better information on future earnings, cash-flows and growth in the financial statements (European Financial Report Advisory Group, 2014). Managers may use their discretionary position in impairment testing to convey private information to the investors in order for them to better make assumptions on future economic events (Schatt, Doukakis, Bessiux-Ollier, & Walliser, 2016). Managers may also use their discretionary position to exercise earnings management, that creates an environment in which the information on goodwill impairment is irrelevant to the investors (Watts, 2006). To counteract this, detailed information on the goodwill impairment ought to be provided, i.e. valid explanations on the impairment decision will be better received from investors (Knauer & Wöhrmann, 2016). Johansen & Plenborg (2013) showed that investors were most interested in the notes relating to IFRS 3 and IAS 36. Additionally, the investors were not satisfied with this particular information provided in these notes, i.e. information on how the impairment test had been done, as investors did not fully comprehend the complex valuation. Johansen & Plenborgs’ (2013) study can be explained by the findings of Dye (2001) and Verrecchia (2001), that managers, to some extent, does not want to provide additional information on economic events that may come to hurt the firm financially, e.g. when competitors can take use of this information (Mazzi, Andre, Dionysiou, & Tsalavoutas, 2017).
Hirschey & Richardson (2003), Bens & Heltzer (2005), Li & Meeks (2006), showed that the impairment of goodwill had a negative effect on the stock price in a short-term perspective, which could be explained by the absence of additional information with regards to the impairment losses of goodwill and the willingness by the investors to have this information (Johansen & Plenborg, 2013). Cheng, Peterson, & Sherrill (2015) found that the impairment of goodwill resulted in negative stock price reactions by the market and at the same time, the authors found that the impairment of goodwill has positive impact on the stock price in a long-term perspective, as stakeholders recognize that an impairment of goodwill, that occurs from an earlier acquisition, as a positive event (Cheng, Peterson, & Sherrill, 2015).

The recognition of impairment is a crucial accounting mechanism in financial reports (Amiraslani, G., & Pope, 2013; André, Filip, & Paugam, 2015; Roychowdhury & Martin, 2013), however, an untimely recognition of goodwill impairments has been shown to take place in the US-market, which challenges this accounting mechanism (Li & Sloan, 2017; Filip, Jeanjean, & Paugam, 2015; Ramanna & Watts, 2012; Hayn & Hughes, 2006). Furthermore, André, Filip & Paugam (2015) also found evidence in European firms for this untimely recognition. This is of importance, as economic impairment should be faithfully reflected in a corresponding impairment loss (Ramanna & Watts, 2009; Riedl, 2004; Francis, Hanna, & Vincent, 1996).

2.3 Financial Accounting Regulations

The latest edition of IFRS 3 was issued in 2008 and was an improvement and joint project between the US Financial Accounting Standard Board (FASB) and the International Accounting Standard Board (IASB) (IFRS 3; Deloitte Global Services Limited, u.d.). IFRS 3 defines a business combination as realized when an acquirer obtains control over one or more businesses through transactions or other events (IFRS 3; FAR AB, u.d.). The big difference between IAS 22 and IFRS 3 was how the accounting for goodwill should be done. According to IAS 22, goodwill that occurred when businesses were combined should be amortized on a yearly regular basis (IFRS 3). According to IFRS 3, goodwill should now instead be tested for impairment on annual basis. This resulted in the creation of goodwill as an asset that can be held in the balance sheet indefinitely (IFRS 3; Sherill, 2016). The change from amortization-and-impairment system to an only-impairment system resulted in an increase of goodwill.
balances reported and a case study made on the Swedish market, showed a 50 percent increase of goodwill balances reported post-IFRS 3 (Hamberg, Paananen, & Novak, 2012).

IAS 36 - Impairment of assets (IAS 36), stipulates that goodwill should be annually tested for impairment. The objective behind IAS 36 aims to secure that a firm's assets are not carried at an amount that exceed the recoverable amount of the asset (IAS 36). The recoverable amount is the highest of the value in use, and fair value less costs of disposal (IAS 36). IAS 36 states that an asset shall be tested for impairment if the firm recognizes indicators of a reduction in the value of the asset. One indication of this reduction is if the recoverable amount for the cash generating unit(s), that the goodwill has been allocated to, is less than the carrying amount of the unit(s). When allocating the goodwill to the cash-generating units, the smallest group of assets that are able to generate cash flows from ongoing use and that has a cash-flow that is separated from other groups or assets, is recognized (IAS 36). If so, an impairment should be recognized with an amount the size as the difference between the recoverable and carrying amount. The firm cannot recognize an impairment and reduce the carrying amount of the goodwill below the highest of: (1) if measurable, the asset’s fair value less costs of disposal (2) if determinable, the asset’s value in use and (3) zero (IAS 36). The standard imposes further restrictions specifically for goodwill, which requires the asset to be tested for impairment at least annually, and once recognized, the impairment cannot be reversed (IAS 36).

2.4 Economic Impairment

Literature on the goodwill impairment topic has examined a number of variables that might reflect economic impairment, e.g. a decrease in the operating cash flow between years (Stenheim & Madsen, 2016; Francis, Hanna, & Vincent, 1996; Segal, 2003; Riedl, 2004; AbuGhazaleh, Al-Hares, & Roberts, 2011). An accurate economic impairment of goodwill cannot be observed since no separate market to determine the actual and current value of goodwill exist. As a result, existing literature has used a number of proxies to investigate the undetectable goodwill impairment determinants. The faithfulness of goodwill impairments can then be discriminated by examining the validity of these proxies for economic impairment (Stenheim & Madsen, 2016).

Proxies have previously been studied on three aggregation levels: macroeconomic-, industry- and firm level, by looking at variables linked to impairment losses. On a macroeconomic level, an economic recession can be shown through increases in unemployment rates. A recession
will negatively affect firm performance and hence cause goodwill impairments to be reported more often (Francis, Hanna, & Vincent, 1996; Segal, 2003; Riedl, 2004). Dah (2016) found evidence that during times of recession, there is a greater rise in agency problems\(^1\), with managers exploiting their position for private gains, which in turn will negatively affect the already possible poor performance of the firm. Firm performance is also dependent on the industry it operates within, and negative financial performance for the industry as a whole will consequently affect the individual firm negatively. This will consequently result in a greater likelihood of impairment losses (Francis, Hanna, & Vincent, 1996; Segal, 2003; Riedl, 2004). On a firm level, previous literature has examined different metrics to explain the economic impairment for firms, by examining performance and asset values (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011; Riedl, 2004). Poor prior performance has been seen to have a great impact on the amount of reported goodwill impairment (Francis, Hanna, & Vincent, 1996; Zang, 2008).

2.5 Earnings Management

The term earnings management is used to describe the accounting process, in which managers exploit their position for private gain, by manipulating reported earnings in an attempt to reach a desirable level of earnings. This is often to the concern of investors and stakeholders and regarded as a signal that managers are acting opportunistically, when for example, trying to smooth earnings of a financial report by taking discretionary actions. The term now also includes and describes almost all forms of earnings manipulation, not just from a managerial point of view. Practices such as “revolving doors”, i.e. when a firm hires an executive or controller from their current audit firm, the use of managers discretion to secure a lending agreement, or to window dress financial statements before initial public offerings. The literature on earnings management has mostly investigated the occurrence and importance on unexpected accruals, but recently, the focus has shifted more to studies on when the manipulation and distribution of reported earnings result in significant changes in the income statement. (Nisar, 2009)

Field, Lys, & Vincent (2001) present three specific conditions that creates a rational reporting strategy for earnings management in a firm, that may occur if and when:

\(^1\) Agency Theory, see section 2.5.2
1. There is an information asymmetry between stakeholders and the managers,
2. There is an interest conflict between the managers and stakeholders, and
3. Managers have a greater freedom of accounting choices.

If these three conditions are applicable, managers may gain benefits by engaging in some form of earnings management (Field, Lys, & Vincent, 2001). The new legislations on how to account for goodwill may open for earnings management behaviours (Masters-Stout, Costigan, & Lovata, 2008), as the regulation do not pinpoint any clear valuation of goodwill, as it is specific to each firm and the valuation is based on managers assumptions (IAS 36). Previous studies on the subject of goodwill impairments has showed evidence of earnings management and situations when these impairment losses will not be recognized by the management (Beatty & Weber, 2006; Masters-Stout, Costigan, & Lovata, 2008; Zang, 2008; Ramanna & Watts, 2009; AbuGhazaleh, Al-Hares, & Roberts, 2011; Hamberg, Paananen, & Novak, 2012; Saastamoinen & Pajunen, 2016; Silvola, Huikku, & Mouritsen, 2010).

2.5.1 “Big Bath” and “Income Smoothing”

Hayn & Hughes (2006) showed in their study that managers take advantage of their discretion to time the impairment in order to fulfil specific reporting targets, and by overstating impairment losses (Francis, Hanna, & Vincent, 1996; Rees, Gill, & Gore, 1996; Riedl, 2004; Zucca & Campbell, 1992). Zucca & Campbell (1992) showed that asset write-offs can especially be seen in times when expected earnings have not been met pre-impairment. By taking a “Big Bath”, managers have the possibility to improve future earnings, giving the impression to stakeholders that the “crisis” are past the firm (Zucca & Campbell, 1992; Alciatore, Dee, Eastion, & Spear, 1998) The practice of “Big Bath” may only influence the impairment amount (Saastamoinen & Pajunen, 2016), and the decision to report impairment losses can often be connected to compensation difficulties (Beatty & Weber, 2006; Watts, 2006), which is one of the main parts of the agency theory connected to incentives for managers (Bednar, 2016).

When pre-impairment earnings are higher than expected, the reporting strategy “Income Smoothing”, occurs more frequently, as a way to reach expected levels of earnings. Copeland (1968:101) explains that the accounting strategy of “smoothing”: “...moderates year-to-year fluctuations in income by shifting earnings from peak years to less successful periods”, in order to reduce income volatility. The use of “Big Bath” and “Income Smoothing” was presented in
a model by Kirshenheiter & Melumad (2002), who showed them as components of a “equilibrium reporting strategy”. “Income Smoothing” behaviour has been shown to occur in connection with goodwill impairments, but the behaviour can be diminished through effective corporate governance mechanisms (AbuGhazaleh, Al-Hares & Roberts, 2011), as employees of an organization would provide work in the best interest for the objectives of the organization and its shareholders, acting as “stewards”, which can confirm the basic assumption of the Stewardship theory\(^2\) (Neubaum, 2013).

2.5.2 Agency Theory

The agency theory, try to explain the problem that arises in the situation when a principal hires an agent to act in the principal's interests (Bednar, 2016). The agency theory can be recognized in all different kind of situations and is not only applicable in the business world. In firms, the agency theory can be shown through a separation between ownership (shareholders) and control (managers). The shareholders, that are the owners of the publicly traded firm, hires the managers (agents) to run the business and in an indirect point of view, create a return on the investments that the shareholders have put in. The problem that arises is how the shareholders should find incentives to make the managers act in the interest of the shareholders (Bednar, 2016). The reason for the managers to not act in the interest of the shareholders is based on the information asymmetry that can occur between the managers and the shareholders (Zhang, 2012). This asymmetric information is created because of the involvement and difference in the daily running of the business. The manager is the first actor to receive the most recent information, in the guidance for decision making, and the shareholders will eventually get this information when the manager chooses to pass it forward to them. The manager (agent) has the opportunity to control what kind and amount of information the stakeholders (principals) receives and therefore, the managers can act in their own interest instead of the stakeholders (Zhang, 2012).

2.5.3 Stewardship Theory

The Stewardship theory tries to explain the situation where employees of an organization has the intention to provide work in the best interest for the organization’s objective and its shareholders. In comparison with the agency theory, organizational agents will instead serve as

\(^2\) Stewardship Theory, see section 2.5.3
“stewards”, with purposes beyond their own best interest, as they adopt and exercise an attitude for a more unified performance and result. “Stewards” will act in line with organizational behaviour to optimize their intrinsic benefits, but not by disregarding what is best for the organization, but rather trying to enhance the outcome for others, rather than for themselves (Neubaum, 2013).

The motivations for stewards acting for a collectivistic outcome, instead on the individualistic behaviour that arises in the agency theory, has its basis from the individual's own psychological mind-set and, likewise, the organizational approach to strengthen the stewardship structure. The organization can moderate the accepted power distance levels, the level of employee involvement and define and elevate the collectivistic spirit for employees. By encouraging employees to develop their own abilities and obtain personal growth, stewards will actively work to contribute to the firm as a whole and identify and act in accordance with the organizational mission and objectives (Neubaum, 2013).

2.6 Corporate Governance Mechanisms

Corporate governance has become a well discussed topic in modern firms because of the increased separation of ownership and control within firms (Chalevas & Tzovas, 2010). Corporate governance is defined as the mix of procedures, rules, practices and policies that a firm’s executives and the firm’s board of directors devote to fulfil their duties set by the shareholders (Luhman & Cunliffe, 2013). Corporate governance is not only of importance for the practice of the shareholders, but also for all the stakeholders of the firm. A stakeholder could be, for example, the employees, other firms and/or the community that a firm is active within. Corporate governance is of importance as it helps to balance the different interests, responsibilities and rights that the firm has against its’ stakeholders, but also the interests, responsibilities and rights that the stakeholder has against the firm. (Chaudhri, 2016)

There is no so called “best model” for how to construct the corporate governance mechanisms, but still, there has been evidence that a firm’s performance can increase by actively working with these mechanisms (Perry & Shivdasani, 2005). The basic assumption on what should be resolved with corporate governance mechanisms is that it should help to improve the agency problem that arises in a firm, and additionally, create confidence for the stakeholders due to better behaviour practiced by the management (Chaudhri, 2016).
In year 1992, The Cadbury Report was published and was among the first official guidelines for firms to act in line with corporate governance mechanisms (University of Cambridge, u.d.). This publication has also been seen as the starting point for the research that has been done in the field of corporate governance, with a large part of the research focusing on how corporate governance will impact the financial accounting reporting. Karamanou & Vafeas (2005) found evidence that the corporate governance mechanisms impact the disclosure quality of the reports and that stronger corporate governance mechanisms lead to better and more valid accounting of the annual reports. Other studies also focused on the reason behind this improvement of the financial reports. The findings indicate that the characteristics of the board, such as more board activity and more independent non-executive board members has a negative effect on earnings management and a positive effect on the quality of the financial reporting (Lipton & Lorsch, 1992; Yermack, 1996; Chtourou, Bedard, & Courteau, 2001; Xie, Davidson, & DaDalt, 2003; Farber, 2005; Vafeas, 2005; Peasnell, Pope, & Young, 2005; Davidson, Goodwinn-Stewart, & Kent, 2005; Ebrahim, 2007; Koh, LaPlante, & Tong, 2007). At the same time, Verriest & Gaeremynck (2009) and AbuGhazaleh, Al-Hares, & Roberts (2011) found that the level of corporate governance mechanisms in a firm influence the accounting for goodwill impairment. An increased level of strong and functional corporate governance mechanisms results in a greater frequency of impairments. This may be explained by the forcing effect of the mechanisms to reflect a more accurate picture of the firm to improve the firm value (Verriest & Gaeremynck, 2009).

2.6.1 Gender Diversity

Another corporate governance mechanism that can affect the reported goodwill impairment is the gender diversity of the board of directors. In November 2012, the European Commission decided to take actions in the question on gender diversity within non-executive boards for firms registered in the member states. This was strongly supported by the European Parliament and resulted in a proposal to a directive that states a quantitative objective of 40 percent should count for the underrepresented gender by year 2020 (European Commission, 2012). To secure that merit and qualifications remains in focus, the firms that do not reach the 40 percent allocation has to argue and present information on why this is not the case (Jourova, 2016). Spain, France and Finland, has already implemented gender quotas in their national law (Bianco, Ciavarella, & Signoretti, 2015), in contrast to Sweden, that has no present stated
regulation about gender diversity. However, the Swedish Corporate Governance Code recommends a gender equality as far as possible (Swedish Corporate Governance Board, 2016). The underrepresented gender in Swedish corporate boards for firm listed on OMXS was in November 2017, women, which represented 32 percent of total board members (SCB, 2017).

The topic of gender equality has emerged in the study field for businesses and the impact of increased women involvement in the top management systems within a firm has been discussed (Bilimoria, 2000; Dezső & Ross, 2012; Terjesen, Sealy, & Singh, 2009). Some studies show differences in the way women and men are acting as leaders in businesses. Schuh, o.a. (2014) argued that women are often less power-hungry than men in the same positions within firms, which can be explained by the observed reduced power-orientation behaviour that women have (Adams & Funk, 2012). These differences will also have impact on how decisions are made and if actions are in line with the self-interest of the manager or not and when serving as a gender minority on the board, women are able to make a greater contribution to the decision-making (Kanadlı, Torchia, & Gabaldon, 2018).

When taking place in a board, women are more involved in the work and are attending more meetings of the board then their male colleagues that will result in greater alignment with the interest of the shareholders by overriding the board member’s own interest (R.B. Adams, D. Ferreira, 2009). The problem connected to the agency theory could be reduced if this happens (Carter, Simkins, & Simpson, 2003). In 2005, Ryan & Haslam (2005b) found evidence that firms more often choose to elect women as CEOs or board members when they are facing bad financial performance. The findings questioned Judges (2003) earlier arguments that boards with only male members were the ones who performed best. An increased number of women on the board was not the cause of the bad performance, but a bad performance was rather a trigger for appointing women (Ryan & Haslam, 2005b).

When selected as a board member, women are exposed for a higher level of valuing and testing, to see if they really are the best candidate for the position (Bygren & Gähler, 2012), and is considered as gender discrimination (Gregory-Smith, Main, & O'Reilly, 2014). When selecting a woman for the board, the woman on the board are classified as independent against the firm (Adams & Ferreira, 2009). The influence of the independency leads to better performance of the firm, especially with focus on productivity (Joy, Carter, Wagener, & Narayanan, 2007; McKinsey & Co, 2007; Mckinsey & Co, 2008; McKinsey & Co, 2010; Wilson & Altanlar,
There are studies that have showed the opposite effect of the gender impact on a firm’s performance. Gregory, Jeanes, Tharyan, & Tonks (2013) and Shamil, Shaikh, Ho, & Krishnan (2014) argue that the market reaction and the performance of a firm depends on so much more variables than just the gender diversity of the board. There can be times during the measuring period that are biased for female directors and correcting itself when adding more variables. Ahern & Dittmar (2012) made a study looking into the effects of the stated law in Norway, that requires gender diversity level of at least 40 percent in corporate boards and found that the regulation had the opposite effect and resulted in negative impact on the valuation of the firms.
3. Hypotheses

In this chapter, the authors present the hypotheses used in the thesis. First, a small background for the assumptions of the hypothesis is presented by the authors, followed by the stated hypothesis.

This thesis will use empirical proxies to examine the economic impairment of goodwill. The proxies used are: change in return on assets, change in operating cash flow and pre-impairment book-to-market value. The assumption about using proxies is in line with previous studies (Francis, Lennox, & Wang, 2010; Riedl, 2004; Beatty & Weber, 2006; Lapointe-Antunes, Cormier, & Magnan, 2008; Zang, 2008; Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011). The above discussion leads to the following hypothesis:

\( H_1: \) Firms that experience a negative change in financial performance are more likely to report a higher amount of goodwill impairment.

To “take a bath”, i.e. the accounting practice “Big Bath”, can take place when the result of the period is worse than expected. An even worse result will be reported for the period by recognizing impairments that are abnormally high. With this, the managers postpone the indirect income to the future periods, often the two following years (Kirshenheiter & Melumad, 2002). The above discussion leads to the following hypothesis:

\( H_{2a}: \) Firms that experience an abnormally high negative change in pre-impairment earnings are more likely to report a higher amount of goodwill impairment.

During “good times” of firm performance, earnings management can be seen in the shape of “Income Smoothing”. When management are facing higher pre-impairment earnings than expected, they can use write-offs to end up with reported earnings that will be closer to the expected financial goals for the period and therefore show on good managerial practices of the firm (Zucca & Campbell, 1992; Kirshenheiter & Melumad, 2002). The above discussion leads to the following hypothesis:

\( H_{2b}: \) Firms that experience an abnormally high positive change in pre-impairment earnings are more likely to report a higher amount of goodwill impairment.
Firms with strong or more efficient corporate governance mechanisms have been found to reduce financial fraud and create a more correct and fair financial accounting of the firm (Peasnell, Pope, & Young, 2005; Davidson, Goodwinn-Stewart, & Kent, 2005; Mulgrew & Forker, 2006; Ebrahim, 2007; Koh, LaPlante, & Tong, 2007). When looking at corporate governance mechanisms that have been seen to affect the financial reporting within firms more, the number of independent members of the board and the level of board activity are both vital indicators (Verriest & Gaeremynck, 2009; Farber, 2005; Vafeas, 2005; Peasnell, Pope, & Young, 2005; Davidson, Goodwinn-Stewart, & Kent, 2005; Ebrahim, 2007; Koh, LaPlante, & Tong, 2007). Additionally, the gender diversity of the board has been seen to impact the accounting actions and the quality of financial reporting. An increased level of women on the board leads to better financial reporting (Joy, Carter, Wagener, & Narayanan, 2007; McKinsey & Co, 2007; McKinsey & Co, 2010; Mckinsey & Co, 2008; Wilson & Altanlar, 2009; Rohner & Dougan, 2012). The above discussion leads to the following hypothesis:

H₃: Firms with strong corporate governance mechanisms are more likely to report a higher amount of non-opportunistic goodwill impairment.
4. Methodology

In this chapter, the authors first introduce the research approach and research process used in the thesis. After this, the variables used in the thesis are presented by the authors, followed by the data collection. Last, the regression model and the research quality are presented by the authors.

4.1 Research approach

To meet the purpose of this research, existing theory (AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016; Riedl, 2004), that have stated theoretical propositions for the determinants and variables used as proxies for economic impairment, occurrences of earnings management and corporate governance mechanisms, is used. These proxies are connected to observable variables, that have been used in order to develop hypotheses and the collection of quantitative data. In addition, this thesis add two variables with regards to the impact of female board representation.

The quantitative research approach uses a multiple regression analysis, which is consistent with previous made studies (AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016; Riedl, 2004), were a multiple regression analysis is used to examine what determines the amount of reported goodwill impairment. Consequently, the results of the model used in this research could be compared with the findings from previous studies.

Including and testing for several variables allows the research to examine the impact of each individual variable (Easterby-Smith, Thorpe, & Jackson, Management & Business Research, 2015). Each observation is specific for each and one of the firms since the goodwill impairment can take an positive infinite number of values, i.e. the variable is continual (Pallant, 2010:148). This leads to a choice of a multiple linear regression, that fits best for regression analysis with dependent variables with infinite valuation.

4.2 Research process

The regression model is used to test the hypotheses stated in section 3. Hypotheses and is run in SPSS using the sample group of 154 firm-year observations for 69 firms. By examining the
p-values of the independent variables, any particular significance to the dependent variable is observable (Saunders, Lewis, & Thornhill, 2009; Donnelly, 2013). These p-values are examined at significance levels of 1 percent, 5 percent and 10 percent. Consistent with Stenheim & Madsen (2016), the regression is run with year-dummies to control for any significant differences between years. This is especially of interest in order to examine if any particular significance can be found for specific years and if conclusions can be drawn to the aftermath of the financial crisis between the years 2007-2010 (Sveriges Riksbank, 2018). The variables used for the regression analysis, all consist of a calculated value as described in Table 3. From this, the effect of each individual independent variable to the dependent variable is observable. The relationship between the independent variables and dependent variable is observable by looking at the positive or negative value of the β-coefficient (Saunders, 2009). In order to understand and interpret the variables, SPSS is used to retrieve descriptive statistics on the mean-(average), min-, max value, standard deviation and the 25th and 75th percentile of the observations in the sample group.

The variance inflation factor (VIF), which is the inverse of the tolerance value, is used to check for multicollinearity between variables and a VIF value above 10 will indicate a strong collinearity (Saunders, Lewis, & Thornhill, 2009). If any strong indications for collinearity is found for the variables, the regression model will be modified by excluding variables to secure the reliability of the regression model (Saunders, Lewis, & Thornhill, 2009).

4.3 Data collection

The data used in the thesis is collected by the authors using the two databases Retriever Business and Thomson Reuters Eikon Datastream. The databases complement each other since they are able to provide different data used in the thesis. Manual collection of data on the board characteristics is retrieved from published annual reports of the sampled firms. The annual reports are also used to collect missing data that cannot be provided by Retriever Business or Thomson Reuters Eikon Datastream. To construct some of the variables, data is also being collected corresponding to year 2006.
4.3.1 Sample

The sample group used for the thesis is created by firms listed on OMXS at 31st of December 2017. To compose the sample group, the three trading lists, large capital, mid capital and small capital is used. A ten-year period is selected for the research, between the years 2007-2016. The authors chose to start in year 2007 where the correction from earlier national accounting regulations impacts has been settled, since firms listed on the OMXS are required to implement International Accounting Standards issued by IASB after 2005 (European Commission, 2002). Additionally, the choice of the time-period for the sample group is made to secure an appropriate number of firm-year observations with goodwill impairments and increase the validity of the research, as the observed time-period exceeds the previous similar research done (Riedl, 2004; AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016; Saastamoinen & Pajunen, 2016). The data that confirms if goodwill exists in the balance sheet or not for the listed firms is collected by using Retriever Business. To collect data on the amount of reported goodwill impairment, EBITDA, OCF and ROA, Thomson Reuters Eikon Datastream is used. The collection of the number of board members, characteristics of the board members, share price, the number of shares, result of previous and present year, total liabilities and total intangible assets is done by manual collection of the annual financial reports published by each and one of the firms in the sample group. The data used in this research is classified as secondary data.

Table 1 – Exclusion of observations

<table>
<thead>
<tr>
<th>Firm-year observations</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firms listed on Nasdaq OMX Stockholm (OMXS) Dec. 31 2017</td>
<td>3160</td>
<td>100,00%</td>
</tr>
<tr>
<td>Observations classified within the financial industry</td>
<td>-430</td>
<td>-13,61%</td>
</tr>
<tr>
<td>Non-existing goodwill in the balance sheets</td>
<td>-954</td>
<td>-30,19%</td>
</tr>
<tr>
<td>Non-impairment observations</td>
<td>-1276</td>
<td>-40,38%</td>
</tr>
<tr>
<td>Observations with data incomplete or missing, broken fiscal</td>
<td>-346</td>
<td>-10,95%</td>
</tr>
<tr>
<td>years, other reporting currency than SEK, or not listed at</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasdaq OMX Stockholm (OMXS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final sample (Firm-year observations)</td>
<td>154</td>
<td>4,87%</td>
</tr>
</tbody>
</table>
Table 1 and Table 2 show the sampling process in the thesis. The large-, mid and small capital lists for the OMXS consisted of 316 firms in 31st of December 2017. For the chosen time period, 3160 possible firm-year observations are found. The first exclusion from the sample are made in line with previous studies made (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011; Riedl, 2004) and is based on the industry classification of the firm. The firms in the sample that are classified as a financial institution according to the Industry Classification Benchmark are excluded, which includes banks, insurance firms, real estate firms and financial service firms (FTSE International Limited, 2012). The exclusion of financial institution firms is made because of the tougher regulations that these types of firms faces, which leads to a loss in comparability to other industries (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011; Riedl, 2004). This reduce the sample with 43 firms and 430 firm-year observations. Secondly, 954 firm-year observations are excluded from the sample since no goodwill is reported for the observed period. Third, 1276 firm-year observations are not found to report any goodwill impairment for the observed period and are therefore excluded. The two criteria, goodwill in the balance sheets and reported goodwill impairments, is chosen to be made, since the hypotheses of the thesis is designed to only be applicable to firm-years with reported goodwill impairments. Lastly, a reduction of the sample group is made by excluding the firm-year observations where no data is found, when there is a broken fiscal year, or the financial reporting is made in another currency than the Swedish Krona (SEK) or if the firm is not listed on the OMXS. This reduce the sample with 346 observations.

The final sample consisted of 154 observations [4,87 percent out of total possible observations] from 69 firms [21,84 percent out of total number of firms] during the time period 2007-2016.
4.4 Variables

The variables in this thesis is used in previous studies (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011; Riedl, 2004; Saastamoinen & Pajunen, 2016), except for the variables related to gender diversity. To secure a comparability of the research, all continuous variables from these previous studies used in the regression model, are either adjusted for goodwill impairment reported, scaled for total assets or defined as lagged measures (i.e. t-1), consistent with previous studies (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011; Riedl, 2004; Saastamoinen & Pajunen, 2016). The variable NUM_WOMEN_BOARD is adjusted as the variable NON_EXE, since both variables are defined as a fraction of the total number of board members of firm i at time t. This correction protects the thesis from potential proportionality issues in the data used, and therefore, there is no exclusion of outliers for the variables used in the regression analysis (AbuGhazaleh, Al-Hares, & Roberts, 2011).
Table 3 – Variables used in the regression model

<table>
<thead>
<tr>
<th>Variable explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable</strong></td>
</tr>
<tr>
<td>IMP_AMOUNT (t)</td>
</tr>
<tr>
<td><strong>Independent variables</strong></td>
</tr>
<tr>
<td>ΔROA (i, t, t-1)</td>
</tr>
<tr>
<td>ΔOCF (i, t, t-1)</td>
</tr>
<tr>
<td>BM (i, t)</td>
</tr>
<tr>
<td>BATH (i, t)</td>
</tr>
<tr>
<td>SMOOTH (i, t)</td>
</tr>
<tr>
<td>BOARD_SIZE (i, t)</td>
</tr>
<tr>
<td>BOARD_MEET (i, t)</td>
</tr>
<tr>
<td>NONEXE (i, t)</td>
</tr>
<tr>
<td>NUM_WOMEN_BOARD (i, t)</td>
</tr>
<tr>
<td>EU_WOMEN_BOARD (i, t)</td>
</tr>
<tr>
<td><strong>Control variable</strong></td>
</tr>
<tr>
<td>SIZE (i, t)</td>
</tr>
</tbody>
</table>
4.4.1 Dependent

The dependent variable used in the multiple regression model represent the amount of reported goodwill impairment for the firm, IMP_AMOUNT. The definition of IMP_AMOUNT, follows previous studies, that the amount of reported goodwill impairment of firm i, for year t was scaled by the value of total assets for year t-1 (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011; Saastamoinen & Pajunen, 2016). This makes the amount of goodwill comparable among the observations used in the research.

4.4.2 Independent

The independent variables are divided into three subsections; economic impairment, earnings management and corporate governance mechanisms.

4.4.2.1 Hypothesis H1. - Proxies for Economic Impairment

ΔROA: Changes in return on assets can be used as an indicator for firm performance and asset values (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011; Francis, Hanna, & Vincent, 1996; Riedl, 2004; Segal, 2003; Sellhorn, 2004; Zang, 2008). Predicted outcome between ROA and IMP_AMOUNT: ( - ).

- A larger amount of goodwill impairment is reported for firms with negative changes in return on assets.

ΔOCF: Changes in operating cash flows can be used as an indicator for firm performance and asset values (Stenheim & Madsen, 2016; Francis, Hanna, & Vincent, 1996; Riedl, 2004; Segal, 2003; Sellhorn, 2004; Kvaal, 2005; Zang, 2008). Predicted outcome between ΔOCF and IMP_AMOUNT: ( - ).

- A larger amount of goodwill impairment is reported for firms with negative changes in operating cash flows.

BM: Book-to-market ratio can be used as an indicator for impairment losses (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011; Francis, Hanna, & Vincent, 1996; Kvaal, 2005; Riedl, 2004; Segal, 2003; Sellhorn, 2004). The book-to-market ratio of a firm consists of the valuation of the firm made by the market and the firm's own valuation of their
books, mostly done in directions of accounting regulation. Predicted outcome between BM and IMP_AMOUNT: ( + ).

- A larger amount of goodwill impairment is reported for firms with a high book-to-market ratio.

4.4.2.2 Hypotheses H2a, H2b - Proxies for Earnings Management

**BATH:** When pre-impairment earnings are lower than expected, impairment losses are larger, as the accounting behaviour of “Big Bath” occurs. There is no generally proved method to measure the occurrence of “Big Bath” and therefore, the variable is more used as an indicator of this accounting behaviour in this thesis (Higson, 2003; Stenheim & Madsen, 2016; Kirshenheiter & Melumad, 2002; Alciatore, Dee, Eastion, & Spear, 1998; Zucca & Campbell, 1992). Predicted outcome between BATH and IMP_AMOUNT: ( - ).

- A larger amount of goodwill impairment is reported when changes in pre-impairment earnings between periods, scaled by total assets, when below the median of nonzero negative values of this variable.

**SMOOTH:** When pre-impairment earnings are higher than expected, impairment losses are larger, as the reporting strategy of “Income Smoothing” occurs. There is no generally proved method to measure the occurrence of “Income Smoothing” and therefore, the variable is more used as an indicator of this reporting strategy in this thesis (Stenheim & Madsen, 2016; Kirshenheiter & Melumad, 2002). Predicted outcome between SMOOTH and IMP_AMOUNT: ( + ).

- A larger amount of goodwill impairment is reported when there are changes in pre-impairment earnings between periods, scaled by total assets, when above the median of nonzero positive values of this variable.

4.4.2.3 Hypotheses H3, - Proxies for Corporate Governance Mechanisms

**BOARD_SIZE:** The quality of the financial reporting and the occurrence of earnings management actions are affected by the number of board members. A larger board is an indicator for better financial reporting and less occurrence of earnings management actions
Predicted outcome between BOARD_SIZE and IMP_AMOUNT: (+).
- A larger amount of non-opportunistic goodwill impairment is reported when there is an increased number of board members.

**BOARD_MEET:** The board activity, i.e. the frequency of board meetings, are positively associated with the quality of the financial reporting and an increased number of board meetings for the fiscal year improves earnings quality (Xie, Davidson, & DaDalt, 2003; Vafeas, 2005). Predicted outcome between BOARD_MEET and IMP_AMOUNT: (+).
- A larger amount of non-opportunistic goodwill impairment is reported for firms with a higher frequency of board meetings.

**NON_EXE:** There is a higher quality of the financial reporting when there is a higher percentage of non-executive board members that are classified as independent members. The independence reduces the incentives for earnings management (Davidson, Goodwin-Stewart, & Kent, 2005). Predicted outcome between NON_EXE and IMP_AMOUNT: (+).
- A larger amount of non-opportunistic goodwill impairment is reported when there is a higher percentage of non-executive board members.

**NUM_WOMEN_BOARD:** The gender diversity of the board has an impact on the firm performance. An increased number of women in the board improves the quality of financial reporting (Joy, Carter, Wagener, & Narayanan, 2007; Wilson & Altanlar, 2009; Rohner & Dougan, 2012). Predicted outcome between NUM_WOMEN_BOARD and IMP_AMOUNT: (+).
- A larger amount of non-opportunistic goodwill impairment is reported when there is a larger number of women on the board.

**EU_WOMEN_BOARD:** The gender diversity of the board has an impact on the firm performance. An increased number of women in the board improves the quality of financial reporting (Joy, Carter, Wagener, & Narayanan, 2007; Wilson & Altanlar, 2009; Rohner & Dougan, 2012). To secure this quality of financial reporting, the EU recommends a 40 percent level of female board members. Predicted outcome between EU_WOMEN_BOARD and IMP_AMOUNT: (?)
4.4.2.4 Control-variable

Consistent with previous studies, SIZE is used as a control variable in previous studies (AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016; Saastamoinen & Pajunen, 2016).

**SIZE**: The reporting practice of a firm can be affected by the size of the firm. Therefore, it would be legitimate to consider this variable when running the regression analysis for the amount of reported goodwill impairment. For larger firms, there is often an increased pressure from its stakeholders about complying with the accounting regulations (Watts & Zimmerman, Positive Accounting Theory: A Ten-Year Perspective, 1990). A small firm may instead lack the resources necessary for making an accurate impairment test (Bens, Heltzer, & Segal, 2011; Chalmers & Godfrey, 2011; Jarva, 2009).

### 4.5 Regression model

\[
IMP\_AMOUNT_t = \alpha_0 + \alpha_1 \Delta ROA_{i,t,t-1} + \alpha_2 \Delta OCF_{i,t,t-1} + \alpha_3 BM_{i,t} + \alpha_4 BATH_{i,t} + \alpha_5 SMOOTH_{i,t} + \alpha_6 BOARD\_SIZE_{i,t} + \alpha_7 BOARD\_MEET_{i,t} + \alpha_8 NONEXE_{i,t} + \alpha_9 NUM\_WOMEN\_BOARD_{i,t} + \alpha_{10} EU\_WOMEN\_BOARD_{i,t} + \alpha_{11} SIZE_{i,t} + \epsilon_{i,t}
\]

The regression model is used to test the hypotheses stated in section 3. Hypotheses and is run using the full sample of observations (\(n=154\)).

### 4.6 Research quality - Reliability & Validity

The reflection regarding the value of the research is done through the two segments of reliability and validity (Bryman & Bell, 2013). The reliability can for example be seen if the research replicates previous studies made in the field and the results and findings are similar, by this, a consistency is found (Saunders, Lewis, & Thornhill, 2009). In this thesis, the reliability is shown in using a regression model, measuring determinants of the amount of goodwill impairment, collected from previous made studies (AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016).
The number of variables used in the regression analysis/model in this thesis, have also had an impact on the reliability and the validity and have been selected in consideration of what previous studies have used (AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016; Riedl, 2004). The increased number of independent variables have also been motivated by the statement that reported goodwill impairments can be affected by many different factors (Francis, Lennox, & Wang, 2010). By including a wide range of variables that has been tested before, that can have a possible impact on the amount of the reported goodwill impairment, the research reliability may increase. However, not all variables used in previous studies are included in the regression model and additionally, two non-previously tested variables has been included in this thesis (AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016; Riedl, 2004). These choices make the thesis not fully consistent with previous studies and could come to harm the reliability of the thesis.

The second segment of the value of research is the validity which reflects how well the results and models used in the research actually reflect the reality (Bryman & Bell, 2013). The validity in this thesis have been secured by being attentive of where the data has been collected from. The data collection has been made by using databases with information presented from publicly published reports that are approved by auditors. Additionally, the complementing data, collected manually, was collected from the audited publicly published reports. Likewise, the motivation behind this choice was to collect data that would lead to better validity of the research.

The selected time frame for the observations is also something that could impact the validity of the research. The time frame used in this thesis could impact the results, since the years 2008-2009 was heavily affected by the financial crises (Rani & Torres, 2011), that affected the Swedish economy between the years 2007-2010 (Sveriges Riksbank, 2018). This recession could lead to abnormal observations that will impact the result of the thesis. To solve this potential dilemma of external validity, an expanded time frame, compared to earlier studies made, is used in order to recognize potential changes in the trends (Bryman & Bell, 2013).
5. Empirical results

In this chapter, the authors present the empirical results of the thesis; the descriptive statistics and the results of the multiple regression.

5.1 Descriptive statistics

The sample, used in the thesis, consists of 154 observations, between the years 2007-2016. Table 4 shows the frequency of reported goodwill impairement observations for the ten-year period. As seen in Table 4, a higher frequency of goodwill impairments was reported between the years 2008 and 2011.

<table>
<thead>
<tr>
<th>Year</th>
<th>Reported goodwill impairment observations (final sample)</th>
<th>Percentage of reported goodwill impairment observations (final sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>13</td>
<td>8,4%</td>
</tr>
<tr>
<td>2008</td>
<td>16</td>
<td>10,4%</td>
</tr>
<tr>
<td>2009</td>
<td>23</td>
<td>14,9%</td>
</tr>
<tr>
<td>2010</td>
<td>19</td>
<td>12,3%</td>
</tr>
<tr>
<td>2011</td>
<td>24</td>
<td>15,6%</td>
</tr>
<tr>
<td>2012</td>
<td>11</td>
<td>7,1%</td>
</tr>
<tr>
<td>2013</td>
<td>14</td>
<td>9,1%</td>
</tr>
<tr>
<td>2014</td>
<td>13</td>
<td>8,4%</td>
</tr>
<tr>
<td>2015</td>
<td>9</td>
<td>5,8%</td>
</tr>
<tr>
<td>2016</td>
<td>12</td>
<td>7,8%</td>
</tr>
<tr>
<td>Total</td>
<td>154</td>
<td>100,0%</td>
</tr>
</tbody>
</table>

The descriptive data for the variables used in the multiple regression analysis is presented in Table 5 below. Table 5 is constructed with the descriptive data of the dependent variables presented in the upper part of the table and is followed by descriptive data for the independent variables and control variable used in the regression model.
Table 5 – Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>Nr. of observations</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of Reported Goodwill Impairment</td>
<td>154</td>
<td>214 432 626</td>
<td>33 200 000</td>
<td>603 709 579</td>
<td>34 000</td>
<td>4 984 000 000</td>
<td>8 000 000</td>
</tr>
<tr>
<td>IMP_AMOUNT</td>
<td>154</td>
<td>0.283</td>
<td>0.011</td>
<td>1.919</td>
<td>0.000</td>
<td>21.677</td>
<td>0.001</td>
</tr>
<tr>
<td>Number of Board Members</td>
<td>154</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Number of Female Board Members</td>
<td>154</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Number of Independent NED</td>
<td>154</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Total Number of Board Meetings</td>
<td>154</td>
<td>11</td>
<td>10</td>
<td>4</td>
<td>5</td>
<td>32</td>
<td>8</td>
</tr>
<tr>
<td>ΔOCF (i,t, t-1)</td>
<td>154</td>
<td>7.085%</td>
<td>0.155%</td>
<td>381.470%</td>
<td>-1692.353%</td>
<td>3890.463%</td>
<td>-2.503%</td>
</tr>
<tr>
<td>Total Assets (t-1)</td>
<td>154</td>
<td>18 228 741 429</td>
<td>4 360 450 000</td>
<td>32 233 337 904</td>
<td>26 475 000</td>
<td>251 000 000 000</td>
<td>662 757 750</td>
</tr>
<tr>
<td>ΔROA (i,t-1)</td>
<td>154</td>
<td>-1.042</td>
<td>-0.002</td>
<td>13.054</td>
<td>-102.833</td>
<td>46.459</td>
<td>-0.028</td>
</tr>
<tr>
<td>BM (i,t)</td>
<td>154</td>
<td>-0.220</td>
<td>0.090</td>
<td>1.935</td>
<td>-16.040</td>
<td>3.780</td>
<td>-0.223</td>
</tr>
<tr>
<td>BATH/SMOOTH</td>
<td>154</td>
<td>0.415</td>
<td>-0.003</td>
<td>13.329</td>
<td>-97.755</td>
<td>94.051</td>
<td>-0.051</td>
</tr>
</tbody>
</table>

There is a big range for the amount of reported goodwill impairment among the observations used. The impairment amount has a minimum value of 34 000 SEK and a maximum value of 4 984 000 000 SEK with a mean value of 214 432 629 SEK. Fifty percent of the amount of reported goodwill impairment for the sample group is between 8 000 000 SEK and 103 650 000 SEK. When the average (mean) firm in the sample group report goodwill impairment, the size of the impairment represents 28 percent [0,283] of the total assets of the firm. There is a big range between the size of the firms in the sample group. The average firm reports total assets of 18 228 741 429 and fifty percent of the firms report assets between 662 757 750 SEK and 26 915 500 000 SEK, which show on big differences for the size of firm in the sample group. The variables, ΔROA, ΔOCF and BM, associated with economic impairment, show on big differences between the max- and min values.

The average board of directors for the sample group used in the thesis consists of 7 board members and fifty percent of the observations reported a board of directors consisting of 6 to 8 board members. The minimum value of 3 board members follows the Swedish corporate law, which requires a minimum of 3 board members for a publicly traded firm (Justitiedepartementet L1, 2005, 18:46). For the sample group, a range from no women at all (min) up to 5 female
board members (max) can be observed for NUM_WOMEN_BOARD, and the mean value of female board members for the sample used is 2. A big range can also be observed for the number of independent NEDs, from minimum of 1 to a maximum of 10, with a mean value of 6. The variable BOARD_MEET shows on a min value of 5 up to a max value of 32 meeting per year, with a mean value of 11 meetings per year.

5.2 Multiple regression analysis

The authors test the hypotheses by running a multiple regression analysis in SPSS\(^3\). The output from the regression analysis is presented in Table 6 below. The table provides information about the predicted relationship between the independent variables and the dependent variable, the Standardized Beta Coefficient (\(\beta\)), Standard errors, the significance level (\(p\)-value) and the Variance Inflation Factor (VIF). The \(p\)-values of the variables that meet the significance are respectively marked at a 10 percent- (\(*)\), 5 percent- (**) and 1 percent-level (***) in the table. If a variable is significant, the \(\beta\)-coefficient, can statistically significantly, show how a one-unit-change in the independent variable will change the outcome for the dependent variable. Table 6 also present the value of the Adjusted \(R^2\) (coefficient of determination). The Adjusted \(R^2\)-value represents the amount of variance for the dependent variable that the independent variables used in the regression model explain and is used to check if the regression analysis has any explanatory power or not. The regression analysis results in an Adjusted \(R^2\)-value of 31,5 percent, i.e. the variance in the amount of reported goodwill impairment for the period 2007-2016 is explained up to 31,5 percent by the multiple linear regression model in this thesis.

\(^3\) The whole regression was run with year-dummies to examine if there are any significant differences between the years. Regression analysis run with year-dummies, see Appendix 1
Table 6 – Regression analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted outcome</th>
<th>β-coefficient</th>
<th>Std-error</th>
<th>p-value</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ΔROA (i,t,t-1)</td>
<td>-</td>
<td>0.165</td>
<td>0.015</td>
<td>0.110</td>
<td>2.354</td>
</tr>
<tr>
<td>ΔOCF (i,t,t-1)</td>
<td>-</td>
<td>-0.394</td>
<td>0.046</td>
<td>0.000***</td>
<td>1.892</td>
</tr>
<tr>
<td>BM (i,t)</td>
<td>+</td>
<td>-0.067</td>
<td>0.072</td>
<td>0.358</td>
<td>1.178</td>
</tr>
<tr>
<td>BATH (i,t)</td>
<td>-</td>
<td>-0.396</td>
<td>0.022</td>
<td>0.000***</td>
<td>2.112</td>
</tr>
<tr>
<td>SMOOTH (i,t)</td>
<td>+</td>
<td>0.114</td>
<td>0.019</td>
<td>0.263</td>
<td>2.289</td>
</tr>
<tr>
<td>BOARD_SIZE (i,t)</td>
<td>+</td>
<td>0.180</td>
<td>0.735</td>
<td>0.053*</td>
<td>1.919</td>
</tr>
<tr>
<td>BOARD_MEET (i,t)</td>
<td>+</td>
<td>0.052</td>
<td>0.419</td>
<td>0.485</td>
<td>1.257</td>
</tr>
<tr>
<td>NONEXE (i,t)</td>
<td>+</td>
<td>-0.036</td>
<td>0.784</td>
<td>0.605</td>
<td>1.092</td>
</tr>
<tr>
<td>NUM_WOMEN_BOARD (i, t)</td>
<td>+</td>
<td>0.038</td>
<td>1.242</td>
<td>0.691</td>
<td>1.992</td>
</tr>
<tr>
<td>EU_WOMEN_BOARD (i,t)</td>
<td>?</td>
<td>-0.055</td>
<td>0.553</td>
<td>0.569</td>
<td>2.112</td>
</tr>
<tr>
<td>SIZE_MV</td>
<td>+/-</td>
<td>-0.308</td>
<td>0.087</td>
<td>0.002***</td>
<td>2.205</td>
</tr>
</tbody>
</table>

***. Correlation is significant at the 0.01 level.
**. Correlation is significant at the 0.05 level.
*. Correlation is significant at the 0.10 level.

The variable ΔOCF [-0.394 β] follow the predicted outcome and is significant at a level of 1 percent [p<0.001], i.e. if there is a decrease in the operating cash flow between the previous and current period, a higher amount of reported goodwill impairment for the current period will be observed. The variables ΔROA [0.165 β] and BM [-0.067 β] does not follow the predicted outcome and are not significant at any level tested [p=0.110 and p=0.358].

The effect of the variables related to earnings management; BATH [-0.396 β] and SMOOTH [0.114 β], both followed the predicted outcome. The variable BATH is significant at a level of 1 percent [p<0.001], which show that if there is an abnormally decreased EBITDA from the previous to the current period, an increased amount of reported goodwill impairment in the current period will be observed. The variable SMOOTH is not significant [p=0.263].

The variable BOARD_SIZE [0.180 β] follow the predicted outcome and is significant at a level of 10 percent [p=0.053] which indicates that if there is an increased number of board members, an increased amount of reported goodwill impairment will be observed. The variable BOARD_MEET [0.052 β] follow the predicted outcome, but for the variable NONEXE [-0.036 β], the outcome was not as predicted, and both of the variables lack significance [p=0.485 and p=0.605]. For the variables related to the gender diversity on the board, NUM_WOMEN_BOARD [0.038 β] follow the predicted outcome and the variable EU_WOMEN_BOARD [-0.055 β] have a negative β-coefficient. However, none of the
variables are significant \( \text{NUM\_WOMEN\_BOARD} \ [p=0.691] \) and \( \text{EU\_WOMEN\_BOARD} \ [p=0.569] \).

The control variable \( \text{SIZE} \) is significant at a level of 1 percent \( [p=0.002] \) and has a negative \( \beta \)-coefficient \([-0.308 \ \beta]\). If the size of the firm increases, a decreased amount of reported goodwill impairment will be observed.
6. Analysis

In this chapter, the authors present the analysis of the empirical results in chapter 5. The analysis of the hypotheses is based on previous research and theories presented in chapter 2.

6.1 Discussion

This thesis has tested 4 hypotheses to understand determinants for the amount of reported goodwill impairment. The hypotheses tested is presented in Table 7 below. If the null hypothesis is rejected and consequently, there is an acceptance of the alternative hypothesis, it is marked with a ✔️. This thesis examines significance levels at 10 percent, 5 percent and 1 percent. For example, a significance level at 1 percent means that it is a 1 percent probability of rejecting a true null hypothesis and therefore, possibly, making a Type I Error. A Type I error arises when the null hypothesis is rejected but the null hypothesis is actually true for the population (Donnelly, 2013).

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Acceptance of alternative hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Firms that experience a negative change in financial performance are more likely to report a higher amount of goodwill impairment.</td>
<td></td>
</tr>
<tr>
<td>H2a: Firms that experience an abnormally high negative change in pre-impairment earnings are more likely to report a higher amount of goodwill impairment.</td>
<td>✔️</td>
</tr>
<tr>
<td>H2b: Firms that experience an abnormally high positive change in pre-impairment earnings are more likely to report a higher amount of goodwill impairment.</td>
<td></td>
</tr>
<tr>
<td>H3: Firms with strong corporate governance mechanisms are more likely to report a higher amount of non-opportunistic goodwill impairment.</td>
<td></td>
</tr>
</tbody>
</table>
The empirical results in this thesis do not show a significance for the variable $\Delta$ROA, i.e. a change in ROA is not negatively associated with the amount of reported goodwill impairment. When firms listed on OMXS experience a change in ROA, an increased amount of reported goodwill impairment will not be observed. This finding is non-consistent to findings in previous literature. AbuGhazaleh, Al-Hares, & Roberts (2011) and Stenheim & Madsen (2016) both found a significant relationship that a change in ROA was negatively associated with the amount of reported goodwill impairment.

The empirical results in this thesis show a significance for the variable $\Delta$OCF, i.e. if firms, listed on OMXS, experience a negative change in the operating cash flow between the previous and current period, an increased amount of reported goodwill impairment will be observed. This finding is in line with findings in previous literature (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011), which found that if a firm has a reduction in the level of operating cash flow between two periods, the firm will report an increased amount of goodwill impairment. This finding is also consistent with the accounting regulation of impairment of when there is an indication of a possible goodwill impairment-need (IAS 36). This indicates that the aim of the regulation is reflected among firms listed on OMXS and that the standard, IAS 36, provide firms with a foundation to reliably report the underlying financial performance. If a firm experiences a change in financial performance, e.g. a decrease in sales or the result of the year, a goodwill impairment test is more likely to indicate a need for impairment (IAS 36).

The empirical results of the thesis indicate that the variable BM both lack significance and do not follow the predicted outcome, i.e. a high book-to-market ratio will not affect the amount of reported goodwill impairment. This finding is inconsistent with previous studies (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011) were the book-to-market ratio has been seen to have a positive association with the amount of reported goodwill impairment. One explanation for these findings might be that the cash-generating units for firms listed on the OMXS are not to the same extent affected by changes in the market capitalization value as the firms observed in previous studies. Even if there are negative speculations on the stock market affecting the value of the market capitalization, the cash-generating units, that are part of the operational activities within a firm, may not be affected. This explanation can to some extent be confirmed by the findings that the amount of reported goodwill impairment is negatively associated with a change in the operating cash flows.
The findings in the thesis only show significance for one, out of three proxies for economic impairment, and therefore, the null-hypothesis $H_1$ cannot be rejected. The amount of the reported goodwill impairment for firms, listed on OMXS, is not affected by a negative change in the proxies used for economic impairment in this thesis.

Economic impairment in this thesis is examined by using proxies at a firm level, but still, the financial performance of a firm is affected by other factors outside the firm. The sample used in this thesis has been checked for a ten-year period between 2007-2016. During the years 2007-2010 (Sveriges Riksbank, 2018), a recession affected many firms around the world, making them face difficulties in their performance. This can explain why there is a higher frequency of reported goodwill impairments between the years, 2008 and 2011, for firms listed on the OMXS. Firms that are experiencing a bad performance for only one period can often regain their position in the following years, but when a bad performance occurs throughout several periods, e.g. in the case of a recession, a firm is more likely to experience a decline in their financial performance (Francis, Hanna, & Vincent, 1996; Segal, 2003; Riedl, 2004), and consequently, possible long-term problems in their performance and possible impairments of a firm’s goodwill.

The empirical results showed a significance for the variable BATH, that followed the predicted outcome. Therefore, the null hypothesis $H_{2a}$ is rejected and the alternative hypothesis $H_{2a}$ is accepted. The acceptance of $H_{2a}$ is in line with previous studies, as AbuGhazaleh, Al-Hares, & Roberts (2011), Stenheim & Madsen (2016) and Saastamoinen & Pajunen (2016) all found that an abnormally high negative change in pre-impairment earnings had a significant impact on the amount of reported goodwill impairment. A negative change in pre-impairment earnings could create incentives for managers to act in self-interest, by “taking a bath”. The acceptance of the alternative hypothesis $H_{2a}$ can be seen as an indication for the accounting behaviour “Big Bath” and the occurrence of earnings management behaviours for firms listed on the OMXS, which may show that the accounting management of firms listed on the OMXS uses their discretionary position to manage earnings. Incentives for managers to manage earnings can be connected to the basic assumption of the agency theory, and a possible information asymmetry between the managers and the firm’s stakeholders. Most likely this information asymmetry will be reflected in the notes when managers do not fully present the process and information of the goodwill impairment test (Johansen & Plenborg, 2013).
Hypothesis $H_{2b}$ was tested to show on possible occurrences of the reporting strategy “Income Smoothing”. The empirical results of this thesis showed that there is no significant effect on the amount of reported goodwill impairment for firms with abnormally high pre-impairment earnings listed on OMXS. Therefore, the null hypothesis of $H_{2b}$ is not rejected. The amount of the reported goodwill impairment cannot be seen to be affected by abnormally high pre-impairment earnings. To not reject the null hypothesis $H_{2b}$ is primarily in line with previous literature. Neither Stenheim & Madsen (2016) or Riedl (2004) found any significant indication on the effect of “Income Smoothing” for the amount of reported goodwill impairment. At the same time, AbuGhazaleh, Al-Hares, & Roberts (2011) did find a significant relationship between the variable SMOOTH and the amount of reported goodwill impairment. One explanation for the finding in this thesis may be that Swedish firms gain more by reporting a better performance than expected, instead of practicing the reporting strategy of “Income Smoothing” and meet the planned target for the period. This can be an indication of management’s willingness to act as stewards, i.e. acting for a collectivistic outcome by considering what is best for the organization and likewise, its stakeholders.

Hypothesis $H_{3}$ was constructed to test if stronger corporate governance mechanisms have any effect on the amount of reported goodwill impairment. The empirical results only showed significance for one out of five variables that are used in the regression model, and therefore, the null hypothesis $H_{3}$ cannot be rejected.

The empirical results showed on a significance for the variable BOARD_SIZE that followed the predicted outcome. If the board size increase for firms listed on OMXS, a higher amount of goodwill impairment will be observed. This finding is inconsistent with the findings of Stenheim & Madsen (2016), AbuGhazaleh, Al-Hares, & Roberts (2011) and Verriest & Gaeremynck (2009), whom found that the size of the board does not affect the amount of reported goodwill impairment. An explanation to the finding could be that an increased number of board members reduces the option to act in self-interest of the individual board member, as there are more individuals that can impact the actions taken by the board (Lipton & Lorsch, 1992; Yermack, 1996; Chtourou, Bedard, & Courteau, 2001; Xie, Davidson, & DaDalt, 2003; Farber, 2005; Vafeas, 2005; Peasnell, Pope, & Young, 2005; Davidson, Goodwinn-Stewart, & Kent, 2005; Ebrahim, 2007; Koh, LaPlante, & Tong, 2007).
The empirical results showed on no significance for the two variables BOARD_MEET and NONEXE, i.e. the amount of reported goodwill impairment is not affected by a higher number of board meetings or a higher number of independent non-executive directors on the board, for firms listed on OMXS. These findings are inconsistent with the findings of AbuGhazaleh, Al-Hares, & Roberts (2011), whom found that these corporate governance mechanisms had an impact on the amount of reported goodwill impairment.

Previous studies made in the field of gender diversity has showed on improved financial reporting quality and less actions made in self-interest when there is an increased number of women on the board (Schuh, o.a., 2014; Adams & Funk, 2012; Adams & Ferreira, 2009; Ryan & Haslam, 2005b). No comparison can be made with the results in this thesis since previous studies have not included variables testing for gender diversity when investigating determinants of goodwill impairment. The empirical results show no significance for the variables, NUM_WOMEN_BOARD and EU_WOMEN_BOARD. For firms listed on OMXS, the gender diversity of the board does not impact the amount of reported goodwill impairment which can be explained by Gregory, Jeanes, Tharyan, & Tonks (2013) and Shamil, Shaikh, Ho, & Krishnan (2014) findings that a firm's financial performance is dependent of more than just the gender diversity of the board. It could be of interest to reflect upon the levels of gender diversity on the board since the empirical results showed on different outcomes for the two variables. These findings may show, that on order to be able to see the impact of a more equal gender diversity of the board on the amount of reported goodwill impairment, a certain level of gender diversity of the board must be reached (Kanadlı, Torchia, & Gabaldon, 2018).

6.1.1 Control variable

The empirical results show on a significance for the control variable SIZE, that is negatively associated with the amount of reported goodwill impairment, i.e. if the size of the firm increases, a decreased amount of reported goodwill impairment will be observed. One explanation for this finding could be that a bigger firm is more exposed to the pressure from stakeholders and therefore does not have the possibility to opportunistically report a higher amount of goodwill impairment (Watts & Zimmerman, 1990). Another explanation could be that firms have the possibility to do more accurate impairment tests. The resources spent on these tests and the accuracy of the impairment tests may differ since the impairment test is individualistic for each firm. Previous studies have found that smaller firms lack resources to
do correct impairment tests for goodwill. These smaller firms will instead report goodwill impairments more frequently, to compensate for the possible errors that may occur because of the minimal resources they can spend on the impairment test for one period (Bens, Heltzer, & Segal, 2011; Chalmers & Godfrey, 2011; Jarva, 2009). This could be the case for firms listed on the OMXS, as there are extremely large differences in the size of the firms in the sample group.
7. Conclusion

In this chapter, the authors present the concluding thoughts of the thesis. The conclusions are based on the findings in section 6. Analysis.

This thesis examines what determines the amount of reported goodwill impairment for firms listed on the Nasdaq Stockholm OMX (OMXS) between the years 2007-2016. The standard IFRS 3, changed the accounting for goodwill from yearly amortization to impairment tests, with the aim to create a more transparent base and truthful valuation of goodwill. IASB asserted that impairment testing would improve the accounting for goodwill (FAR AB, u.d.), as firms would be able to provide more relevant and practical information of the financial performance and that economic impairment would be reflected in corresponding goodwill impairment. Previous literature has examined if economic impairment actually is the only factor determining goodwill impairment for firms, or if there are other aspects affecting the decision to impair goodwill and the goodwill impairment amount (Stenheim & Madsen, 2016; AbuGhazaleh, Al-Hares, & Roberts, 2011; Saastamoinen & Pajunen, 2016) and findings show that the interpretation of IFRS 3 has led to patterns on earnings management that affect the amount of reported goodwill impairment. No studies have examined determinants for the amount of reported goodwill impairment for firms listed on the Nasdaq Stockholm OMX (OMXS), reporting under the IASB’s regulations.

A sample group consisting of 69 firms listed on Nasdaq Stockholm OMX (OMXS) at the 31st of December 2017, studied over a ten-year period (2007-2016), resulted in a sample size of 154 firm-year observations after the sampling process, that is used in the thesis. Using the firm-year observations, a multiple regression analysis was run by the authors to test for the chosen determinant variables of the amount of reported goodwill impairment.

The empirical results show that the amount of reported goodwill impairment is not affected by corporate governance mechanisms, however, a higher amount of reported goodwill impairment can be observed when there is a larger number of board members. The amount of reported goodwill impairment is affected by “Big Bath” actions, which might indicate that the regulation of IAS 36 does not entirely fulfil its purpose to create a more transparent goodwill accounting (FAR AB, u.d.). The reporting strategy “Income Smoothing” is not exercised by firms listed on
OMXS. A negative change in the financial performance for firms listed on OMXS does not have an impact on the amount of reported goodwill impairment. However, a negative change in the operating cash flow, has an impact on the amount of reported goodwill impairment which indicates that the aim of the standard IAS 36 is reflected among firms listed on OMXS.
8. Discussion

In this chapter, the authors discuss the contributions of the thesis to the research field of goodwill impairment. The authors also clarify the limitations of the thesis and the ethical and social impact of the thesis. Finally, the authors present suggestions on further research within the topic of goodwill accounting.

8.1 Contribution

The thesis contributes to the discussion of what determines the amount of reported goodwill impairment for firms reporting under the IASB’s regulations. A contribution to the discussion on goodwill impairment accounting, highlights the question on what has the biggest impact on the amount of reported goodwill impairment; the regulation of accounting for goodwill, accounting behaviour of earnings management or corporate governance mechanisms. Studies on the topic of what determines the amount of reported goodwill impairment have not previously examined firms listed on the Nasdaq Stockholm OMX (OMXS). Consequently, the thesis can contribute to the field of accounting for goodwill by providing information from a Swedish context in order to identify similarities and differences in what determines the amount of reported goodwill impairment for firms reporting under IFRS.

8.2 Limitations

No strong assertions can be made on why the variables used in this thesis can be seen as determinants for economic impairment, earnings management and stronger corporate governance mechanisms, and more likely, they are possible explanations for the amount of reported goodwill impairment (Stenheim & Madsen, 2016).

The data used in the thesis is retrieved from different sources; Thomson Reuters Eikon Datastream, Retriever Business and published annual reports, and there may be differences on how the data is presented among these three sources. Retrieving applicable data from multiple sources is a common approach for academics that are conducting research within the accounting field (Saunders, Lewis, & Thornhill, 2009). The authors are aware of the problems that may arise when handling data from different sources. When there was a goodwill impairment for the firm, retrieved from Thomson Reuters Eikon Datastream, but there was no goodwill asset.
reported, retrieved from Retriever Business, the published annual report was used to resolve the issue and collect the correct data.

A further limitation of the thesis that should be considered is the size of observations from the sample group and to what degree the results of the thesis can be generalizable to the population of firms listed on OMXS, as a smaller sample size will decrease the possibility to make general assumptions about the population (Lantz, 2009; Saunders, Lewis, & Thornhill, 2009).

8.3 Ethical and social issues

The accounting for goodwill under IFRS 3, was perceived to better reflect the financial performance of a firm, and that stakeholders could receive information, e.g. on future earnings and cash-flows, that would be more relevant and accurate (FAR AB, u.d.). However, the finding in this thesis show on patterns of earnings management with the accounting behaviour of “Big Bath”. The accounting behaviour of “Big Bath”, and earnings management in general, could be seen as unethical, since the actions taken by the management do not take the majority of the stakeholders’ interest into account. The proxies of economic impairment and earnings management are proposed explanations used to explain the determinants for the goodwill impairment, and even if the variable BATH is significant, the occurrence of this accounting behaviour may not be accurate for firms listed on OMXS. At the same time the finding of the thesis can come to indicate that actions, within the regulation, has to be taken to solve the problem of “Big Bath” behaviour.

Gender diversity can be seen as a neglectable topic, that is not necessary to consider when talking about financial performance, since the thesis does not find any significant impact of gender diversity on the amount of reported goodwill impairment. The findings of this thesis could therefore be used as an unethical argument in the discussion on gender diversity. In order to give a more accurate and reliable result of the impact of gender diversity within firms, more research, with bigger sample groups, is needed. Additionally, investigating the amount of reported goodwill impairment, may not be the most suitable way to determine the effect of an increased gender diversified board on a firm’s financial performance.
8.4 Suggestions for further research

An interesting aspect to investigate would be to examine those firms that have reported an impairment loss, and the generated cash flows of the following years for the firm. One of the elements that should be reflected when calculating the value in use of the goodwill is the expected future cash flows. It would be of interest to compare the amount of reported goodwill impairment and the change in the future expected cash flows for the following periods. Decreases in expected future cash flows should be reflected in the amount of reported goodwill impairment if the cash flows are to be used as a base for valuation of goodwill as an asset.

Throughout the studies made on what determines the amount of reported goodwill impairment, earnings management accounting behaviours and reporting strategies has been observed (AbuGhazaleh, Al-Hares, & Roberts, 2011; Stenheim & Madsen, 2016; Saastamoinen & Pajunen, 2016). Because earnings management is based on incentives for individuals, differences may occur between cultures and it would be of interest to compare differences of determinants between countries when investigating goodwill impairment.

The change from amortization to impairment testing of goodwill results in the possibility for goodwill to remain in the balance sheet perpetually (Sherill, 2016). The asset is tested on an annual basis to check if it still has value, i.e. to see if the economic benefits acquired still are being realized (IAS 36). Therefore, a suggestion for further research would be to investigate the valuation of a firm pre- and post the implementation of the impairment system and examine how the value of the firm changes.
Bibliography


   http://www.ifrs.org/issued-standards/list-of-standards/ias-36-impairment-of-assets/

   http://www.ifrs.org/issued-standards/list-of-standards/ifrs-3-business-combinations/


## Appendix

### Appendix 1 Regression analysis – year-dummies

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted outcome</th>
<th>β-coefficient</th>
<th>Std-error</th>
<th>p-value</th>
<th>VIF</th>
</tr>
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<tbody>
<tr>
<td>ΔROA (i,t,t-1)</td>
<td>-</td>
<td>0.165</td>
<td>0.015</td>
<td>0.110</td>
<td>2.354</td>
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<tr>
<td>ΔOCF (i,t,t-1)</td>
<td>-</td>
<td>-0.394</td>
<td>0.046</td>
<td>0.000***</td>
<td>1.892</td>
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<tr>
<td>BM (i,t)</td>
<td>+</td>
<td>-0.067</td>
<td>0.072</td>
<td>0.358</td>
<td>1.178</td>
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<tr>
<td>BATH (i,t)</td>
<td>-</td>
<td>-0.396</td>
<td>0.022</td>
<td>0.000***</td>
<td>2.112</td>
</tr>
<tr>
<td>SMOOTH (i,t)</td>
<td>+</td>
<td>0.114</td>
<td>0.019</td>
<td>0.263</td>
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<tr>
<td>BOARD_SIZE (i,t)</td>
<td>+</td>
<td>0.180</td>
<td>0.735</td>
<td>0.053*</td>
<td>1.919</td>
</tr>
<tr>
<td>BOARD_MEET (i,t)</td>
<td>+</td>
<td>0.052</td>
<td>0.419</td>
<td>0.485</td>
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</tr>
<tr>
<td>NONEXE (i,t)</td>
<td>-</td>
<td>-0.036</td>
<td>0.784</td>
<td>0.605</td>
<td>1.092</td>
</tr>
<tr>
<td>NUM_WOMEN_BOARD (i, t)</td>
<td>?</td>
<td>0.038</td>
<td>1.242</td>
<td>0.691</td>
<td>1.992</td>
</tr>
<tr>
<td>EU_WOMEN_BOARD (i,t)</td>
<td>?</td>
<td>-0.055</td>
<td>0.553</td>
<td>0.569</td>
<td>2.112</td>
</tr>
<tr>
<td>SIZE_MV</td>
<td>+/-</td>
<td>-0.308</td>
<td>0.087</td>
<td>0.002***</td>
<td>2.205</td>
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<td>@2008</td>
<td></td>
<td>-0.076</td>
<td>0.637</td>
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<td>0.601</td>
<td>0.399</td>
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<tr>
<td>@2010</td>
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<td>0.622</td>
<td>0.147</td>
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<td>0.725</td>
<td>0.630</td>
<td>2.309</td>
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</table>

***. Correlation is significant at the 0.01 level.

**. Correlation is significant at the 0.05 level.

*. Correlation is significant at the 0.10 level.